

|                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                            |
|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p style="text-align: center;"> <br/> <b>MAHATRANSCO</b><br/> <small>Maharashtra State Electricity Transmission Co. Ltd.</small><br/> <b>MAHARASHTRA STATE ELECTRICITY TRANSMISSION CO. LTD.</b><br/> <b>CIN NO. U40109MH2005SGC153646</b><br/>         Tele :91-022-27601762 (P)      <b>Office of The Chief Engineer</b><br/>         91-022-27601931 (O) Extn.1003      <b>Maharashtra State Load Despatch Center</b><br/>         Email: <a href="mailto:cesldc@mahatransco.in">cesldc@mahatransco.in</a>      Thane-Belapur Road,<br/>         P.O. Airoli Navi website : <a href="http://www.mahasldc.in">www.mahasldc.in</a>      Mumbai Pin – 400 708.       </p> | <p style="text-align: center;"> <br/> <b>RIGHT TO INFORMATION</b><br/> <br/> <small>MAHARASHTRA STATE ELECTRICITY TRANSMISSION CO. LTD.</small> </p> |
|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Ref. No. CE/MSLDC/OP/OCC/

**001890**

Date: **08 JUL 2026**

To,

**Members of the OCC as per mailing list.**

**Sub:** Minutes of the 14<sup>th</sup> Operation Co-ordination Committee (OCC) meeting held on 26.05.2026 at 15:00 hrs. through Virtual Mode.

**Ref.:** 1. 13<sup>th</sup> OCC MoM Circulated vide No. CE/MSLDC/OP/OCC/1293 Dated. 26.05.2026  
 2. 14<sup>th</sup> OCC Agenda Circulated vide no. CE/MSLDC/OP/OCC/1250 dtd 20.05.2026

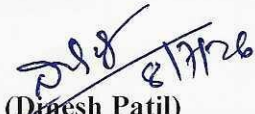
-----

Dear Sir/Madam,

In reference to the above subject, the 14<sup>th</sup> Operation Co-ordination Committee (OCC) meeting was held on 26.05.2026 at 15:00 hrs. through Virtual Mode. The Minutes of the said meeting are attached herewith.

**Yours sincerely,**

Encl: As above.

  
**(Dharesh Patil)**  
**Superintending Engineer**  
**(Op) (I/C), MSLDC**  
**(Member Convener of OCC)**

**Copy s.w.rs. to:**

The Director (Operations), MSETCL, Prakashganga, Mumbai.

The Executive Director & Chairman of OCC, MSLDC, Airoli, Navi Mumbai.

**OCC members as per list shown below:**

**All OCC members as per list**

| Sr. No. | Name of Organization | Name of Nominee          | Designation                                   | Committee constituent | Contact No.                          | E-mail ID                                                                                                                        |
|---------|----------------------|--------------------------|-----------------------------------------------|-----------------------|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| 1       | SLDC                 | Shri Shashank Jewalikar  | ED, MSLDC                                     | Chairperson           | 022-27301931                         | <a href="mailto:edsldc@mahasldc.in">edsldc@mahasldc.in</a>                                                                       |
| 2       | MSETCL               | Smt. Shilpa Kumbhar      | CE, Tr O&M MSETCL                             | Member                | 8411001431                           | <a href="mailto:ceom@mahatransco.in">ceom@mahatransco.in</a>                                                                     |
| 3       | SLDC                 | Shri Girish Pantoji      | CE (I/c), MSLDC                               | Member                | 9822414154                           | <a href="mailto:cesldc@mahasldc.in">cesldc@mahasldc.in</a>                                                                       |
| 4       | STU/ MSETCL          | Shri. Peeyush Sharma     | CE, STU                                       | Member                | 9769213865                           | <a href="mailto:cestu@mahatransco.in">cestu@mahatransco.in</a>                                                                   |
| 5       | MSEDCL               | Shri. Sandeep Patil      | CE, PP                                        | Member                | 9594938238                           | <a href="mailto:cepp@mahadiscom.in">cepp@mahadiscom.in</a>                                                                       |
| 6       | MSEDCL               | Shri Pravin Annachatre   | S.E (LM), MSEDCL                              | Member                | 9833980238                           | <a href="mailto:selmkalwa@gmail.com">selmkalwa@gmail.com</a>                                                                     |
| 7       | MSPGCL               | Shri. Pankaj Nagdeote    | CE, Generation (Works) MSPGCL                 | Member                | 022-6952200<br>69853535<br>Ext. 3519 | <a href="mailto:cegw@mahagenco.in">cegw@mahagenco.in</a>                                                                         |
| 8       | TPCL                 | Shri Kiran Desale        | Chief – Transmission TPCL                     | Member                | 9223553342                           | <a href="mailto:desalekv@tatapower.com">desalekv@tatapower.com</a>                                                               |
|         |                      | Shri Milind Gole         | Head (PSCC), TPCL                             | Member                | 9820868264                           | <a href="mailto:goleml@tatapower.com">goleml@tatapower.com</a><br><a href="mailto:ddveer@tatapower.com">ddveer@tatapower.com</a> |
| 9       | TPCL-Generation      | Mr Hemant Karadkar       | Head Operations – Trombay                     | Member                | 9223553195                           | <a href="mailto:karadkarhr@tatapower.com">karadkarhr@tatapower.com</a>                                                           |
| 10      | AEML                 | Shri Mahesh Andhari      | Head Operations (Distribution & Transmission) | Member                | 9323549996                           | <a href="mailto:mahesh.andhari@adani.com">mahesh.andhari@adani.com</a>                                                           |
| 11      | AEML                 | Shri Ranjeet Sawardekar  | Head ABT                                      | Member                | 9324818009                           | <a href="mailto:ranjeet.sawardekar@adani.com">ranjeet.sawardekar@adani.com</a>                                                   |
| 12      | ATIL                 | Shri Saurabh Sharma      | Manager-O&M                                   | Member                | 8233552863                           | <a href="mailto:saurabh.sharma@adani.com">saurabh.sharma@adani.com</a>                                                           |
| 13      | MEGPTCL              | Shri Rakesh Bhalerao     | Associate Manager-Business Development        | Member                | 7045953823                           | <a href="mailto:rakesh.bhalerao@adani.com">rakesh.bhalerao@adani.com</a>                                                         |
| 14      | JPTL                 | Shri Vaibhav D Sansare   | Associate Manager-Transmission                | Member                | 9552577122                           | <a href="mailto:Vaibhav.sansare@jsw.in">Vaibhav.sansare@jsw.in</a>                                                               |
| 15      | APTCL                | Shri Rajiv Nimje         | AGM, APTCL                                    | Member                | 9422308883                           | <a href="mailto:Rajiv.nimje@rattaniindia.com">Rajiv.nimje@rattaniindia.com</a>                                                   |
| 16      | KVTL                 | Shri Rakesh Bhalerao     | Associate Manager-Business Development        | Member                | 7045953823                           | <a href="mailto:rakesh.bhalerao@adani.com">rakesh.bhalerao@adani.com</a>                                                         |
| 17      | VIPL                 | Shri Ashish Kumar Shukla | HOD-Electrical Maintenance                    | Member                | 6358853165                           | <a href="mailto:ashishkumar.shukla@adani.com">ashishkumar.shukla@adani.com</a>                                                   |

|    |                                            |                             |                                             |                 |                          |                                                                                                                                                                                  |
|----|--------------------------------------------|-----------------------------|---------------------------------------------|-----------------|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 18 | JSWEL                                      | Mr. Prasanna Ghatge         | AGM (Head-OSTS)                             | Member          | 9552577141               | <a href="mailto:prasanna.ghatge@jsw.in">prasanna.ghatge@jsw.in</a>                                                                                                               |
| 19 | ADTPS                                      | Shri Pinal Desai            | Associate VP ADTPS                          | Member          | 9325119747               | <a href="mailto:pinal.desai@adani.com">pinal.desai@adani.com</a>                                                                                                                 |
| 20 | RIPL                                       | Mr Ashish Kunal             | DGM, RIPL                                   | Member          | 7028938800               | <a href="mailto:ashish.kunal@rattanindia.com">ashish.kunal@rattanindia.com</a>                                                                                                   |
| 21 | APML, Tiroda                               | Shri Manoj Taunk            | Associate VP-Protection & Metering          | Member          | 9099005517               | <a href="mailto:Manoj.Taunk@adani.com">Manoj.Taunk@adani.com</a>                                                                                                                 |
|    |                                            | Shri Akshay Mathur          | VP-Business Development group, Adani        | Member          | 9870663062               | <a href="mailto:Akkshayv.Mathur@adani.com">Akkshayv.Mathur@adani.com</a>                                                                                                         |
| 22 | SWPGPL Warora.                             | P Kalyan                    | AGM - Electrical                            | Member          | 8600400107               | <a href="mailto:Kalyan.p@saiwardha.com">Kalyan.p@saiwardha.com</a>                                                                                                               |
|    |                                            | Barath Muthusamy            | Deputy Manager-BDG                          | Member          | 9154674864               | <a href="mailto:bdg.operations@saiwardha.com">bdg.operations@saiwardha.com</a>                                                                                                   |
| 23 | M/S. Bothe wind Park Development Pvt. Ltd. | Mr. Dhananjay Joshi         | Manager                                     | Member (Wind)   | 9971274700               | <a href="mailto:ghanajay.joshi@continuumenergy.in">ghanajay.joshi@continuumenergy.in</a><br><a href="mailto:vijay.karale@continuumenergy.in">vijay.karale@continuumenergy.in</a> |
| 24 | TP Saurya Ltd.                             | Mr. Gunesh Kusurkar         | Manager                                     | Member (Solar)  | 9930867996               | <a href="mailto:gunesh.kusurkar@tapower.com">gunesh.kusurkar@tapower.com</a>                                                                                                     |
| 25 | Jarandeshwar Sugar Mills pvt. Ltd.         | Mr J T Gore<br>Mr A V Patil | Co-gen in-charge Elect. Engineer            | Member (Co-gen) | 9922254115<br>9673889938 | <a href="mailto:jsmlcogen@gmail.com">jsmlcogen@gmail.com</a>                                                                                                                     |
| 26 | BEST                                       | Shri S. S. Bansode          | Chief Engineer (Regulatory)                 | Member          | 9869407196               | <a href="mailto:cerc@bestundertaking.com">cerc@bestundertaking.com</a>                                                                                                           |
| 27 | Dhariwal                                   | Pundlik Mahadeorao Wanwe    | General Manager                             | Member          | 9561112008               | <a href="mailto:pundlik.wanwe@rpsg.in">pundlik.wanwe@rpsg.in</a>                                                                                                                 |
| 28 | IEPL                                       | Mr. Sandip V. Kawale        | Manager (Regulatory, Sales & Purchase-Dept) | Member          | 8799967053               | <a href="mailto:sandip.iepl@gmail.com">sandip.iepl@gmail.com</a>                                                                                                                 |
| 29 | JPL                                        | Mr. Gaurav Grover           | Manager                                     | Member          | 9718306200               | <a href="mailto:gaurav.grover@jindalpower.com">gaurav.grover@jindalpower.com</a>                                                                                                 |
| 30 | Vidharbh Mineral and Energy Pvt. Ltd.      | Mr. V.N. Kulkarni           | HOD Electrical                              | Member          | 9158555616               | <a href="mailto:electrical@vidarbhamineral.com">electrical@vidarbhamineral.com</a><br><a href="mailto:maintenance.gepl@gmail.com">maintenance.gepl@gmail.com</a>                 |
| 31 | SLDC                                       | Shri Girish Pantoji         | SE(OP), MSLDC                               | Member-Convener | 9822414154               | <a href="mailto:seop@mahaslde.in">seop@mahaslde.in</a>                                                                                                                           |

***Minutes of the 14<sup>th</sup> Operation Co-ordination Committee (OCC) meeting held on 26<sup>th</sup> May 2026 at 15:00 Hrs. virtual mode.***

***The 14<sup>th</sup> meeting of the OCC, was convened on 26.05.2026 at 15:00 hrs. through virtual mode. The meeting was chaired by Executive Director, MSLDC.***

***The Executive Director (MSLDC) & the Chairman of the OCC, welcomed all the members.***

The list of participants in the meeting is attached herewith as **ANNEXURE – A**.

The detailed Point-wise discussions held during the meeting are as follows:

- Item No. 1:-**
- 1) Discussion on Draft RE Curtailment procedure and comments received from stake holders.
  - 2) Discussion on RE curtailment held on dtd 01-05-2026.
  - 3) Discussion on obtaining frequency response from RE plants.
  - 4) Power quality measurement of RE plants at PoI

**Discussion in OCC:-**

**Discussion of comments/suggestions received from various stakeholders on the Draft RE Curtailment Procedure:**

The Executive Engineer (I/c), REMC-Operations, informed that the RE Curtailment procedure is implemented in the State since 31-12-2021 based on approval from OCC & GCC. Now, based on the experience gained during implementation and regulatory changes, the said RE Curtailment procedure has been reviewed and the draft procedure was prepared. The draft procedure was published on MSLDC website for seeking comments/suggestions from stakeholders. 11 No. of stakeholders have submitted 106 No. of comments/suggestions. All the comments/suggestions were reviewed and grouped and put-forth for discussion before the OCC members. The detailed point-wise discussions are as below:

**A. Suggestion Group – 1: Curtail RE as a last resort**

**• Comments/Suggestions:**

As per the guidelines issued by Hon'ble APTEL in its Judgement dated 02-08-2021, in the Appeal No 197 of 2019 & IA No. 1706 of 2019, RE should be curtailed as a last resort as specified in the said order.



- (i) For Future, any curtailment of Renewable Energy shall not be considered as meant for grid security if the backing down instruction were given under following conditions:
- System Frequency is in the band of 49.90Hz-50.05Hz
  - Voltages level is between: 380kV to 420kV for 400kV systems & 198kV to 245kV for 220kV systems
  - No network over loading issues or transmission constraints
  - Margins are available for backing down from conventional energy sources
  - State is overdrawing from the grid or State is drawing from grid on short-term basis from Power Exchange or other sources simultaneously backing down power from intra-state conventional or non-conventional sources.

#### MSLDC Comment:-

While preparing draft procedure, guidelines specified by Hon'ble APTEL have been considered at clause no. 4.2.8.

Clause No. 4.2.9 clearly indicates that after assessing all the measures specified in clause no. 4.2.8, RE curtailment will be carried out.

#### Discussions in OCC and recommendation: -

All the conditions specified in the APTEL order cannot be considered as “AND” conditions. Violation of any condition/s along with System requirements may be considered as a triggering point for Curtailment.

*With due deliberations, all OCC members accepted the draft.*

### B. Suggestion Group – 2: Define Conditions for RE Curtailment Decision

#### • Comments/Suggestions:

The FoR has published model RE Curtailment Procedure in year 2022. In the said procedure, specific conditions which will trigger the RE Curtailment are specified. The MSLDC RE Curtailment Procedure should adopt the same.

- 4.4.2 The SLDCs may initiate the Backing down or Curtailment in case under-drawal of State is beyond the Threshold Limit at the state periphery. The SLDCs shall also take into consideration the Grid Frequency while acting on the volume limits.

**Table 1: Representation of Curtailment Decisions by SLDC**

[RE Curtailment only after exercising other measures as outlined under Cl. 4.2.3 to Cl. 4.2.10 ]

|                                       | Curtailment for maintaining Volume Limit (Under-drawal) at State Periphery                              |                                                                                                                                                 |
|---------------------------------------|---------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
|                                       | For Deviation $\leq$ 250 MW (or threshold limit as specified)                                           | For Deviation $>$ 250 MW (or threshold limit as specified)                                                                                      |
| <b>F &lt; 49.90 Hz</b>                | No                                                                                                      | No                                                                                                                                              |
| <b>F &gt; 49.90 and &lt; 50.05 Hz</b> | No                                                                                                      | Yes                                                                                                                                             |
| <b>F &gt; 50.05 Hz</b>                | Yes<br>( <sup>9</sup> Provided Grid Frequency exceeds 50.05 Hz for two or more successive time-blocks.) | Yes<br>(Provided Under-drawal by State at state periphery is outside the range of 250 MW <sup>10</sup> for two or more successive time-blocks.) |

**MSLDC Comment:**

- Curtailment can be triggered based on Frequency & Deviations at State Periphery.
- MSLDC System Operator will monitor the Grid Frequency, State Periphery deviations & trend of anticipated Under-Drawl.
- If State U/D is persistently above 1000 MW for consecutive 4 time blocks and the intra-day forecast and trend indicates continuation of U/D, the System Operator will make a curtailment decision immediately.

| Grid Frequency (Hz) | RE to be Curtailed or not |
|---------------------|---------------------------|
|                     | State U/D >1000 MW        |
| F < 49.90           | YES (%)                   |
| 49.90 < F < 50.05   | YES *                     |
| F > 50.05           | YES #                     |

(%) in such case, the curtailment decision will be made taking review of the system conditions in co-ordination with RLDC.

(\*) Frequency should be within band for consecutive 4 time blocks

(#) Frequency should be above 50.05 Hz for consecutive 4 time blocks

**Discussions in OCC:**

The Chairman of the OCC opined that this one important point and an important change suggested and proposed in the RE Curtailment Procedure. Considering the already forecasted surplus scenarios likely to come this monsoon season, we need to have some numbers decided by the OCC which can be observed. Further, we also have to simultaneously understand that these numbers need not be only deciding factors for taking action. The operator always will have to take a real time decision considering the forecast, looking at the future schedules & trends. Also, a scenario wherein there is consistent under-drawl of around 500-800 MW and is likely to increase further is not considered. Hence, such scenario should also be considered in OCC for deliberations. During discussions, the representative of MSEDCL opined that under anticipated surplus scenarios, decision on day ahead basis may be considered.

**Recommendations of OCC:**

○ **Scenario – 1:**

If State U/D is persistently above 1000 MW for consecutive 2 time blocks and the intra-day forecast and trend indicates continuation of U/D, the System Operator will make a curtailment decision immediately.

○ **Scenario – 2:**

If State U/D is persistently above 500 MW for consecutive 4 time blocks and it is expected to increase further based on the intra-day forecast, the System Operator will make a curtailment decision.

| Grid Frequency (Hz) | RE to be Curtailed or not |                   |
|---------------------|---------------------------|-------------------|
|                     | Scenario - 1              | Scenario - 2      |
|                     | State U/D >1000 MW        | State U/D >500 MW |
| F < 49.90           | YES (%)                   | YES (%)           |
| 49.90 < F < 50.05   | YES *                     | YES *             |
| F > 50.05           | YES #                     | YES #             |

(%) in such case, the curtailment decision will be made taking review of the system conditions in co-ordination with RLDC.

(\*) Frequency should be within band for consecutive 4 time blocks

(#) Frequency should be above 50.05 Hz for consecutive 4 time blocks

*With due deliberations, all OCC members took note of the same.*

### C. Suggestion Group – 3: Provide Compensation for Curtailed Generation

- **Comments/Suggestions:**

- As per MoP (Promotion of Generation of Electricity from Must-Run Power Plant) Rules, 2021, RE is having “MUST RUN” status.
- As per Rule 3, in the event of a curtailment of supply from a must-run power plant, compensation shall be payable by the procurer to the must-run power plant at the rates specified in the agreement for purchase or supply of electricity.
- Hence, procedure should provide mechanism for compensation.

**MSLDC Comment:**

The issue of Compensation is beyond the scope of RE Curtailment Procedure.

**Comment of OCC:**

The issue of Compensation is beyond the scope of RE Curtailment Procedure.

*With due deliberations, all OCC members took note of the same.*

### D. Suggestion Group – 4: RE Curtailment in the event of anticipated Surplus during low demand season

- **Comments/Suggestions:**

- A third distinct scenario is entirely absent:  
"Anticipated/forecasted low demand with surplus RE generation & all schedulable thermal units have reached their technical minimum constraints as per CERC/MERC Grid Code obligations" scenario requiring advance planned RE curtailment which may lead to heavy under-drawls and frequency disturbance.
- The procedure should explicitly specify the suggested scenarios, and the Renewable Energy (RE) curtailment methodology must be clearly defined to avoid any scope for misinterpretation.
- It is further suggested that all conditions mentioned in Clause 4 of the proposed RE curtailment framework be implemented with a proactive approach to prevent significant under-drawal, through continuous assessment of the system.

- For this purpose, the SLDC should carry out independent demand forecasting as well as RE generation forecasting, which will enable timely and informed decision-making.
- In case the SLDC anticipates significant under-drawal due to low demand, it may advise or instruct the Discoms, to withdraw any thermal unit accordingly.

**MSLDC Comment:**

- SCUC Study will be carried out subsequent to the SCED as already indicated by MSLDC.
- As per the regulations, all the Distribution Licensees have specified responsibilities towards Resource Adequacy.
- The Zero Scheduling can be exercised by Distribution Licensees in consultation with MSLDC as per the MEGC provisions.
- The scenario of anticipated Under-drawl will be aggravated with increasing Solar Roof top & Solar Generation under MSKVY 2.0. Hence, curtailment of such generation needs to be assessed by distribution licensees.

**Recommendations of OCC:**

- OCC noted the comments of MSLDC.
- OCC requested MSLDC to identify Special Days wherein demand will be on lower side.
- Carry out Resource adequacy on Day ahead basis in co-ordination with Distribution Licensees & Intra-State Thermal Generating Companies.
- Study & identify the need of RE Curtailment and re-assess the studies based on actual implementation for future improvement.

*With due deliberations, all OCC members took note of the same.*

**E. Suggestion Group – 5: Schedule revisions by target Discoms**

**• Comments/Suggestions:**

- During force curtailment of RE schedules, DISCOM Target Drawl schedule should not get curtailed, treatment as per Market suspension to be considered for DSM charges. Else DISCOM may arrange power from it backed down generation or RTM purchase.
- Under Scenario-1: Heavy Demand Crash or High RE injection - DISCOMS should not arrange power for curtailment of RE power, else the RE curtailment will not help in managing Regional exchange.
- Under Scenario - 2 : Restriction due to evacuation infrastructure: Since the congestion is local & RE curtailment will only help to relieve transmission congestion, DISCOMs may buy power from Market in lieu of RE curtailed, to avoid Deviation charges
- Due to RE curtailment during force majeure instances, DISCOMS should not suffer from DSM charges, hence treatment of Market suspension to be considered during such instances.

**Discussions in OCC:**

**MSEDCL and AEML raised concerns that RE curtailment due to under-drawl may result in deviation charges, as the demand of the concerned DISCOM may remain unchanged despite the under-drawl.**

**Comments of OCC:**

**The Chairman of the OCC opined that the agenda point in discussion is draft RE Curtailment procedure and the issue raised is not related with the same. Hence, he opined that the matter may be discusses at appropriate forum and said RE Curtailment Procedure should be submitted before GCC.**

***With due deliberations, all OCC members took note of the same.***

#### **Suggestion Group – 6: Flexible Operation of Thermal Plants**

- **Comments/Suggestions:**

- The CEA (Flexible Operation of Coal based Thermal Power Generating Units) Regulations, 2023 have been notified in the Country. As per the said regulations, Intra-State Thermal Generating Units should be operated at 40 % Technical Minimum level.
- This approach is consistent with the Govt. of Maharashtra's State RE & ES Policy' 2026.
- MSLDC shall maintain and publish on its website a unit-wise technical minimum register, updated on an annual basis.

- **Comments of MSLDC:**

- Intra-State Thermal Units are operating as per the Technical Minimum limits specified in the MERC MYT Regulations.
- The Generating Unit-wise Technical Minimum levels for each Intra-State Thermal Generating Stations is available on MSLDC Website.
- Operation at 40 % technical minimum level as per the CEA needs State regulatory amendments.

- **Remarks of OCC:**

- OCC noted the comments of MSLDC.

***With due deliberations, all OCC members took note of the same.***

#### **F. Suggestion Group – 7: Surrendering CS Share & Sale of surplus power in market**

- **Comments/Suggestions:**

- Clause 4.2.8 directs Distribution Licensees to reduce requisition from contracted ISGS through schedule revision and explore possibility of selling surplus intra-state power in the market as a pre-curtailement measure before RE curtailment is triggered. However, the procedure provides no mechanism whatsoever for real-time verification and ensuring compliance of this surplus sale action at MSLDC end.
- It is suggested that, considering the overall load-generation balance, in cases where significant under-drawal is anticipated due to an increase in RE generation and/or a decline in demand, the SLDC shall direct the concerned Distribution Licensee(s) (Discoms) to undertake the sale of surplus power.
- In the event that such surplus power is not fully materialized or is only partially cleared, the SLDC shall take appropriate action, including RE curtailment, as necessary. This will ensure that timely operational measures are undertaken by the SLDC to avoid substantial under-drawl.
- Such instructions should be passed to the Discom which is under-drawing. This will avoid over-drawl of any Discom which is not under-drawing but surrendered share as per SLDC instructions.

- **Comments of MSLDC:**

- Actions of Discoms can be seen from the Schedules in the DSM Scheduling as well as in ISTS Schedule. Also, the response from the RE Generators can be seen from the reduction in actual injection.
- In case of default, actions can be initiated as per the compliance monitoring process defined in the procedure.

- **Remarks of OCC:**

- OCC noted the comments of MSLDC.

*With due deliberations, all OCC members took note of the same.*

#### **G. Suggestion Group – 8: Installation of SPS/GTS**

- **Comments/Suggestions:**

- The mandatory requirement for developers to install System Protection scheme (“SPS”) at PoI, is an illegitimate requirement. Since, at the time of grant of grid connectivity, such requirement was not present for existing plant. Hence, the same should not be made applicable to give any retrospective effect.
- Transmission Licensees should strive to install LTS/GTS/SPS in remaining part of the state’s network at the earliest, and in no later than 2 years from the date of notification of this procedure.
- SPS installation cost (₹50–200 lakh per substation) is an unbudgeted capex for operating projects. SPS installation mandate should be time-bound and cost-shared with STU.

- **Observation of OCC:**

- Requirement of SPS/GTS depends up on System & Network conditions and such review should be taken up by STU/SLDC from time to time.
- Further, STU will finalize the SPS/GTS along with scope of works & responsibilities in co-ordination with concerned transmission licensee and RE Generating Companies/Developers.

*With due deliberations, all OCC members took note of the same.*

#### **H. Suggestion Group – 9: Communication Protocol at Field level with Nodals**

- **Comments/Suggestions:**

- Mandate that field office curtailment instructions must be issued only after telephonic intimation to MSLDC Control Room (even if formal approval is not required).
- Introduce a mandatory 'Field Curtailment Code' system similar to the MSLDC Code system. Require field offices to issue written confirmation (WhatsApp/email) to the QCA simultaneously with telephonic instruction.
- MSLDC should expand real-time SCADA visibility to 132 kV level within a defined timeframe (suggest 18 months).

- **Comments of MSLDC:**

- Informing MSLDC before issuing curtailment will not be always possible depending up on severity of the need of curtailment. Hence, the instructions issued by Field Offices should be followed and the process of communication to MSLDC as specified in the procedure should be followed.
- The issue of expanding communication network has been already taken up by STU.

- **Remarks of OCC:**

- OCC noted the comments of MSLDC.

*With due deliberations, all OCC members took note of the same.*

#### **I. Suggestion Group – 10: Communication through QCAs**

- **Comments/Suggestions:**

- The draft procedure designates QCA as the single point of contact for communication with the Load Despatch Centre. However, QCAs do not have operational control over



generation assets and rely on plant operators for implementation of instructions. Assigning operational accountability to QCA without plant-level control may create compliance risk. In case of wind, control lies with OEMs however for solar the control lies with lead generators.

- The clause should explicitly state that QCA role is limited to communication and coordination with generators, and actual implementation responsibility lies with the OEMs for Wind and Lead generator or plant operator for Solar. QCA will do level best to ensure the communication effectively.

**Comments of MSLDC:**

- As per Regulations, QCA is a single point of contact for communication between SLDC & Generating Companies. The MERC RE F&S Procedure dated 15-01-2025 already mandates QCAs & Generating Companies to design & establish a communication protocol based on mutual understanding. The same has been specified in the curtailment procedure also.
- Hence, QCAs should communicate with Generating Companies accordingly and ensure curtailment.

**Remarks of OCC:**

- OCC noted the comments of MSLDC.

*With due deliberations, all OCC members took note of the same.*

**J. Suggestion Group – 11: Communication of Reasons & System conditions with instructions**

• **Comments/Suggestions:**

- Various Grid Parameters and actions to be taken by SLDC as specified in the APTEL Order such as:  
*Grid Frequency, State Drawl, Voltages, Thermal Generation operation at Technical Minimum, etc.,*
- should be communicated along with the Curtailment Instructions. Tentative Restoration time should be intimated along with the Curtailment instructions.

**Comments of MSLDC:**

- MSLDC is sending curtailment instructions to QCAs through WhatsApp Group which are confirmed through e-mail. This communication is having reasons for curtailment.
- Also, the actions to be taken by MSLDC prior to RE Curtailment are specified in the procedure which may be confirmed from the RE Curtailment report which will be uploaded on MSLDC Website within a week.
- Tentative Restoration time along with curtailment instruction is already covered in the procedure.

**Findings of OCC:**

- OCC noted the comments of MSLDC.
- It is necessary to implement curtailment in timely manner, hence, communicating actions taken by MSLDC along with curtailment instructions will delay the process. The actions of MSLDC can be verified based on the curtailment report published by MSLDC on website.

*With due deliberations, all OCC members took note of the same.*

## K. Suggestion Group – 12: Grievance redressal

- **Comments/Suggestions:**

- Introduce a two-tier grievance system:
  - a) First-tier: MSLDC's own Grievance Officer must acknowledge and respond within 7 working days;
  - b) Second-tier: MERC adjudication for unresolved issues. Mandate that MSLDC maintain a timestamped curtailment log accessible to developers via the website (not just monthly reports). Allow developers to flag disputed curtailments in the OCC meeting agenda. For disputes ultimately decided in developer's favour, provide a defined compensation/schedule adjustment mechanism.

### **Comments of OCC:**

- Procedure already clarifies about non-compliance actions and jurisdiction as Hon'ble MERC in case of any pending grievances. Accordingly, any grievances should be communicated to MSLDC at working level. If these grievances are not resolved then, the same should be submitted to the MSLDC Management.
- Further, Procedure has specified that all the curtailment instances will be put forth before the OCC for discussions. Thus, any issues can be flagged with MSLDC which can be discussed in the OCC meeting if necessary.

Further, OCC recommended to submit the draft procedure with above suggestions to GCC for further ratification & approval.

*With due deliberations, all OCC members took note of the same.*

## **Agenda – 1.2:**

### **Discussion of RE Curtailment carried out on 01-05-2026 in the State:**

The Executive Engineer (I/c), REMC-Operations, deliberated the incidence of RE Curtailment carried out on 01-05-2026 on the account of heavy under-drawl from State Periphery and based on the instructions of MSLDC. The details of RE Curtailment are as below:

| Date       | Curtailment Quantum (MW) | Curtailment Quantum (MU) |
|------------|--------------------------|--------------------------|
| 01.05.2026 | 2112                     | 3.55                     |

### **Key observations of MSLDC:**

- All the Intra-State Thermal Units' over-injection contributed to the under-drawl.
- With increasing penetration of RE Generation, such scenario is likely to recur especially during Solar hours. Thus, it is necessary to reduce technical minimum level of Intra-State Thermal units to 40% as per the CEA (Flexible Operation of Coal based Thermal Power Generating Units) Regulations, 2023.
- MSEDCL surrendered its share from Central Sector allocation to minimum level during Solar hours.
- BEST has purchased around 250 MW power in RTM to meet its demand shortfall during Solar hours.

### **Directives of OCC:**

- MSLDC should identify the Special days wherein low demand or demand crash is expected. Carry out Day ahead Resource assessment in coordination with all Distribution Licensees and

Conventional Generating Companies. A co-ordination meeting on Day ahead basis should be conducted with all Distribution Licensees, Conventional Generating Companies & QCAs. WRLDC representative may also be invited for this meeting. This exercise should be carried out on regular basis and the outcome should be presented in the OCC for discussions.

During RE Curtailment period, if any Over-Injection from Thermal Generating Units is observed in real time, then, notices should be issued by MSLDC Control Room.

*With due deliberations, all OCC members took note of the same.*

### **Agenda-1.3**

#### **Discussion on obtaining frequency response from RE plants**

##### **Discussion in OCC:-**

The Executive Engineer (I/C), REMC briefed the members on the compliance requirements under the CEA (Technical Standards for Connectivity to the Grid) Regulations, 2019, covering Active Power Control, Reactive Power Control, Frequency Response, and LVRT/HVRT capabilities of RE generating stations.

MSLDC informed that a study of data from the REMC SCADA system indicates that most RE plants are operating in Power Factor Control Mode and maintaining the plant power factor within  $\pm 0.95$ . It was further observed that the required primary frequency response is generally initiated only when the system frequency reaches 50.3 Hz, whereas the CEA Regulations require response for frequency deviations exceeding 0.3 Hz. Timely frequency response from RE generating stations is essential for maintaining grid security under high-frequency conditions.

*With due deliberations, all OCC members took note of the same.*

### **Agenda-1.4**

#### **Power quality measurement of RE plant at PoI**

##### **Discussion in OCC:-**

**The Executive Engineer (I/C), REMC** apprised the members of the provisions under the **CEA (Technical Standards for Connectivity to the Grid) Regulations**, requiring annual **Power Quality Tests** covering **Harmonics, DC Injection, and Flicker** for RE generating stations. It was informed that the assessment report shall be submitted annually after commissioning of the generating station, as per the CEA guidelines and the data submission procedure circulated by CEA.

*With due deliberations, all OCC members took note of the same.*

**Item no. 2:-** Discussion on Draft Zero Scheduling procedure and comments received from stake holders.

In pursuance of the Order issued in Case No. 210 of 2025, the Commission has directed MSLDC to prepare a procedure for zero-scheduling of intra-State gas-based generating stations, in consultation with stakeholders, and to finalize the same with appropriate forum.

Further, as per clause 28.2 (f) of MEGC regulations 2020, MSLDC has prepared a draft procedure for zero-scheduling of intra-State thermal and gas-based generating stations and circulated to stakeholders on dated 26.04.2026 for their comments/feedback.

The comments received from stakeholders and OCC members may discuss on the same.

### **Discussion in OCC:-**

The comments/suggestions from all stakeholders on “Draft Procedure for Instructing Zero Schedule of Generating Unit in the state of Maharashtra” received on 30.04.2026. The comments were discussed and deliberated in details in meeting.

#### **Comment 1 (MSEDCL):**

Clause 28.2(f) of MEGC 2020 cited as the basis for this draft procedure is a residual, discretionary enabling clause permitting SLDC to develop "any other procedure considered appropriate." It does not specifically mandate SLDC to prepare a Zero Schedule procedure. In contrast, Clause 36 of MEGC 2020 explicitly directs SLDC to prepare guidelines for RSD "within one month of notification." The absence of any such specific direction in Clause 35 for Zero Schedule is significant and deliberate.

#### **OCC discussion: -**

**The procedure is prepared as per directives of MERC in Case No. 210 of 2025, and it is extended to thermal generators to take care of day to day problems observed by MSLDC in issuing and withdrawal of zero scheduling. The procedure streamlines the process and fixes the responsibility of each user. RSD procedure is already prepared by MSLDC and upgradation of same is under process.**

#### **Comment 2 (MSEDCL):**

Clause 35 of MEGC 2020 already provides detailed, self-contained guidelines for Zero Schedule including trigger conditions, concurrence mechanism, MOD principles, notice periods (8 hours), revival timelines (72/24/8 hours), maintenance restrictions, Declared Capacity computation, and financial liability on the Distribution Licensee. The draft procedure largely reproduces these provisions. It is submitted that issuing a separate procedure that re-states and re-interprets provisions already notified by the Hon'ble Commission through MEGC 2020 is not warranted, and to the extent any provision of the draft procedure deviates from or adds to Clause 35, it would be without the authority of MEGC 2020.

#### **OCC discussion:-**

**The guidelines for “Zero Schedule” for InSGS connected to InSTS, as specified in the principal regulation MEGC 2020, remain unchanged. However, based on the operational experience gained from the DSM regime and considering certain operational difficulties, specific modifications have been incorporated into the Zero Schedule procedure.**

#### **Comment 3 (MSEDCL):**

The draft procedure states it is also issued pursuant to MERC Order dt. 31.12.2025 in Case No. 210 of 2025. It is requested that the specific operative directions in the said Order that mandate or authorise SLDC to prepare this procedure be explicitly quoted in the draft, so stakeholders can verify the scope of authority conferred and whether any provisions of the draft procedure exceed what the Commission has directed.

#### **OCC discussion:-**

**The procedure is prepared as per directives of MERC in Case No. 210 of 2025 which is basically for gas-based stations. However, based on the operational experience gained from the DSM regime and considering certain operational difficulties, specific modifications have been incorporated into the Zero Schedule procedure and extended to thermal generators as per MEGC 2020 clause no. 28.2(f)**

#### **Comment 4 (MSEDCL):**

4.1 In the ISGS framework under IEGC, a beneficiary DISCOM has the well-established option of surrendering its requisition to zero, thereby being relieved of variable charge liability for the surrendered quantum, with the generator's generation absorbed by other beneficiaries through WRLDC's system. No equivalent mechanism exists in the InSGS scheduling framework operated through SLDC's DSM software. A DISCOM wishing to zero-schedule its PPA quantum has no avenue to surrender that quantum to a grid pool.

4.2 In this background, the draft procedure in its present form creates a situation where a DISCOM whose Resource Adequacy is fully intact without generation from the zero-scheduled unit — and which has valid operational justification for zero scheduling — is nonetheless made liable to absorb the generator's Technical Minimum generation, simply because the remaining contracting DISCOM's requisition is insufficient to sustain the unit above Technical Minimum. This is an inequitable outcome that is neither mandated by nor consistent with Clause 35 of MEGC 2020.

4.3 It is therefore submitted that before making this provision binding, SLDC must first put in place a requisition surrender mechanism in the DSM software analogous to the ISGS framework, whereby a DISCOM with intact RA can surrender its PPA quantum to the grid pool. In the absence of such a mechanism, imposing TM absorption liability on a DISCOM whose RA is unaffected is operationally unjustifiable and disproportionate.

#### **OCC discussion:-**

**This procedure is only for conditions for withdrawal of unit under zero schedule and its revival. Presently there is no such regulatory provision in regards to the surrendering of power and sharing the same with other utilities.**

#### **Comment 5 (MSEDCL):**

MEGC 2020's fundamental objective, running through Clause 3 (Objective), Clause 33 (MOD principles), Clause 34 (Technical Minimum), and Clause 35 (Zero Schedule), is a **cascading cost optimisation framework**:

- First — despatch in Merit Order (cheapest first)
- Then — if demand falls further, back down to Technical Minimum (TM)
- Then — if demand falls even further, **zero schedule the highest variable cost unit entirely** so DISCOM avoids TM burden of that unit altogether

MEGC 2020 Clause 35 explicitly uses the phrase "*removal of the Unit from the Grid*" as the operative outcome of zero scheduling, thereby completely eliminating TM burden of said unit. And the entire supporting framework — 8-hour notice, declared capacity formula, revival timelines — is architected around this unit-level physical outcome, thereby completely eliminating TM burden of said unit.

Quote:

7. In case of multiple contracts of one generator with different DISCOMS/Buyer ,the unit can be withdrawn on Zero Schedule only after receipt of all DISCOMS/Buyer consent.

Unquote:

In case of multiple contracts of one generator with different DISCOMS/Buyer ,the unit can be withdrawn on Zero Schedule after receipt of any single DISCOMS/Buyer consent.

**OCC discussion:-**

**If single buyer consent received, the generators cannot be withdraw on zero schedule as that generator has obligation to supply power to other PPA holders, hence the coordination is required among all buyers.**

Quote:

In a case where a single distribution licensee has multiple PPAs with a generator, if the licensee requests for zero schedule in one of the PPAs, only that specific PPA will be treated under zero schedule. However, the unit(s) associated with that PPA will not be classified under zero schedule.

Unquote:

In a case where a single distribution licensee has multiple PPAs with a generator, if the licensee requests for zero schedule in one of the PPAs, only that specific PPA will be treated under zero schedule. However Also the unit(s) associated with that PPA will not be classified under zero schedule.

**OCC discussion:-**

**This procedure is only for conditions for withdrawal of unit under zero schedule and its revival hence Clause 6(4),6(5) of draft procedure is removed.**

**Comment 6 (MSDCL):**

As per proposed draft procedure, in “Single Generator-Single Discom-Multiple PPA” scenario, the distribution licensee is left with only two choices — zero schedule nothing, or zero schedule the entire station. The selective unit-level zero schedule — which is precisely what MEGC 2020 Clause 35 intended when it used the word "**some**" in "*some of its contracted sources*" — is rendered completely impossible in this standard scenario.

Maharashtra's power system currently faces acute intra-day surplus during solar hours in low demand months. In such conditions, Clause 35 of MEGC 2020 serves as the critical and final instrument in the economic despatch cascade — enabling a distribution licensee, in consultation with SLDC, to physically remove the highest variable cost thermal unit from the grid, eliminate its TM floor. Clause 6, Paras 3, 4 and 5 of the draft procedure may create hurdles in such optimization.

It is therefore submitted that Clause 6, Paras 3, 4 and 5 of the draft procedure are not merely beyond the scope of MEGC 2020 — they actively defeat the economic despatch objective that is the very foundation of Clause 35. The appropriate approach, consistent with MEGC 2020, is to treat zero schedule as a unit-level instrument as the Commission originally intended, should be followed.

### **OCC discussion:-**

**Clause 6(3), 6(4) & 6(5) shall be removed from the procedure.**

### **Comment 7 (MSEDCL):**

The Distribution Licensee shall submit a written request to SLDC as per Annexure-1 and 2 with a copy to the concerned generator: -

- 1) In case of coal-based generators twelve (12) hours before the proposed zero schedule.
- 2) In case of gas-based generators five (5) hours before the proposed zero schedule.

Clause 35 of MEGC 2020 prescribes only one notice period — 8 hours from DISCOM to the generator to enable smooth removal of the unit from the grid. Now with the proposed procedure, this will convert into a sequential multi-step chain of indeterminate total duration, fundamentally undermining Zero Schedule as a real-time surplus management tool. It is recommended that

1. zero schedule request from discom to SLDC should be treated as notice to the generator,
2. Strict timeline of 60 minutes for finalizing concurrence on zero schedule requests by SLDC should be part of procedure.
3. SLDC in consultation with stakeholders, review the feasibility of reducing the zero schedule notice period below 8 hours.

**Renders Zero Schedule ineffective for solar surplus management:** Intra-day surplus during solar hours frequently becomes apparent during the morning ramp — often within 3-4 hours of the surplus window itself. A mandatory 12-hour advance notice for coal unit zero schedule means the zero schedule can only commence after the solar surplus period has already ended, rendering Clause 35 completely ineffective as a real-time surplus management instrument.

### **OCC discussion:-**

1. **Separate notice to generator shall be given by respective DISCOM after receipt of concurrence from SLDC**
2. **SLDC has to examine transmission constraints and Resource Adequacy and other constraints in real time along with day to day real time activity and hence four (4) hrs required.**
3. **8 Hrs notice period is as per MEGC clause 35.6**

### **Comment 8 (MSEDCL):**

Currently, renewable energy (RE) penetration in the grid has increased significantly. However, Discoms have limited tools to forecast RE availability over longer periods. Further, Accurate & reliable long-term weather forecasts availability is also challenging. Although the SLDC has its own REMC software for forecasting RE availability, and QCAs carry out plant-level forecasting and submit it to the SLDC, there is still no provision in the REMC system to access RE availability beyond the day-ahead planning horizon. Additionally, there are instances of forced outages of generating units due to various reasons. In such situations, specifying a zero schedule period becomes a difficult task for Discoms. Therefore, this requirement should not be made mandatory.



- **Confirmation that zero schedules does not adversely impact Resource Adequacy/contingency plan in case tripping of existing resources causes adverse impact on RA.**

It is submitted that Distribution Licensees (Discoms) are currently undertaking their own demand forecasting and submitting Resource Adequacy (RA) plans for a 72-hour horizon based on prevailing generation availability, along with applicable margins.

In this regard, it is requested that the State Load Despatch Centre (SLDC) may also independently carry out demand forecasting and Resource Adequacy studies, without solely relying on inputs provided by Discoms. This would enable improved visibility, enhanced validation, and more informed decision-making for overall grid reliability and system security.

**OCC discussion: -**

**RA made before 72 hrs is tentative to assess zero schedule of unit, hence proposal for zero schedule by the DISCOM should be sent to SLDC by considering the day ahead or real time RA.**

**Comment 9 (MSEDCL):**

It is requested that a robust process for verification of operational feasibility, including Available Transfer Capability (ATC), Total Transfer Capability (TTC), and other system constraints, be implemented with immediate effect for finalising concurrence to zero schedule requests.

It is further submitted that, in cases where concurrence is denied on account of such constraints, resulting in the Discom being compelled to keep costlier generation on bar, the same should be promptly published with cause details on the official website of the State Load Despatch Centre for record and transparency purposes.

Additionally, it is requested that SLDC may regularly publish all prevailing operational constraints on its official website, clearly indicating the nature of the constraint, the time period from which such constraint has been in existence, and its current status, including cases where the issue remains unresolved.

Further, it is proposed that SLDC, with the approval of the Hon'ble Commission, may consider introducing an appropriate penalty mechanism to recover the additional cost burden arising from such constraints from the defaulting entity. It is also requested that such costs should not be allowed as a pass-through in ARR, thereby ensuring accountability in system operations and safeguarding the interests of end-use consumers.

**OCC discussion:-**

**In case of non concurrence of zero schedule by SLDC, operational constraints will be informed to the DISCOM.**

**Compensation mechanism is not in the scope of current procedure.**

**Comment 10 (MSEDCL):**

It is submitted that the Distribution Licensee shall comply with the timelines specified under the Maharashtra Electricity Grid Code for issuing zero schedule instructions to generators.

However, it is requested that the procedure may also provide for appropriate intervention by the SLDC in situations involving grid constraints. In such cases, SLDC may direct the generator to withdraw the unit under zero schedule with immediate effect, in the interest of grid security and optimal system operation.

This would ensure timely operational response to real-time system conditions while maintaining overall grid discipline.

**OCC discussion: -**

**The clause 11(2) of procedure covers the appropriate intervention by the SLDC in situations involving grid constraints**

**Comment 11 (MSEDCL):**

It is submitted that, in cases where concurrence for zero scheduling is withdrawn by the State Load Despatch Centre (SLDC), the same is communicated to both the Distribution Licensee (Discom) and the generator.

On a similar principle, it is requested that once normal system conditions are restored, on account of which such concurrence was earlier withdrawn, the SLDC may also communicate the restoration of operational feasibility to the Discom in a timely manner.

This would enable the Discom to take prompt decisions regarding reinstatement of zero scheduling, thereby avoiding unnecessary delays and associated financial implications.

Quote:

**11.2 Withdrawal of concurrence to Zero Scheduling by SLDC**

SLDC may withdraw its concurrence to units under zero Schedule at any time if required with assessment of system conditions such as listed below, but not limited to:

• Any operational contingency • System security needs • Transmission outages/trippings/breakdowns. • Sudden demand surge, High overdrawal beyond permissible limit, low frequency • Renewable variability • ATC/TTC violations etc. • Reliability Assessment • Continuous RA review by SLDC.

The SLDC shall communicate the withdrawal of consent with reasons to the concerned distribution licensee. Withdrawal of concurrence to zero schedule by SLDC means the distribution licensee must direct the concerned generator to bring the unit on bar immediately honouring its Technical minimum level (MTL).

Such withdrawal /modification of concurrence shall not attract any financial or legal liability on SLDC. The instructions issued from SLDC time to time during such withdrawal of concurrence shall be binding on respective discom and generating company.

In case of withdrawal of concurrence of zero schedule of any unit by SLDC the respective distribution licensee shall be liable to absorb the power irrespective of unit's position in MOD stack.

Unquote:

If the SLDC withdraw its concurrence to units under zero Schedule at any time if required with assessment of system conditions viz. Any operational contingency, System security needs, Transmission outages/trippings/breakdowns, Sudden demand surge, High overdrawal beyond permissible limit, low frequency, Renewable variability, ATC/TTC violations etc., for which contracted Discom is not responsible, the contracted Discom shall be compensated for fixed charges, variable chargers, any other charges as levied by the generator to the contracted buyer / Discom and SLDC shall recover the said charges from the state entities responsible including transmission licensees and RE generators. Further these charges as levied to the responsible entities shall not be passed through in their tariff petitions.

**OCC discussion:-**

**Compensation mechanism is not in the scope of current procedure**

**Comment 12 (TPCL):**

Clarification on Prior Notice Period

Clarification is required regarding the prior notice period of 08 hours, as the subsequent clauses (Clause 9 and Clause 11.1) specify different timelines, namely 08 hours for thermal stations and 30 minutes for gas-based stations. Separate comments on the applicable timelines have been provided against the respective clauses for clarity and consistency.

**OCC discussion:-**

**In chapter no. 5 , Clause 4; OCC finalized the withdrawal and restoration period for gas based plants as 1 hrs as requested by MSPGCL and TPC-G and shall be incorporated in procedure.**

**Comment 13 (TPCL):**

Format of Healthiness Certificate

Clarification is requested regarding the format and mode for submission of the healthiness certificate by the Generator—whether the certificate is to be submitted via email or through any other prescribed format or platform.

**OCC discussion: -**

**Healthiness certificate shall be incorporated in the procedure and the same should be submitted by generator via email or any other data sharing portal.**

**Comment 14 (TPCL):**

Technical Minimum Load – Trombay Units

For Trombay units, the PPA allocation is 51%: 49% between two distribution licensees (TPCD and BEST). In such a scenario, maintaining the technical minimum load of 55% becomes infeasible if one distribution licensee schedules zero of its entitlement. Hence, this clause must explicitly ensure that the technical minimum load is maintained, irrespective of individual zero-schedule requirements by any distribution licensee.

**OCC discussion:**

**Clause 6(3) shall be removed from the procedure.**

**Zero scheduling of TPCG generators shall be as per the clause 5(7) of draft procedure only.**

**Comment 15 (TPCL):**

1) Zero Schedule – Thermal Stations (Imported Coal Based): Trombay units are operated on 100% imported coal, for which fuel planning and procurement are undertaken at least 6 months in advance. If zero-schedule instructions are issued for more than 10 days, then intimation must be given in advance at least 45 days ahead of zero schedule. Otherwise, with a 12-hour notice period for longer duration, coal stock accumulation may occur, leading to significant operational and financial impact due to inventory build-up and space constraint.

2) Zero Schedule – Gas Based Stations: Gas for the stations is procured from GAIL, which allocates quantities on the previous day evening. If a gas-based unit receives zero-schedule instructions 30 minutes prior, the already allocated Daily Nominated Quantity (DNQ) may remain unutilized, potentially attracting penalties under the Take-or-Pay clause. Zero schedule for long duration will also impact contractual obligation for non-utilization of GAS which required 75 days prior intimation to GAIL. These commercial and regulatory implications should be duly considered before issuing zero-schedule instructions for gas-based units.

**OCC discussion:-**

**Zero schedule of unit is reviewed daily basis considering the grid constraints, RA etc hence 10 days continuous zero schedule of units cannot be ascertained.**

**Comment 16 (TPCL):**

Further, In present MEGC code, schedule can be given after 03 times blocks, in these scenario, generator will be in the position to comply from 04th block onwards and with the Defined Ramp rate. Hence, same should be considered in the procedure.

**OCC discussion:-**

**In chapter no. 5, Clause 4; OCC finalized the withdrawal and restoration period for gas based plants as 1 hrs as requested by MSPGCL and TPC-G and shall be incorporated in procedure.**

**New clause to be added-by TPCL**

- 1) APC drawl in case of unit outage under zero schedule is to be born by Distribution licensee
- 2) Capping of the maximum duration of the Zero schedule- The clause does not specify any maximum capping period for which a unit can be kept under zero schedule. Therefore, a maximum permissible duration (capping) for zero scheduling must be clearly defined to safeguard the Generator's operational and financial interests.
- 3) Restoration of Coal based Unit must embed realistic thermal start-up lead times, reinforcing that ZS is not "instant reversible" for coal. From Unit Synchronization to Full Schedule, TSE allowance, BWC/Silica margins etc are important. Hence restoration schedule must come as per consideration of above factors.

**OCC discussion:-**

- 1) **The comment is not part of the procedure.**
- 2) **Zero scheduling period is decided by DISCOMs as per their demand and available resources, hence it can not be capped.**
- 3) **Schedules are issued considering the declared ramp rate only.**

**Comment 17 (BEST):**

Following point may be considered for "Conditions of Zero Scheduling :  
Discoms are purchasing power through power exchange for optimising the power procurement cost. Discoms average power purchase quantum for previous week from power exchange may also be considered for zero scheduling. Discom should submit an undertaking for meeting the availability by purchase through power exchanges or through any other short-term sources up to 10 to 15% of the total quantum of power purchase.

**OCC discussion:-**

**Resource adequacy should be ensured by concerned DISCOM while applying for zero schedule further SLDC will verify for concurrence purpose.**

**Comment 18 (BEST):**

MSLDC shall communicate concurrence / non-concurrence within 24 Hours from receipt of Zero scheduling request with reasons.

**OCC discussion:-**

**Timelines in procedure are framed by considering the timelines mentioned in MEGC 2020.**

**Comment 19 (BEST):**

In the above clause, the word "MSLDC" should be replaced with "MSLDC/Discoms/Generators"

**OCC discussion:-**

**The clause no. 13.3 shall modified accordingly as below:-**

***“Any complaints/disputes made by Discom / Generators should refer to SLDC first if there is no resolution at SLDC level then same shall be put up in OCC and subsequently in GCC if required for resolution.”***

**Comment 20 (BEST): Additional**

BEST is having PPA with TPC Unit 7 having contracted capacity of 180 MW (BEST share 91.11 MW). TPC Unit 7 is having 7A Gas turbine (GT) 120 MW and 7A Steam turbine (ST) 60 MW (Total 180 MW). TPC Unit 7 is available with APM gas as well RLNG Gas. Normally TPC Unit-7 operates with APM gas. If APM gas not available then U7 is available with RLNG. The average variable cost of APM gas is about Rs.5.50/- per kwh and RLNG gas is Rs.12 to 20/- per kwh. The cost of RLNG for the month of April-2026 is Rs.18.658/- per kwh in Closed cycle (Both U7A & 7B available) and Rs.26.119/- per kwh in Open cycle (Only U7A available).

The cost of RLNG is very high. Due to this BEST has given Zero schedule to Unit-7 on RLNG operation to optimise the power purchase cost. Considering this scenario BEST is requesting to continue ZERO scheduling to TPC U-7 on RLNG operation. As regards to other TPCG generating units contracted by BEST, concurrence was never issued for Zero scheduling. BEST requests to allow other costly TPCG generators during low demand periods as and when required.

**OCC discussion:-**

**As per procedure the concurrence shall be issued by SLDC considering the system constraints case to case basis.**

**Comment 21 (JSW):**

The distribution licensee shall provide at least 12–14 hours’ prior notice to the generator, enabling it to take necessary actions in line with prudent operational practices for safe shutdown of the unit. Additionally, residual imported coal remaining in the bunker may undergo spontaneous heating or combustion if the unit remains idle for an extended period. Therefore, adequate time must be allowed to safely empty the bunkers.

**OCC discussion:-**

**Notice period mentioned in the procedure is as per the clause 35 of MEGC 2020**

**Comment 22 (JSW):**

In January 2026, the unit was brought into service in compliance with SLDC instructions. However, MSEDCL did not concur with the SLDC’s decision and continued to indicate a zero schedule for JSW in its daily requisition emails, despite the unit being in operation. In such instances where the discom does not adhere to the withdrawal of concurrence by SLDC, an appropriate dispute resolution mechanism needs to be defined to ensure that the generator is not subjected to any commercial liability or adverse financial impact.

**OCC discussion:-**

**This procedure is framed to take care the above issue.**

### **Comment 23 (JSW):**

Following clause is to be added in chapter 11; to take care of the ramp up and down during scheduling of RSD instructions keeping the DC preserved for ramp up/down duration as per MEGC 2020 and reproduced below:

Provision as per MEGC 2020, regulation 36.7.

“The proposed RSD shall be minimum for the period of 72 hours and may be extended as per the system condition. The ramping up and ramping down at the specified rates should be allowed for bringing back the unit on bar and the DC for this period shall be preserved. However, generator would make all efforts to minimize the lit-up time.”

#### **Comments**

We agree with the proposed inclusion of the clause in Chapter 11. The provision appropriately addresses ramping requirements during RSD operation while ensuring that the declared capacity (DC) is preserved during the ramp-up and ramp-down period, in line with MEGC 2020.

The stipulated minimum RSD duration of 72 hours, with flexibility for extension based on system conditions, is also acceptable. Further, allowing ramping at specified rates for taking the unit off bar and restoring it to service is operationally appropriate.

We also note and agree that the generator shall make all reasonable efforts to minimize the lit-up time.

#### **OCC discussion:-**

**This procedure is only for zero scheduling of units by DISCOMs, separate RSD procedure is already in place.**

### **Comment 24 (MSPGCL):**

MSPGCL agrees with the three basis aspects / objectives mentioned in the Draft under the "Objectives". MSPGCL suggests that the procedure should also mention that the order-of-priorities for these objectives will be same as per the sequence given in the Draft.

It needs also to be considered that the State Grid Code, 2020 (i.e. MEGC,2020) itself has provided well elaborated "Guidelines for ‘Zero Schedule’ for InSGS Connected to InSTS" under the Clause 35 of MEGC,2020. Thus, ideally the Draft procedure should follow the Guidelines in the MEGC, 2020. Also, there is no clarity as to why the Draft procedure is being prepared at this stage when such guidelines are already provided under the MEGC, 2020. It is a welcome step, assuming that the draft procedure is being prepared for detailing the procedure for gas-based thermal stations and for the actions to be taken by SLDC while issuing concurrence / withdrawal of concurrence to "zero schedule" requests, based on analysis of demand / supply situation as well as grid stability / security issues. Insistence by SLDC on detailed scrutiny about the "Demand / supply projection analysis" will be more helpful in ensuring avoidance of grid stability & Security issues.

#### **OCC discussion:-**

- 1) The order of priorities is as mentioned in chapter 2.**
- 2) The guidelines for “Zero Schedule” for InSGS connected to InSTS, as specified in the principal regulation MEGC 2020, remain unchanged. However, based on the operational experience gained from the DSM regime and considering certain**

**operational difficulties, specific modifications have been incorporated into the Zero Schedule procedure as per provisions 28.2 (f) of MEGC 2020.**

**Comment 25 (MSPGCL):**

Under the background it is mentioned that the Draft procedure is being extended to all thermal generators as per clause no-28.2 (f) of MEGC 2020 and directives as per MERC Order dt.31.12.2025 in case of. 210 of 2025. The Clause No. 28.2 (f) of the MEGC, 2020 mentions "Any other procedure considered appropriate by the SLDC. "The MERC Case No. 210 of 2025 was specifically for seeking permission for "Zero Schedule" of the TPC-G Unit 7 (APM Gas) when operated in Open Cycle. However, in the Draft Procedure provided for applicability to "All Intra-State Generating Stations (InSGS), (Coal, lignite and gas) ". Thus, in case of Gas based stations, it will be applicable irrespective of whether the units are running in "combined cycle mode" or "open cycle" mode. In case of Gas based stations, there is major concern regarding contractual obligations of "Take or Pay" under the prevailing gas supply contracts with M/s GAIL, for the gas being supplied under the Administered Price Mechanism (APM gas). The said contract contains the provision of minimum guaranteed off-take of APM gas by gas-based stations, making these units a constrained resource for scheduling purposes. Considering the current gas prices, the ECR (MoD rate) for MSPGCL's Uran gas station in Combined cycle operations is above Rs. 5.75/kWh, which is higher than coal-based units which are frequently getting "Zero schedule" instructions at present (like Bhusawal Unit # 3 & Parli units of MSPGCL). So if the proposed "Zero schedule procedure" is made applicable to gas based stations in Combined cycle mode operations, there is likelihood that these units will get "zero schedule" instructions more frequently than the coal based units which are presently prone to "zero schedule" instructions. This will lead to situation of "Take or pay" penalties on generators as the scheduling of the units will be significantly lower than the allocated gas quantum. The MERC case No. 210 of 2025 was specifically in the context of "Open cycle" operations of gas-based units and in the proceedings for this matter, the issues and difficulties regarding "take or pay" penalties are discussed in details.

**Thus, MSPGCL opposes the applicability of the Draft procedure for gas-based stations in "Combined cycle" mode operations and suggests to exclude "Combined cycle" operations of Gas based thermal stations from applicability of the Draft procedure. MSPGCL also submits that for "open cycle" operations of gas-based stations, the current ECR (i.e. MoD rate) is above Rs. 8 / kWh, which is substantially higher and thus, extending applicability of "Zero schedule" procedure to gas based units in Open cycle operations is logical.**

**OCC discussion: -**

**This procedure is applicable for the gas-based generators whose schedules are issued through MOD principles.**

**Comment 26 (MSPGCL):**

The Draft procedure is focused on assessment of "Anticipated generation availability exceeds anticipated demand of any distribution licensee" as primary condition for issuing "Zero schedule" instruction. Definitely, this is very essential. However, in all the discussions related to such assessment through various related aspects like solar/ non-solar peak demand, technical minimum of all units on Bar, Resource Adequacy etc., there is no mention of "Spinning reserve" requirements at the time of issuing "Zero schedule" instructions. Availability of adequate "Spinning reserve" is essential for Grid security and reliability. **Thus, MSPGCL suggests that for the supply surplus assessment, SLDC should also take into account the "spinning reserve" requirement at that time, before giving concurrence to "Zero**



**schedule" request from the Discoms. This will ensure that the grid does not face a situation where "zero scheduling" for a certain capacity puts demand-supply balance at critical level .**

**OCC discussion:-**

**The suggestion is noted and OCC members may comment.**

**Comment 27 (MSPGCL):**

Considering the different "unit restoration time" requirements under different plant conditions (e.g. 8 hours for hot start, 24 hours for warm start, 72 hours for cold start in case of coal-based stations), the period for "Zero scheduling" should be fixed in steps i.e. minimum 8 hours, then 24 hours, then 72 hours or more. This will ensure that the generator gets adequate time for the restoration activities as per the Turbine- Boiler precondition requirements in Hot start-Warm start-Cold start situations.

**OCC discussion:-**

**Zero scheduling period is decided by DISCOMs as per their demand and resources hence it can not be fixed in steps.**

**Comment 28 (MSPGCL):**

It is agreed that the concurrence should have no commercial / financial implications on SDLC. The provision of "Zero schedule" shutdown, allows complete backing down of generating unit on purely for commercial optimization and shifts demand variation risk to generator. Thus, necessary compensation to generators to mitigate the adverse operational & financial impact of such "Zero schedule" outages & restoration must to be ensured. Especially in case of generating units supplying power under Section 62 PPA, such clarity under relevant Regulations as well as in the procedures laid by the concerned implementation authorities as per the Regulations is very essential. In absence of such clarity in the regulations/rules /procedures, the generators will be compelled to adopt approach of litigations, which leads to unnecessary confrontations and delay in recovery of justified cost implications.

**OCC discussion:-**

**Compensation mechanism is not in the scope of current procedure**

**Comment 29 (MSPGCL):**

Under this clause, following needs to be added

1. Clarity on the Declared Capacity to be considered during the "Zero schedule" outage period. The MEGC,2020 provided following in this regard "Declared Capacity of generation unit under Zero Schedule shall be considered as higher of Average Declared Capacity for immediate one week prior to Zero Schedule instructions or Maximum Declared Capacity (for minimum 3 hours period) for last 24 hours before commencement of Zero Scheduling."
2. As mentioned under the comments on Point No. 10, the procedure should also cover the mechanism for necessary compensation to generating units to mitigate the adverse

operational & financial impact of such "Zero schedule" outages & restoration. The "Zero schedule" outage and subsequent restoration has obvious adverse impact on plant performance parameters. There are certain auxiliaries which are needed to be put in service even during plant outages. Such Aux. Consumption during the "zero schedule shutdown" period adds to total auxiliary consumption %. Also, the start-up activities (boiler relight-up and post-synchronisation plant stabilization) results in increase in Specific Oil Consumption as well as Station Heat Rate & reduction in Plant Availability factor. There is need to provide details for the mechanism through which the generator will be compensated for the adverse financial impact due to deterioration in plant performance parameters. The prevailing compensation mechanism under MEGC, 2020 for deterioration of performance parameters for the generating unit, on account of backing down instructions, does not explicitly cover the compensation methodology to be adopted during the "Zero schedule" outage. Unless specific mechanism is provided, it will be difficult for the generators to get the compensation and will lead to disputes between Gencos and buyer Discoms.

3. The routine maintenance activities, which are not affecting generation capability of the unit, needs to be allowed during "Zero schedule" outage period when these activities are planned within the time period between withdrawal time and restoration instruction.

#### **OCC discussion:-**

1. **Declared Capacity considered during Zero Scheduling shall be as per the clause no-35.8 mentioned in MEGC 2020.**
2. **Compensation mechanism is not in the scope of current procedure**

#### **OCC comment :-**

3. **Routine Maintenance during Zero Scheduling:-**

**As per MEGC grid code 2020, clause no 35.9**

*"No maintenance work shall be carried out when the generating unit will be under Zero Scheduling.*

*Provided that, if a generating station/unit requires any maintenance under Zero Scheduling, same shall be done in due consultation with SLDC.*

*Provided further that, the Declared Capacity of such generating station/unit shall be reduced appropriately. Zero scheduling shall be carried out by the distribution licensee considering its roles"*

**In meeting MSPGCL stated that the maintenance activities should be permitted during the zero-schedule period without reduction of DC, however MSEDCL has informed that generator should reduce the DC accordingly in such cases. Considering the disagreement between MSEDCL and MSPGCL, OCC chairman directed to refer the matter to GCC forum**

#### **Comment 30 (MSPGCL):**

The timelines for coal-based stations are by and large reasonable. However, as mentioned under the comments on Point No. 7 "Period for which Zero Scheduling is proposed", the time period for which the "Zero schedule" shutdown is being issued needs to be in-sync with the restoration period timelines.

In case of gas-based stations, it is already mentioned under the comments on Point No. 3 "Applicability", that the Procedure needs to be made applicable only for the "Open cycle" mode operation of the gas-based thermal units. In case of "open cycle" mode operation of gas-based thermal stations, though it is generally assumed that gas based units in "open cycle" mode operation can be taken into service with a short period notice, considering vintage of units at Uran Gas TPS,

it is requested that restoration intimation for operation of gas based unit in "open cycle" mode after withdrawal of "Zero schedule" instruction, needs to be given at least 1 hour in advance. Clearance needs to be taken from M/s GAIL before each START/STOP operation. Starting and stopping of the machine frequently will disturb the pressure of M/S GAIL gas distribution network and create instability. So getting this clearance from M/s GAIL takes quite enough time for each operation. Frequent START/STOP operation puts immense stress on rotating machine and due to such frequent Start / Stop events, rising trend in vibrations has also been observed.

In the context of the "open cycle" mode operation of gas based units , it is further to submit that previously it is observed that during peak period demand variations, the beneficiary Discom had availed the "open cycle" mode generation in intermittent time-blocks i.e. issuing schedule for the gas based unit for few continuous blocks (full requisition as per declared capacity) , then issue no schedule for next 2-4 blocks (zero requisition) and then again issue full requisition for further blocks. Practically such operation is difficult for the units. It adds to thermal stresses, adverse plant performance and increased degradation of plant. Also as per GAS supply Agreement, the BUYER shall draw and SELLER shall supply daily the quantity of Gas agreed to at an uniform rate spread over a period of 24 (Twenty four) hours. Accordingly, adherence to a fixed and stable schedule is essential to ensure proper implementation of contractual supply and drawal conditions.

Thus, it is suggested that provision of continuous scheduling even for the "open cycle" mode operation unit needs to be made with "Technical minimum" schedule if continuous schedule at declared capacity is not possible due to demand variations. The details for "technical minimum" limit for each gas-based unit in "open cycle" mode operation can be sought from the concerned generators.

#### **OCC discussion:-**

**OCC finalized the withdrawal and restoration period for gas based plants as 1 hrs as requested by MSPGCL and TPC-G and shall be incorporated in procedure**

#### **Comment 31 (MSPGCL):**

While SLDC shall not bear any financial or commercial liability, affected generators have to be compensated through regulatory mechanisms for financial impact arising from such instructions.

#### **OCC discussion:-**

**Compensation mechanism is not in the scope of current procedure.**

#### **Comment 32 (MSPGCL):**

The proposed Procedure is sub-ordinate to the MEGC,2020 and the MEGC,2020 Clause 97.1 provides that *"In the event of any dispute regarding the interpretation of any provision of the MEGC,2020 or rules and procedures notified under the provisions of this MEGC,2020, same may be referred to the GCC. If the dispute is not resolved, the GCC may refer to the Commission with its suggestions/recommendations."*

Thus, Draft Procedure may be corrected accordingly.

**OCC discussion:-**

**The clause no. 13.3 shall be modified accordingly as below:-**

***“Any complaints/disputes made by Discom / Generators should refer to SLDC first if there is no resolution at SLDC level then same shall be put up in OCC and subsequently in GCC if required for resolution.”***

## ANNEXURE-A

List of Officers attended 14th OCC Meeting on Virtual Mode held on 26.05.2026

| Sr.No. | Name of the Officers & Designation          | Organization  | Mobile No. | E-mail ID | Sign              |
|--------|---------------------------------------------|---------------|------------|-----------|-------------------|
| 1      | Shri Shashank Jewalikar, Executive Director | MSLDC, MSETCL |            |           |                   |
| 2      | Shri Girish Pantoji, Chief Engineer (I/C)   | MSLDC, MSETCL |            |           |                   |
| 3      | Shivakumar G                                | MSLDC, MSETCL | 7021374187 |           | <i>Shivakumar</i> |
| 4      | Milind Kadam.                               | MSLDC, MSETCL | 9930496210 |           | <i>Milind</i>     |
| 5      | Rajesh V Amberwadikar                       | MSLDC, MSETCL | 7447440507 |           | <i>Rajesh</i>     |
| 6      | Shrikant K. Tehale                          | MSLDC, MSETCL | 9890995579 |           | <i>Shrikant</i>   |
| 7      | Vaishnavi A. Haldankar                      | MSLDC, MSETCL | 9137634141 |           | <i>Vaishnavi</i>  |
| 8      | Harshali Kalcade                            | MSLDC, MSETCL | 9769980530 |           | <i>Harshali</i>   |
| 9      | Sachin Lomate                               | MSLDC,        | 9028800895 |           | <i>Sachin</i>     |
| 10     | Dinesh Patel                                | EE of MSLDC   | 976923848  |           | <i>Dinesh</i>     |
| 11     | Dipali Sonar                                | AEF MSLDC     | 9167937988 |           | <i>Dipali</i>     |
| 12     |                                             |               |            |           |                   |
| 13     |                                             |               |            |           |                   |
| 14     |                                             |               |            |           |                   |
| 15     |                                             |               |            |           |                   |
| 16     |                                             |               |            |           |                   |
| 17     |                                             |               |            |           |                   |
| 18     |                                             |               |            |           |                   |
| 19     |                                             |               |            |           |                   |
| 20     |                                             |               |            |           |                   |
| 21     |                                             |               |            |           |                   |
| 22     |                                             |               |            |           |                   |
| 23     |                                             |               |            |           |                   |
| 24     |                                             |               |            |           |                   |
| 25     |                                             |               |            |           |                   |

**Attendance Sheet for 14th Operation Coordination Committee (OCC) Meeting scheduled on 26.05.2026  
at 15.00 Hrs in Virtual Mode**

| Sr. No | Name                | Designation                           | Organization/Company                   | Mobile No  | E-mail                                                                           |
|--------|---------------------|---------------------------------------|----------------------------------------|------------|----------------------------------------------------------------------------------|
| 1      | Harshal Joshi       | AGM                                   | JSW Energy Limited                     | 9552577131 | <a href="mailto:harshal.joshi@jsw.in">harshal.joshi@jsw.in</a>                   |
| 2      | Devesh Pimpale      | DGM                                   | JSW Energy Limited                     | 9324715010 | <a href="mailto:devesh.pimpale@jsw.in">devesh.pimpale@jsw.in</a>                 |
| 3      | Vijay Pednekar      | Sr Manager                            | JSW Energy Limited                     | 9552577206 | <a href="mailto:vijay.pednekar@jsw.in">vijay.pednekar@jsw.in</a>                 |
| 4      | Anil Bapat          | SE (RCD)                              | MSPGCL                                 | 9167493980 | <a href="mailto:rcgen@mahagenco.in">rcgen@mahagenco.in</a>                       |
| 5      |                     | EE (Works)                            | MSPGCL                                 | 8879641163 | <a href="mailto:cegw@mahagenco.in">cegw@mahagenco.in</a>                         |
| 6      | Pinal desai         | AVP                                   | ADTPS                                  | 9325119747 | <a href="mailto:Pinal.desai@adani.com">Pinal.desai@adani.com</a>                 |
| 7      | Balamurali G        | AGM                                   | Tata Power G                           | 9223503639 | <a href="mailto:balamuralig@tatapower.com">balamuralig@tatapower.com</a>         |
| 8      | Kapil Mandloi       | Head-P&E                              | Tata Power G                           | 9029002372 | <a href="mailto:kapil.mandloi@tatapower.com">kapil.mandloi@tatapower.com</a>     |
| 9      | Pundlik Wanwe       | General Manager                       | Dhariwal Infrastructure Limited        | 9561112008 | <a href="mailto:pundlik.wanwe@rpsg.in">pundlik.wanwe@rpsg.in</a>                 |
| 10     | Pravin Rokade       | Dy CE (RCD)                           | MSPGCL                                 | 8087148224 | <a href="mailto:rcgen@mahagenco.in">rcgen@mahagenco.in</a>                       |
| 11     | Vaibhav Sansare     | Associate Manager-<br>Head Operations | JPTL                                   | 9552577122 | <a href="mailto:Vaibhav.sansare@jsw.in">Vaibhav.sansare@jsw.in</a>               |
| 12     | MAHESH ANDHARI      | (Distribution &                       | AEML                                   | 9323549996 | <a href="mailto:mahesh.andhari@adani.com">mahesh.andhari@adani.com</a>           |
| 13     | Ashish Kunal        | DGM, RIPL                             | RattanIndia Power Limited (Unverified) | 7028938800 | <a href="mailto:ashish.kunal@rattanindia.com">ashish.kunal@rattanindia.com</a>   |
| 14     | Gopichand Ghodke    | EE,LM cell                            | MSDCL                                  | 7030250444 |                                                                                  |
| 15     | Ranjeet Sawardekar  | Head ABT                              | AEML                                   | 9324818009 | <a href="mailto:ranjeet.sawardekar@adani.com">ranjeet.sawardekar@adani.com</a>   |
| 16     | Harshal Joshi       |                                       |                                        |            | <a href="mailto:harshal.joshi@jsw.in">harshal.joshi@jsw.in</a>                   |
| 17     | Vijay Pednekar      |                                       |                                        |            | <a href="mailto:vijay.pednekar@jsw.in">vijay.pednekar@jsw.in</a>                 |
| 18     | Anand Vinod Vaidya  |                                       |                                        |            | <a href="mailto:anand.vaidya@jsw.in">anand.vaidya@jsw.in</a>                     |
| 19     | Devesh Pimpale      |                                       |                                        |            | <a href="mailto:devesh.pimpale@jsw.in">devesh.pimpale@jsw.in</a>                 |
|        |                     |                                       |                                        |            | <a href="mailto:ashishkumar.shukla@adani.com">ashishkumar.shukla@adani.com</a>   |
| 20     | Ashish Kumar Shukla | HOD-Electrical<br>Maintenance         | VIPL                                   | 6358853165 |                                                                                  |
| 21     | . Gaurav Grover     | Manager                               | JPL                                    | 9718306200 | <a href="mailto:gaurav.grover@jindalpower.com">gaurav.grover@jindalpower.com</a> |
|        |                     |                                       |                                        |            |                                                                                  |
|        |                     |                                       |                                        |            |                                                                                  |



**MAHARASHTRA STATE ELECTRICITY TRANSMISSION CO.LTD.**  
CIN NO. U40109MH2005SGC153646

**Office of The Chief Engineer**

**Maharashtra State Load Dispatch Center**

Thane-Belapur Road, P.O. Airoli, Navi Mumbai Pin – 400 708.

Tele: 91-22-27601765 / 1766; Fax: 91-22-27601769

Email: cesldc@mahasldc.in

Ref: MSLDC/TECH/Procedure/RE\_Curtail/

**000539**

Date:

**11 MAR 2026**

**NOTICE**

**Inviting Comments / Suggestions on the Draft Procedure formulated towards Renewable Energy (Wind & Solar) Curtailment in the State.**

Hon'ble MERC has issued, the MERC (State Grid Code) Regulations, 2020, notified on dated 02.09.2020. The Regulation No. 28.2 of the said Regulations is reproduced below:

*"SLDC, in coordination with OCC, shall develop, document, and maintain detailed operating procedures for managing the InSTS. These operating procedures shall include the following:*

- a) Black start procedures;*
- b) System restoration procedures for partial grid failure;*
- c) Load curtailment procedures;*
- d) Renewable energy curtailment procedures;*
- e) Islanding procedures; and*
- f) Any other procedure considered appropriate by the SLDC.*

*Provided that such procedures shall be developed in consultation with Users, licensees, renewable energy developers and WRLDC with three months from the date of notification of these Regulations.*

*Provided further that such procedures, after consulting in GCC, shall be provided to all the Users. A copy of the same shall be uploaded on SLDC's website and submitted to the Commission for information."*

Based on the above directives, MSLDC has formulated draft procedure in accordance with the said regulations and is hereby published on dated 11-03-2026 on MSLDC's Website: [www.mahasldc.in](http://www.mahasldc.in), for seeking comments / suggestions, if any, from various Stake holders.

In view of above, it is requested to offer valuable comments/suggestions on the said draft procedure to make this procedure more accurate and error free, for smooth implementation of the said regulations in the State. After receipt of the comments / suggestions from various stake holders, the same shall be scrutinized and final draft shall be discussed in Operational Co-ordination Committee (OCC). Based on the comments/suggestions from the OCC, the draft procedure shall be submitted to the Grid Co-ordination Committee (GCC) for approval.



**Inviting Comments / Suggestions on the Draft Procedure formulated towards Renewable Energy (Wind & Solar) Curtailment in the State in accordance with the Regulation No. 28.2 of the MEGC, 2020.**

---

The details for submission of comments / suggestions are as follows:

**Last date of submission**  
**Mode of submission**

**: 19-03-2026 by 18:15 Hrs.**  
**: Soft copy in '.xls' form in the attached format along with 'PDF' copy through e-Mail. No hard copy is required.**

**Mail Id**

**: REMC.OPERATION@MAHASLDC.IN**

*Please make a note that any submission after the mentioned date & time and comments/ submission shall be invariably submitted on above mentioned e-mail ID. Submission on any other e-mail-ids' of MSLDC shall not be considered.*

**Encl:**

- 1) Draft Procedure
- 2) Format for Comments

**Place: Airoli, Navi Mumbai**  
**Date: 11-03-2026**



**(Milind Deole)**  
**Chief Engineer (I/c)**  
**SLDC, Airoli**

**Format for submission of Comments/Suggestions**

| Name of Stake holder: |                            |                             |                               |
|-----------------------|----------------------------|-----------------------------|-------------------------------|
| Sr. No.               | Draft Procedure Clause No. | Comments of the Stakeholder | Suggestion of the Stakeholder |
|                       |                            |                             |                               |
|                       |                            |                             |                               |
|                       |                            |                             |                               |
|                       |                            |                             |                               |
|                       |                            |                             |                               |
|                       |                            |                             |                               |
|                       |                            |                             |                               |
|                       |                            |                             |                               |
|                       |                            |                             |                               |
|                       |                            |                             |                               |
|                       |                            |                             |                               |
|                       |                            |                             |                               |
|                       |                            |                             |                               |
|                       |                            |                             |                               |
|                       |                            |                             |                               |

**Note:**

*Suggestions on any additional points which are not covered in the Draft Procedure shall be added separately with Clause No. as "Additional".*

*Above format is to be submitted in "excel" form through e-mail for ease of consolidation of comments of all the Stakeholders.*



# **Draft Procedure for Curtailment of RE (Wind & Solar) Generation in the State**

***(1<sup>st</sup> Amendment)***

In accordance with  
The Maharashtra Electricity Regulatory  
Commission  
(State Grid Code) Regulations, 2020 and  
subsequent amendments.

Prepared by

**Maharashtra State Load Despatch Centre**

*(05-03-2026)*

## **TABLE OF CONTENTS**

|                                                            |           |
|------------------------------------------------------------|-----------|
| <b>1. OUTLINE:</b>                                         | <b>3</b>  |
| <b>2. DEFINITIONS:</b>                                     | <b>4</b>  |
| <b>3. APPLICABILITY OF THE PROCEDURE:</b>                  | <b>5</b>  |
| <b>4. METHODOLOGY:</b>                                     | <b>5</b>  |
| <b>5. RESPONSIBILITY OF VARIOUS STAKE-HOLDERS:</b>         | <b>11</b> |
| <b>6. PROTOCOL FOR COMMUNICATION &amp; IMPLEMENTATION:</b> | <b>17</b> |
| <b>7. SCHEDULE REVISION &amp; DSM METHODOLOGY:</b>         | <b>29</b> |
| <b>8. MECHANISM FOR MONITORING COMPLIANCE:</b>             | <b>32</b> |
| <b>9. GRIEVANCE REDRESSAL:</b>                             | <b>33</b> |
| <b>10. REMOVAL OF DIFFICULTIES:</b>                        | <b>34</b> |
| <b>11. GENERAL:</b>                                        | <b>34</b> |

## PROCEDURE FOR RE (WIND & SOLAR) GENERATION IN THE STATE

### 1. **OUTLINE:**

- 1.1. This Procedure is in accordance with the various provisions of the Regulation No. 28.2, 30.12 & 30.13 of the MERC (State Grid Code) Regulations, 2020, Regulation No. 14 of the MERC (Forecasting, Scheduling and Deviation Settlement of Solar and Wind Generation) Regulations, 2018 & amendment thereto.
- 1.2. All Stakeholders shall abide by the provisions of the Regulations. All applicants shall abide by the CEA (Technical Standards for Connectivity to the Grid) Regulations, 2019, CEA grid standard regulation 2010 and relevant CEA standards for protection and SPS requirements.
- 1.3. With increasing variable RE capacity into grid which is intermittent in nature, complexities of power system operations and grid management challenges are increasing day by day. The SLDC needs to maintain the load-generation balance by maintaining the system parameters within the limits specified by the Grid code.

Despite improving accuracy of forecasts (demand and supply), forecast errors and the load variation in the real time would continue and the SLDC needs to maintain the generation to maintain the system frequency & Voltages within the permissible band as per Grid Code.

The SLDC while balancing the generation as per the load, the variation in the wind and solar generation adds to the complexity in balancing the generation through other resources like thermal or gas or hydro generation. Even with exercising various measures for managing grid frequency and voltage/congestion management, SLDC may need to manage grid by way of RE generation curtailment in the interest of Grid security.

- 1.4. The existing installed capacity of Wind & Solar Generation in the State is large and exponential growth is observed day by day. This capacity is spread across the geography of the State having multiple individual Generating Units viz. WTGs & Solar Invertors, connected to multiple PSS. This capacity is operated & maintained by different



Generating Companies, RE Developers & OEMs. Thus, there is an involvement of large number of Stake holders.

Proper co-ordination among various Stake-holders is required for effective & successful implementation of the curtailments. Any mis-communication/delay in implementation of MSLDC directions may lead to grid disturbances.

- 1.5. As mandated in accordance with the Regulation No. (d) (28.2) of the MERC (State Grid Code) Regulations, 2020, to implement the curtailments smoothly without any mis-communications and to avoid any disputes, this procedure has been prepared.
- 1.6. The objective of the RE curtailment Procedure, is to lay down a comprehensive framework for managing the curtailment of variable RE generation for grid security while keeping the impact of curtailment on RE to the minimum.

The procedure also lay down the roles and responsibilities of the various stakeholders like SLDC, STU, Transmission Licensees, Distribution Licensees, RE Generating companies, RE Developers, OEMs and Qualified Coordinating Agencies (QCAs). It also aims to classify the various types of situations which call for curtailment of generation based on which, methodologies for curtailment and restoration have been designed. The procedure also aims to maintain transparency in the instructions issued by SLDC and process followed for curtailment and restoration as per the grid requirement.

## 2. DEFINITIONS:

- A. “**Associated Evacuation network**” means the EHV, HV network which is the existing network of any transmission or distribution licensee through which generation is evacuated. This network is beyond the Point of Interconnection (PoI).
- B. “**Dedicated Evacuation network**” means the dedicated EHV, HV, LV network designed and developed for evacuation of generation through specific Generating Station or a group of Generating Stations. This network is behind the Point of Interconnection (PoI).
- C. “**F&S Regulations**” means the MERC (Forecasting, Scheduling & Deviation Settlement for Solar & Wind Generation) Regulations, 2018 and subsequent amendments.
- D. “**MEGC**” means the MERC (State Grid Code) Regulations, 2020.
- E. “**Plant Operators**” means the agency or a company which is appointed by the Wind & Solar Generators for operating the

Generating Plant on behalf of them, such as RE Developers, OEMs, etc.

- F. **“Nodal Substation”** means a Sub-station of a Transmission or Distribution Licensee which is designated for passing the telephonic instructions issued by MSLDC to individual Pooling Sub-stations where actual generation is connected.
- G. **“Code”** means a unique Numerical number generated by MSLDC Control Room against telephonic instructions issued to various Stake holders such as Nodal Sub-Stations, Generating Companies, Transmission & Distribution Licensees, QCAs, etc.
- H. **“Field Office of Transmission Licensee”** means the Officer(s) of the Transmission Licensee which are deputed for carrying out operation & maintenance of the local Transmission Network.
- I. Save as aforesaid and unless repugnant words and expressions used in these Regulations and not defined, but defined in the Act, or the CERC (Indian Electricity Grid Code) Regulations 2023 or Regulations of the Central Electricity Authority or any other Regulations of MERC shall have the meaning assigned to them respectively in the Act or IEGC or any other Regulations as the case may be.

### **3. APPLICABILITY OF THE PROCEDURE:**

- 3.1. The procedure shall be applicable to various Stake-holders in the State such as Wind & Solar Generating Companies, Hybrid RE Plants covered under the ambit of said regulations, registered QCAs, STU, Distribution & Transmission Licensees, RE Developers, Plant operators appointed by the Generating Companies for operation & Maintenance of the Plant on behalf of the Generating companies, etc.

### **4. METHODOLOGY:**

- 4.1. There shall be different scenarios, viz. heavy demand crash, heavy under-drawl by the State at high frequency, sudden increase in RE Generation resulting in to heavy under-drawl beyond permissible limits, Overloading and/or tripping and/or outage of Evacuation network, etc. based on which curtailment methodology shall differ. The scenario-wise methodology shall be as below.
  - **Scenario – 1:** Demand crash or High RE penetration in the State with heavy under-drawl from ISTS
  - **Scenario – 2:** Planned or Forced outages or Over-loading of the evacuation infrastructure

- 4.2. **Scenario – 1:** Demand crash or High RE penetration in the State with heavy under-drawl from ISTS
- 4.2.1. There are chances of sudden demand crash in the State due to sudden changes in weather or tripping of any bulk load. Also, demand may crash due to some partial/major grid disturbances, viz. tripping of 765 kV or 400 kV or major 220 kV Sub-Station or ring main, feeding load to the metro cities, etc.
- 4.2.2. It is not possible to anticipate such incidences & volume of demand crash.
- 4.2.3. There are chances that on some specific occasions (Special events like Earth Day, etc), the end consumers may not use electricity for specific time. For such scenarios, forecasting of demand crash is possible, however, not with high degree of accuracy as it is not possible to anticipate the response of end consumers.
- 4.2.4. RE Generation is seasonal & time dependent. Wind Generation is generally high during monsoon months and demand is at lower side. Solar generation is high during afternoon hours. Hence, based on the injection of RE generation, despatch from conventional generating units needs to be managed.
- 4.2.5. Further, due to sudden weather changes, the injection of RE may increase.
- 4.2.6. RE injection being infirm in nature, committed operation of Conventional Generating Units is required to meet Demand during non-availability of RE Generation. For example, to meet demand during non-solar hours, Thermal generation will be required.
- 4.2.7. There will be cases wherein in-spite of backing down of thermal generation to its technical minimum level subject to unit constraints, RE injection will be high resulting in to under-drawl from the ISTS. Such scenario requires RE Curtailment for secure operation of the Grid.
- 4.2.8. Under such conditions, MSLDC shall initiate following actions in real time:
- Backing down of all the Intra-State Thermal generation to operate at technical minimum level based on technical parameters of the generating unit subject to any unit



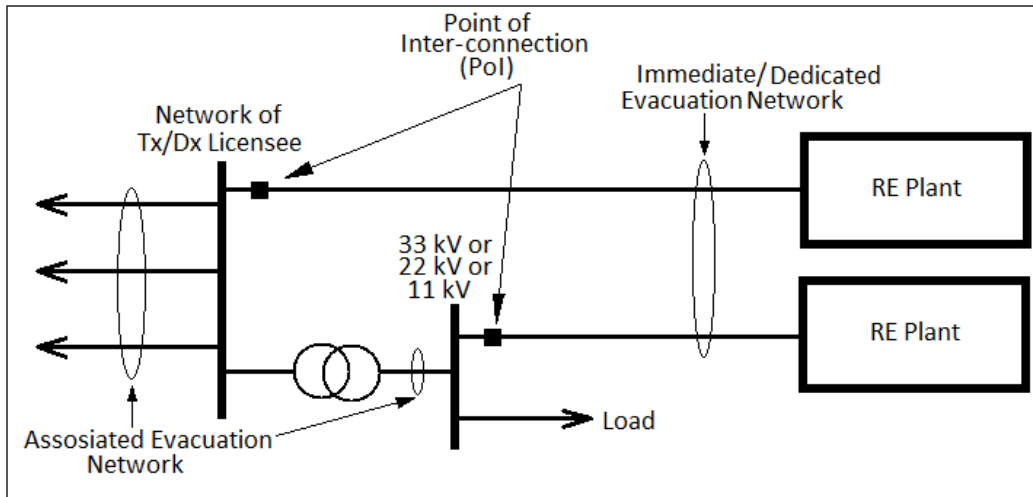
constraints, with due consideration of Network Constraints, Congestion, Voltage Management and any System security measures.

- Pumped Storage Units will be instructed to operate in the Pumping Mode depending up on the availability of margin for pumping.
- BESS units, if available, will be instructed to operate in charging mode depending up on the availability of margin.
- Distribution Licensees shall be directed to reduce the requisition from contracted Inter-State Generating Stations (ISGS) through revision of Schedules and explore possibility of selling surplus Intra-State Power in the market.
- Distribution Licensees shall be instructed to withdraw any demand curtailments, if any.
- In case of demand crash is due to tripping or break-down or manual opening of the electrical network, concerned transmission & distribution licensee shall be directed to restore the network elements on priority so as to restore demand.

4.2.9. Once above measures are assessed, RE Curtailment will be carried out to maintain system parameters viz. Voltages, frequency, heavy under-drawl from ISTS, etc. within the permissible limits, for safe & secure grid operations.

4.2.10. The detailed procedure in such scenario is specified at clause no. 6.4.1.

4.3. **Scenario – 2:** Planned or Forced outages or Over-loading of the evacuation infrastructure



4.3.1. The dedicated evacuation network is planned and developed to evacuate RE power without any constraints. Such network may be developed for evacuation of power from individual RE Project or for a group of RE Projects. Also, in some cases, RE Generation is evacuated through the network of the Transmission/Distribution Licensee, i.e. through Associated Evacuation network.

4.3.2. In case of Overloading or tripping or outage on **Dedicated evacuation network**, resulting in to reduction in evacuation capacity:

- (a) Partially, then RE injection from the concerned PSS shall be curtailed partially and injection shall be restricted to limit the loading on dedicated evacuation network which is in service, within thermal limits.

The Thermal limit shall be in accordance with the limits provided in the appropriate CEA (CEA Transmission Planning Criteria, 2013)/CERC/MERC Regulations related to Connectivity standards/Grid Code, etc.

- (b) Fully, then RE injection from the concerned PSS shall be curtailed Fully.
- (c) Such instances shall not be treated as curtailment imposed by MSLDC, as it is the responsibility of the concerned Wind/Solar Developer and Generating Companies to construct, operate & maintain dedicated evacuation infrastructure.
- (d) It shall be the responsibility of the concerned Wind/Solar Developer and Generating Companies to install required Special Protection Scheme (SPS) at the PoI to curtail generation automatically, in consultation with the respective

Transmission/Distribution Licensee. Such SPS shall be governed by the provisions of the Grid Code.

4.3.3. In case of overloading or tripping or outage on **Associated Evacuation network** through which power from a single or group of PSS is evacuated, resulting in to reduction in evacuation capacity:

(a) Partially, then RE injection from the concerned PSS shall be curtailed partially and injection shall be restricted to limit the loading on evacuation network which is in service within thermal limits. The PSS-wise curtailment shall be on pro-rata basis based on installed capacity.

The Thermal limit shall be in accordance with the limits provided in the appropriate CEA (CEA Transmission Planning Criteria, 2013)/CERC/MERC Regulations related to Connectivity standards/Grid Code, etc.

(b) Fully, then RE injection from the concerned single or group of PSS shall be curtailed Fully.

(c) The real time visibility of 400 kV transmission network is completely available at MSLDC. However, the real time visibility of transmission network below 400 kV is very less. The real time visibility of 220 kV network is substantial whereas the real time visibility of 132 kV & below network is very less.

Most of the EHV connected Wind & Solar Generating plants are connected at 220 kV level & below network. Thus, in the absence of real time visibility of this network, it is not possible for MSLDC to monitor the line loadings and assess the need of curtailment. Under such conditions, MSLDC relies up on the respective Transmission Licensee's field offices who are observing the system in real time. As such, MSLDC is monitoring 220 kV & above network. Also, the outages of transmission elements at 220 kV & above are managed by MSLDC. The transmission network & elements below 220 kV level are monitored by field officers of the respective Transmission Licensees.

In case of any transmission constraints or overloading of transmission elements connected below 220 kV level, to protect the constrained element(s) and to avoid cascade tripping of the local transmission network resulting in to complete loss of RE Generation, concerned Transmission Licensees are installing LTS/GTS/SPS schemes to protect the transmission network below 220 kV level.

Thus, with the operation of such LTS/SPS/GTS, RE generation will be curtailed automatically. The list of existing LTS/SPS/GTS installed in the State wherein curtailment of RE Generation is considered is attached as **ANNEXURE - A**.

Further, in the absence of such LTS/SPS/GTS, respective field offices of Transmission Licensees carry out RE curtailment manually by intimating the respective RE Developers, Generating Companies, Plant Operators, etc. Further, such actions are intimated to MSLDC at later stage.

- 4.3.4. Under such scenario of non-visibility of transmission network to MSLDC, Field Offices of the STU/concerned Transmission Licensees shall use the powers of Curtailment & restoration of RE Generation till the concerned Transmission Network is visible to MSLDC in real time. However, actions taken by the Field Offices of the STU/concerned Transmission Licensees shall be reported without fail to MSLDC in accordance with the provisions specified in this procedure. The detailed procedure in such scenario is specified at Clause No. 6.4.2.

4.4. **Process for pre-deciding Wind & Solar Curtailment Phases**

- 4.4.1. The Solar & Wind Curtailment Phases are required to be predefined for ease of implementation and to avoid repetition of the curtailment for the same Pooling Sub-Station (PSS) for consecutive events.
- 4.4.2. The phases of Wind & Solar PSS shall be prepared considering that every phase shall have an approximately equal quantum and mix of PSS across the State's geography.
- 4.4.3. Each phase shall have PSS having total installed capacity of around 1000 MW. However, depending up on requirements, the quantum per phase will be modified by MSLDC.
- 4.4.4. There shall be separate phases for Wind & Solar capacity.
- 4.4.5. Each phase shall have details such as Name of PSS, Installed Capacity, Details of Nodal Officer of QCA, Generating Company, Plant Operator, Wind/Solar Developer, PSS In-charge, Nodal Sub-station, etc.
- 4.4.6. The phases shall be reviewed & updated on half-yearly basis and as & when any changes in the information is intimated to MSLDC.
- 4.4.7. The phases shall be uploaded on MSLDC website.

## **5. RESPONSIBILITY OF VARIOUS STAKE-HOLDERS:**

5.1. For effective implementation of curtailments, proper co-ordination among various Stake-holders is required. The roles & responsibilities of various Stake-holders are as below.

### **5.2. Responsibility of MSLDC:**

5.2.1. MSLDC shall be the nodal agency for issuing curtailment instructions.

5.2.2. MSLDC shall prepare, review & update the Phases having various details such as Name of PSS, Installed Capacity, Contact details of PSS In-charge, Nodal Sub-Station, etc. and upload the same on MSLDC website.

5.2.3. MSLDC shall maintain the record of Phases & PSS to which curtailments have been issued in past and ensure implementation of the curtailment for the next Phase & PSS.

5.2.4. MSLDC shall issue Curtailment instructions telephonically and through e-mail in accordance with the provisions of this procedure.

5.2.5. MSLDC shall revise the schedules of the PSS to which curtailment has been issued in accordance with the provisions of this procedure.

5.2.6. MSLDC shall maintain the details of Curtailment instructions along with reason, quantum of curtailment (MW/MUs) and upload on MSLDC website on monthly basis.

5.2.7. MSLDC shall report the instances of Curtailment to OCC for further discussions.

### **5.3. Responsibility of QCAs:**

5.3.1. QCA is a single point contact between MSLDC & Generating Companies. Hence, QCA shall be responsible for communicating the instructions to RE Developers and Generating Companies connected to the PSS for which it is acting as a QCA.

5.3.2. QCA shall be responsible for implementation of the curtailment issued along with revision in schedules in real time.

5.3.3. QCA shall inform the contact details of 3 Nos. of representatives to whom instructions shall be issued by the Nodal Sub-Stations/MSLDC. As the need for curtailment may arise at any time, one of the contact details shall be mandatorily, of the Control room

operated 24x7 by the QCA. In case of changes in the details of representatives, the same shall be communicated within 24 hours to MSLDC.

- 5.3.4. QCA shall ensure implementation of the curtailment through respective Generating Companies or the Plant operators, viz. OEMs, RE Developers, etc.
- 5.3.5. QCA shall immediately inform the details of PSS and Generating Companies which have not followed curtailment instructions issued by MSLDC and not implemented the curtailment. The details shall include date & time at which instructions were received by QCA from MSLDC, date & time at which instructions were issued to Generating Companies & Plant Operators including RE Developers, reasons for non-implementation of the curtailment instructions.
- 5.3.6. QCA shall keep all the records of curtailment instructions passed on to the Generating Companies, Plant Operators viz. OEMs, RE Developers, etc. having various details such as date & time of instructions received from MSLDC, date & time of instructions issued to Generating Companies & Plant Operators including RE Developers, actual time of curtailment & generation at the time of the curtailment & restoration timings etc. The information should be communicated to the MSLDC in the prescribed format within two time blocks from which instructions were issued by MSLDC.
- 5.3.7. QCA shall revise the Schedules in accordance with the quantum of curtailment as instructed by MSLDC and/or intimated by the respective Generating Companies, RE Developers and Plant Operators in case of auto curtailment due to operation of LTS/SPS/GTS and manual curtailment imposed by Field Office of transmission licensee.
- 5.3.8. QCA in co-ordination with Generators shall develop protocol for communication of Curtailment instructions from MSLDC for actual implementation. Such PSS-wise protocol shall be submitted to MSLDC within 30 days from the date of notification of the said procedure. Non-submission of such protocol shall be treated as non-compliance of the said procedure.
- 5.3.9. The protocol shall consist of mode of communication, details of instructions issued, details of authorized persons of Generators/Plant Operating agencies on behalf of generators,



feedback from Generators/Plant Operating agencies on behalf of generators towards implementation or withdrawal of the curtailment

- 5.3.10. Any technical data towards compliance of any provisions of the Regulations, shall be communicated to the QCA for onwards submission to individual generators. The data collected from the generators shall be submitted by the QCAs to MSLDC.

**5.4. Responsibility of Generating Companies, RE Developers and Plant Operators:**

- 5.4.1. At most of the PSS, large no. of generating companies are connected to single PSS. Such wind/solar farms are normally operated by Plant Operators appointed by the generators. In some of the PSS, there are multiple Plant Operators who are operating plants on behalf of their generators.

Due to involvement of such large no. of stake-holders, it becomes crucial to implement curtailment which is issued under extreme emergency conditions, in short time frame for getting required relief for maintaining system security.

It is the combined responsibility of all the stake-holders, viz. QCAs, Generating Companies, RE Developers, Plant Operators, OEMs, etc. for providing support to MSLDC for operating the grid at normal level and maintaining the grid safe, reliable and stable.

- 5.4.2. For proper co-ordination of implementation of the curtailments, the Generating Companies shall declare the details of nodal officers who are responsible for operating plant in real time. Such nodal officers may be on their own (if plant is operated by themselves) or nodal officers of the plant operators appointed by the generating companies.

The details of PSS-wise nodal officers shall be submitted to respective QCAs with intimation to MSLDC within 30 days from the date of notification of this procedure. Further, in case of changes in the details of nodal officers, the same shall be communicated to QCA within 7 days.

- 5.4.3. Since the QCAs are primarily responsible for Forecasting, Scheduling & settlement of Deviation accounts, the onus of implementation of curtailment shall be with the generating



companies, hence, the Generating companies shall coordinate with their plant operators and with respective QCAs to jointly develop PSS-wise protocol for communication of Curtailment instructions for actual implementation. Such PSS-wise protocol shall be submitted to MSLDC within 30 days from the date of notification of the said procedure through QCA. Non-submission of such protocol shall be treated as non-compliance of the said procedure.

- 5.4.4. Once the QCA is registered for any PSS, it shall be binding on all the generating companies connected to the said PSS to act upon the instructions passed on by the MSLDC through QCA even if any generating company has not issued consent to the respective QCA.
- 5.4.5. It shall be binding on all the Generating Companies, RE Developers and Plant Operators to curtail RE Generation & restoration thereof, as per the instructions issued by MSLDC through Nodal Sub-stations and/or QCA.

Also, the instructions of RE curtailment and/or restoration issued by Field Offices of respective Transmission Licensees shall be binding on all the Generating Companies, RE Developers and Plant Operators.

Provided that the protocol for communication of instructions of RE Curtailment & restoration thereof shall be as specified in this procedure.

- 5.4.6. If the generating company, Wind/Solar Developer, Plant Operator doesn't follow the MSLDC's instructions for curtailment and/or Field Offices of Transmission Licensees, the action will be initiated against generating companies and/or plant operators as per Section 32(1), 32(2)(d), 32(2)(e) & Section 33(1), 33(2), 33(5), 142 & 146 of the Act' 2003.
- 5.4.7. Upon request by the QCA towards submission of any technical data required by MSLDC in regards to the compliance of any Regulations shall be provided by the generating companies or their Plant operators directly to MSLDC or through QCA.
- 5.4.8. It shall be the responsibility of the Generating Companies, RE Developers and Plant Operators to install LTS/SPS/GTS in co-ordination with the Field Offices of respective Transmission Licensees.
- 5.4.9. It shall be the responsibility of the Generating Companies, RE Developers and Plant Operators to intimate the details of curtailment

& restoration to respective Nodal Sub-stations and respective Field Offices of Transmission Licensee in accordance with the communication protocol defined in this procedure.

5.4.10. In case of operation of LTS/SPS/GTS resulting in to curtailment of RE Generation automatically and/or manual instructions of curtailment issued by Field Offices of transmission licensee, it shall be the responsibility of the Generating Companies, RE Developers and Plant Operators to intimate the details to respective QCA for punching of revised schedules in RE Scheduling Software.

**5.5. Responsibility of Transmission & Distribution Licensees:**

5.5.1. Most of the PSS and Associated evacuation network are owned and operated by the Transmission or Distribution Licensees.

5.5.2. All the concerned Transmission & Distribution Licensees shall declare the PSS-wise detailed list of Nodal officers or Sub-stations and PSS In-charge to MSLDC for co-ordination for curtailment implementation within 30 days from the date of notification of this procedure. The details shall be in accordance with the **ANNEXURE - 1**. Any changes in the details of the Nodal officer or Sub-station and PSS In-charge shall be communicated to MSLDC within 07 days from the date of change. Non-submission of such details shall be treated as non-compliance of the said procedure.

5.5.3. After issuance of curtailment instructions from MSLDC, the Nodal Officer or Sub-station shall pass on the instructions to respective PSS for implementation of the Curtailment.

The PSS In-charge shall pass on the instructions to respective Generating Companies or Plant Operators for implementation. The Nodal Officer or Sub-station and PSS In-charge shall maintain the record having various details such as date & time of instructions received from MSLDC, date & time of instructions issued to Generating Companies & Plant Operators including RE Developers, actual time of curtailment & generation at the time of the curtailment & restoration timings etc.

5.5.4. The PSS In-charge shall be responsible for opening of the Line Isolator & Breaker at the Point of Inter-connection in a PSS if the generation is not reduced within 2 time blocks.

Such instances shall be reported to MSLDC within 1 time block from the action of opening of breaker & isolator is taken along

with details of communication held between the Generating companies and/or Plant Operators.

- 5.5.5. Once the action as per Clause No. 5.5.4 is initiated, the restoration shall be done only after the instructions from the MSLDC Control Room.
- 5.5.6. For opening and restoration of the interface arrangements, Code system shall be followed.
- 5.5.7. In relation to the clause no. 4.3.4 (c ) specified above, the respective Field Offices of the transmission licensees shall identify the transmission constraints likely to occur under contingencies and install LTS/SPS/GTS on the respective transmission elements to auto back down RE generation under contingent conditions.

While designing such LTS/SPS/GTS, discussions shall be held with respective RE Generating Companies, Plant Operators and RE Developers and the minutes of such meetings shall be prepared & maintained.

Once such LTS/SPS/GTS are installed, the details shall be informed to STU & MSLDC. Further, any modifications in such LTS/SPS/GTS shall be communicated to STU & MSLDC as & when modified.

In the absence of LTS/SPS/GTS, respective field offices of Transmission Licensees shall carry out RE curtailment manually by intimating the respective RE Developers, Generating Companies, Plant Operators, etc. Under such conditions, it shall be the responsibility of the respective field offices of Transmission Licensees to design & install LTS/SPS/GTS in consultation with respective RE Generating Companies, RE Developers and Plant Operators.

The details of Curtailment of RE Generation either through LTS/SPS/GTS or manually shall be reported to MSLDC in accordance with the communication protocol defined in this document.

All such LTS/SPS/GTS resulting into RE curtailment shall be reviewed on 6 monthly basis or as & when changes in network topology and/or loading conditions, and updated LTS/SPS/GTS shall be communicated to STU & MSLDC.

- 5.5.8. The Distribution Licensees shall carry out Week Ahead and Day Ahead Resource Planning and identify the availability of Surplus

Capacity in advance and optimize the available resources on Week ahead & Day ahead basis to avoid RE Curtailment.

While conducting such assessment, impact of Distribution Embedded Generating Sources viz. Roof-Top Solar, Solar Projects under MSKVY Scheme, etc, shall be considered.

- 5.5.9. The main objective of Mukhyamantri Saur Krishi Vahini Yojana (MSKVY) scheme is to provide Day time Supply to farmers & Agriculture through Solarization of AG feeders. Hence, it shall be the responsibility of the concerned Distribution Licensee to maintain AG Load & Solar Generation balance.

A Scheme for monitoring local AG Load-Solar Generation balance automated manner shall be installed by the concerned Distribution Licensee. Till the installation of such automated scheme, balancing & curtailment shall be carried out manually with centralized monitoring.

The details of Solar Generation curtailed by concerned Distribution Licensee shall be reported to MSLDC as & when such generation is curtailed either manually or automatically.

## **6. PROTOCOL FOR COMMUNICATION & IMPLEMENTATION:**

- 6.1. The first aim of System Operator is to maintain and restore the System conditions to normal level, hence, preliminary instructions shall be passed on through voice/telephonic communication only with a code through nodal officer/substation & QCAs.
- 6.2. It shall be binding on all the QCAs, Generating Companies, Plant Operators, RE Developers etc. to adhere to the instructions given (including Curtailment instructions) by MSLDC through any mode of communication (voice/telephonic/WhatsApp) communication and implement it immediately without waiting for written communication.
- 6.3. The voice/telephonic communication shall be confirmed by MSLDC through e-mail to the respective QCA within next 1 hours from the voice communication.
- 6.3.1. MSLDC has already developed Web-based scheduling portal through which curtailment in the schedules shall be made. Such curtailments in the schedules shall be intimated to the QCA through automated e-mails.

6.3.2. The curtailment instructions shall have following information:

- Name of PSS.
- Quantum of Generation to be curtailed or Quantum to which generation is to be restricted.
- Date & Time Block from which curtailment to be implemented.
- Probable Date & Time Block at which curtailment shall be withdrawn.
- Reason for Curtailment.

6.3.3. Based on the System conditions, the System Operators in MSLDC Control Room shall review the decision of revision in the quantum of curtailment or withdrawal of curtailment. Such revision in quantum or withdrawal of curtailment shall be informed to QCA through voice communication for implementation which shall be confirmed through e-mail within next one hour.

6.4. The Communication Protocol under various scenarios for implementation of the Curtailment is as below:

6.4.1. **Demand crash in the State with heavy under-drawl from ISTS:**

- MSLDC Control Room System Operator shall identify the PSS & Phase/s and the quantum of curtailment based on real time system conditions and as per the national advisory in case of the natural calamities viz. cyclone, flood and earthquake etc.
- MSLDC Control Room System Operator shall issue telephonic instructions for active power curtailment with reactive power support along with list of PSS, quantum & reason supported with 'Code' to Nodal Substations of Transmission/Distribution Licensees.
- MSLDC Control Room System Operator shall communicate list of PSS & Phase/s for Active Power curtailment with Reactive Power support along with quantum & reason supported with 'Code' to the QCA through email not later than one hour from passing telephonic instructions.
- Nodal Substations shall issue telephonic instructions to respective PSS with 'Code'.
- QCAs shall inform the details of curtailments to the respective Generating Companies, Plant Operators & RE Developers connected to respective PSS for implementation of the

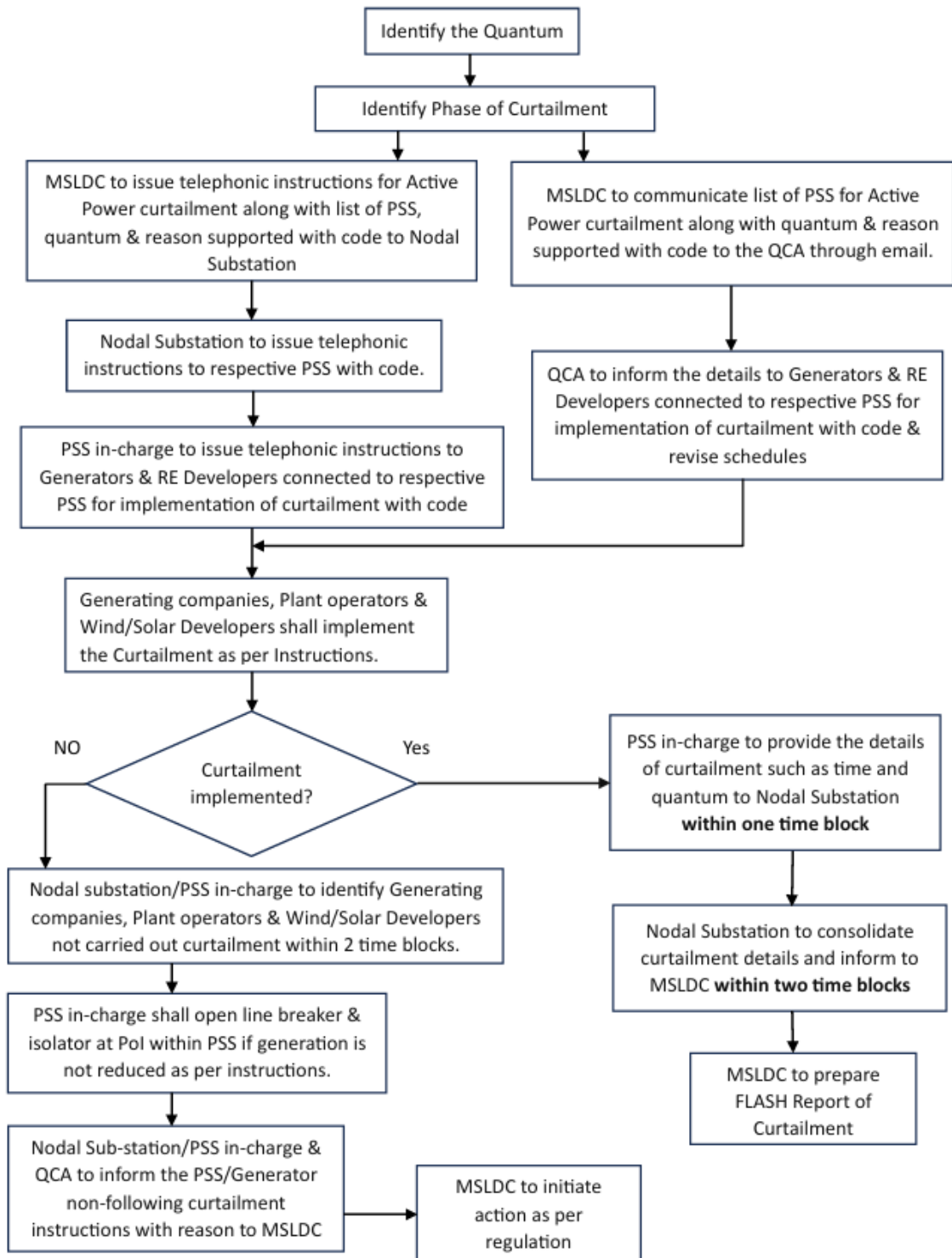
curtailment with 'Code' as per their inter se developed communication protocol.

- QCAs shall revise schedules based on the curtailment instructions.
- Generating Companies, Plant Operators & RE Developers shall implement the curtailment as per the instructions issued.
- PSS In-charge shall open the line breaker & isolator at the PoI within a PSS if the generation is not reduced within 2 time blocks.
- PSS in-charge shall provide the details such as actual time and actual generation quantum (MW) at the time of implementation of curtailment to the respective Nodal Substation **within One Time block** from the time block in which instructions were issued to respective PSS. Details shall be in the format as per **ANNEUXRE - 2**.
- Nodal substations shall consolidate the details of curtailment viz. actual time of curtailment, curtailed quantum (MW) for all PSS and provide the same to MSLDC **within Two Time Block** from the time block in which instructions were issued to respective PSS. Details shall be in the format as per **ANNEUXRE - 2**.
- Based on the details received from Nodal substations, MSLDC shall prepare Flash Report for the curtailment. Details shall be in the format as per **ANNEUXRE - 3**.
- Nodal substations & QCAs shall identify the PSS, Generating Companies, Plant Operators, RE Developers which have not followed instructions of MSLDC and not implemented curtailment. Such details shall be reported immediately to MSLDC with reason for non-implementation of curtailment instructions. Details shall be in the format as per **ANNEUXRE - 4**.
- On the basis of the information received from Nodal Substations & QCAs, MSLDC should initiate action against such PSS, Generating Companies, Plant Operators, RE Developers who have not implemented the curtailment instructions of MSLDC in time.



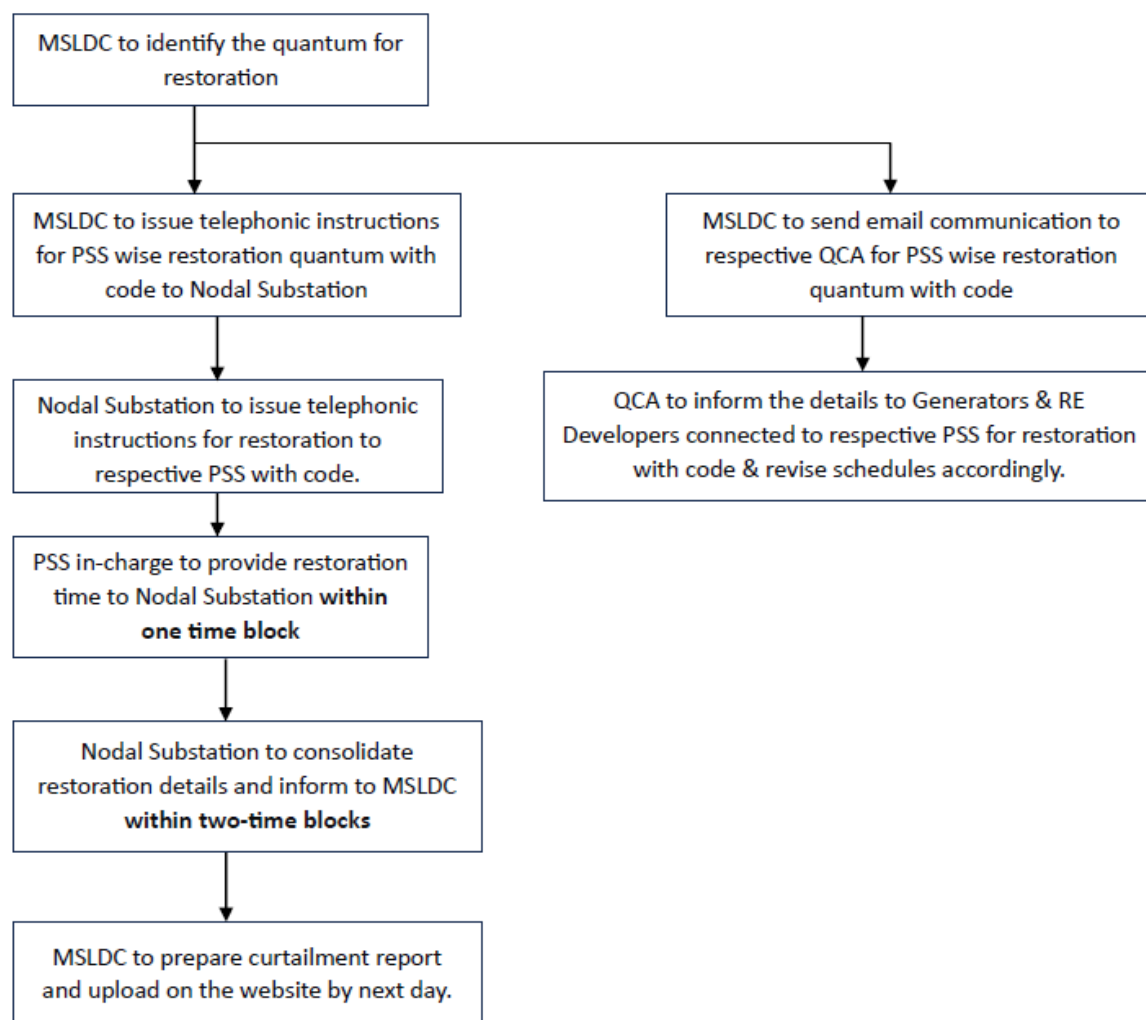
## Curtailment

### Scenario-1: Demand Crash/High RE Penetration





## Restoration



### 6.4.2. **Planned or Forced outages or Over-loading of the evacuation infrastructure:**

- MSDC Control Room System Operator shall identify the constraint and exact evacuation infrastructure (Line/Equipment) having constraint in the evacuation of Generation.

In case of constraint in the Dedicated Evacuation Network, it shall be the responsibility of the respective Wind/Solar Developer(s), Generating Company(ies), Plant Operator(s) to reduce generation at their own and in this case, no instructions shall be issued by MSLDC Control Room.

In case of constraint in the Associated Evacuation Network, MSLDC shall issue necessary instructions as below.

- Based on identified constraint, MSLDC Control Room System Operator shall identify the PSS(s) & quantum of curtailment to be implemented.
- MSLDC Control Room shall issue telephonic instructions for active power curtailment with reactive power support along with list of PSS, quantum & reason supported with 'Code' to Nodal Substations of Transmission/Distribution Licensees and PSS In-charges.
- MSLDC Control Room shall communicate list of PSS for Active Power curtailment with Reactive Power support along with quantum & reason supported with 'Code' to the QCA through email not later than one hour from passing telephonic instructions.
- Nodal Substations shall ensure implementation of the telephonic instructions by respective PSS.
- QCAs shall inform the details of curtailments to the respective Generating Companies, Plant Operators & RE Developers connected to respective PSS for implementation of the curtailment with 'Code' as per their inter se developed communication protocol.
- QCAs shall revise schedules based on the curtailment instructions.
- Generating Companies, Plant Operators & RE Developers shall implement the curtailment as per the instructions issued.
- PSS In-charge shall open the line breaker & isolator at the PoI within a PSS if the generation is not reduced within 2 time blocks.
- PSS in-charge shall provide the details such as actual time and actual generation quantum (MW) at the time of implementation of curtailment to the respective Nodal Substation **within One Time block** from the time block in which instructions were issued to respective PSS. Details shall be in the format as per **ANNEUXRE - 2**.
- Nodal substations shall consolidate the details of curtailment viz. actual time of curtailment, curtailed quantum (MW) for all PSS

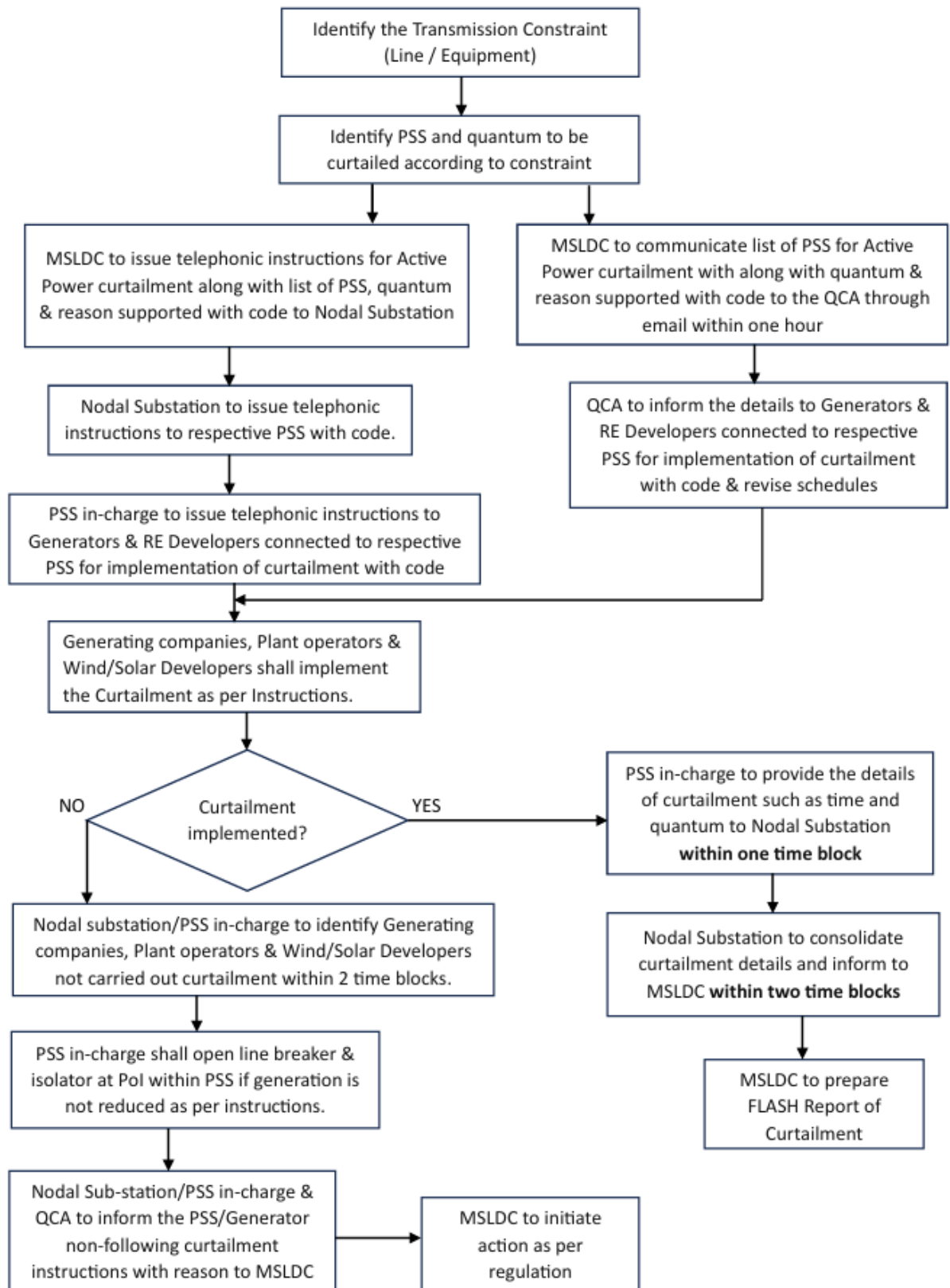
and provide the same to MSLDC **within Two Time Block** from the time block in which instructions were issued to respective PSS. Details shall be in the format as per **ANNEUXRE - 2**.

- Based on the details received from Nodal substations, MSLDC shall a prepare Flash Report for the curtailment. Details shall be in the format as per **ANNEUXRE - 3**.

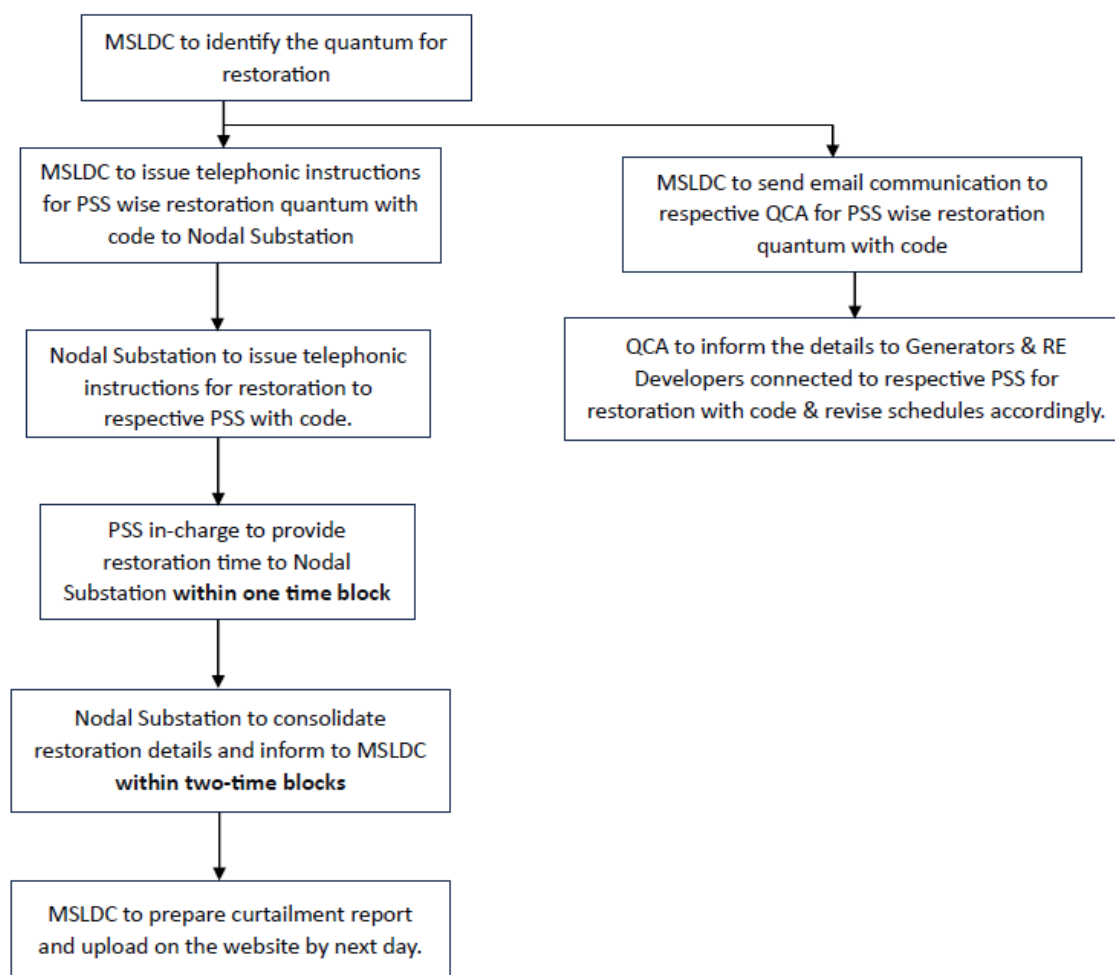
DRAFT

## Curtailment

### Scenario-2: Transmission Constraint



### Restoration



- In relation to the clause no. 4.3.4 (c ) specified above, in case of curtailment of RE Generation either through LTS/SPS/GTS or manual instructions of the Field Offices of the Transmission Licensees, the details of curtailment shall be intimated to MSLDC by the respective Field office within 1 time block as & when curtailment is occurred. The details shall be as follows:

Name of PSS where Generation is curtailed

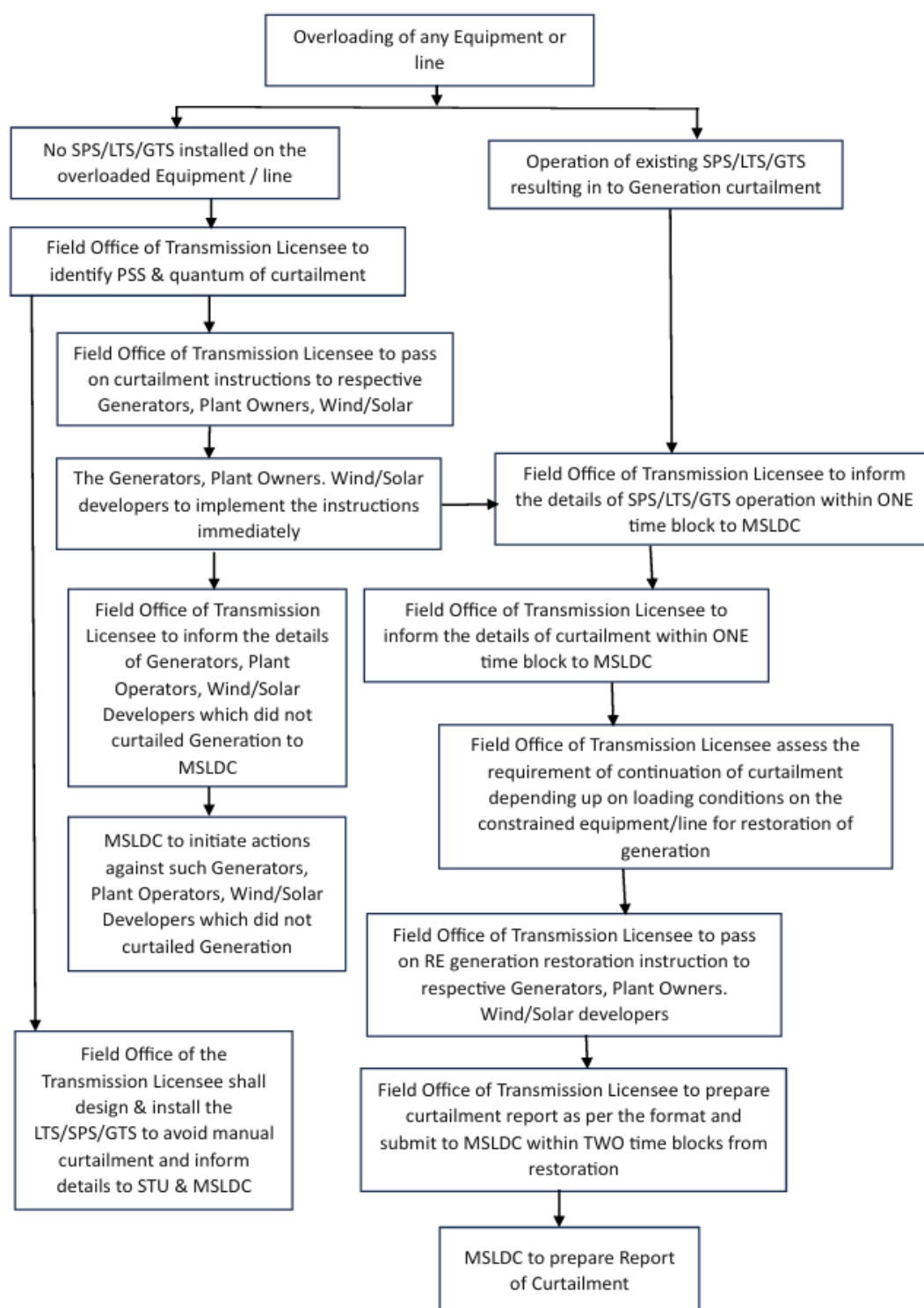
Date & Time of Curtailment

Generation in MW at the time of curtailment (feeder-wise/Developer-wise break-up to be provided within PSS)

Reason of Curtailment

Further, once the curtailment is restored, the details shall be intimated to MSLDC within 2 time blocks of restoration in the format as per **ANNEXURE – 2**.

**Flow chart for Generation Curtailment in respect to Clause No. 4.3.3 (c )**



- Nodal substations & QCAs shall identify the PSS, Generating Companies, Plant Operators, RE Developers which have not followed instructions of MSLDC and not implemented curtailment. Such details shall be reported immediately to MSLDC with reason for non-implementation of curtailment instructions. Details shall be in the format as per **ANNEUXRE - 4**.
- On the basis of the information received from Nodal Substations & QCAs, MSLDC should initiate action against such PSS, Generating Companies, Plant Operators, RE Developers who have not implemented the curtailment instructions of MSLDC in time.

6.5. The Communication Protocol under various scenarios for Withdrawl/Restoration of the Curtailment is as below:

- 6.5.1. MSLDC Control Room System Operator shall assess the requirement of the curtailment based on the real time System conditions and take decision of withdrawl/restoration of the curtailment instructions.
- 6.5.2. In case of transmission constraints, it shall be the responsibility of the owner of the evacuation network element under constraint to intimate about relieving the constraint to MSLDC Control Room System Operator telephonically and through e-mail.
- 6.5.3. MSLDC Control Room System Operator shall issue Withdrawl/Restoration instructions telephonically to Nodal Sub-stations along with list of PSS & quantum to be restored supported with code.
- 6.5.4. In case of constraints in the evacuation network, instructions shall be issued to respective PSS In-charges.
- 6.5.5. MSLDC Control Room System Operator shall issue instructions to QCAs along with list of PSS and generation quantum to be restored along with code through e-mail not later than one hour from the issuance of the telephonic instructions.
- 6.5.6. QCAs shall revise schedules based on the restoration instructions received.
- 6.5.7. Nodal Sub-stations shall communicate the instructions to respective PSS In-charges telephonically supported with code.



- 6.5.8. The Generating Companies, Plant Operators, RE Developers shall implement the instructions received from MSLDC and restore the generation accordingly.
- 6.5.9. PSS in-charge shall provide the details such as actual time of restoration, total period of curtailment, total curtailed quantum (MW) to the respective Nodal Substation within One Time block from the time block in which instructions were issued to respective PSS. Details shall be in the format as per **ANNEUXRE - 2**.
- 6.5.10. Nodal substations shall consolidate the details of restoration viz. actual time of restoration, total curtailment period, total curtailed quantum (MW) for all PSS and provide the same to MSLDC within Two Time Block from the time block in which instructions were issued to respective PSS. Details shall be in the format as per **ANNEUXRE - 2**.
- 6.5.11. In relation to the clause no. 4.3.4 (c ) specified above, in case of curtailment of RE Generation either through LTS/SPS/GTS or manual instructions of the Field Offices of the Transmission Licensees, respective Field office shall assess the requirement of the details of curtailment shall be intimated to MSLDC by the respective Field office within 1 time block as & when curtailment is occurred. The details shall be as follows:
- Name of PSS where Generation is curtailed
  - Date & Time of Curtailment
  - Generation in MW at the time of curtailment (feeder-wise/Developer-wise break-up to be provided within PSS)
  - Reason of Curtailment
- Further, once the curtailment is restored, the details shall be intimated to MSLDC within 2 time blocks of restoration in the format as per **ANNEXURE – 2**.
- 6.5.12. Based on the details received from Nodal substations, MSLDC shall a prepare Curtailment Report and upload the same on MSLDC website on the next working day. Details shall be in the format as per **ANNEUXRE - 3**.

## **7. SCHEDULE REVISION & DSM METHODOLOGY:**

- 7.1. The curtailment shall be implemented from 4<sup>th</sup> time block including time block in which instructions have been issued.

However, the implementation shall be started by the Generating Companies, Plant Operators & RE Developers from the time block in which instructions have been issued so that actual results shall be obtained in short time frame not later than 4<sup>th</sup> time block.

- 7.2. QCA shall revise the schedule as per the instructions of MSLDC and punch in the MSLDC REMC Scheduling Software. As the Plant is available for generation, the AvC shall not be changed.
- 7.3. As per the F&S Regulations, one revision in each 1<sup>1/2</sup> hrs slot is permitted, and there are chances that the QCA have revised schedule in a slot and there is a need of curtailment.

Under such conditions, QCA shall prepare the revised schedules and punch in the MSLDC REMC Scheduling software immediately when the next slot of 1<sup>1/2</sup> hrs is started. Thus, the schedule submitted by the QCA shall be implemented from the 4<sup>th</sup> time block of next slot of 1<sup>1/2</sup> hrs.

MSLDC shall revise the schedules for such time blocks for which it is not possible for QCA to update schedules i.e. the block from which curtailment was issued and the 4<sup>th</sup> time block of the next 1<sup>1/2</sup> hrs. The methodology for such schedule revisions shall be as follows:

- 7.3.1. If reducing trend in actual generation within 3 time blocks is observed, the schedules for these 4 time blocks shall be replaced by the actual generation. If no reducing trend is observed, the schedules for these time blocks shall be made 'Zero'.
- 7.3.2. 100 % curtailment is issued, i.e. total generation is to be reduced to 'ZERO':

From 5<sup>th</sup> time block & up to the 4<sup>th</sup> time block of next 1<sup>1/2</sup> hrs slot, existing schedules shall be made 'ZERO'. So that after 4<sup>th</sup> time block of the next 1<sup>1/2</sup> hrs slot, the revised schedules submitted by the QCA shall be implemented.

From 5<sup>th</sup> time block, even if the actual generation is not reduced to 'ZERO' and/or the QCA fails to submit revised forecasts in MSLDC Scheduling software, existing schedules shall be changed

to 'ZERO' unless curtailment quantum is not revised or withdrawn. The violation of MSLDC instructions shall be dealt with appropriately as per relevant provisions of the MEGC, 2020 & EA, 2003, as amended from time to time.

7.3.3. Partial curtailment is issued i.e. out of total generation, actual generation is restricted to specific quantum:

(a) If generation is reduced as per required limits:

From 5<sup>th</sup> time block & up to the 4<sup>th</sup> time block of next 1<sup>1/2</sup> hrs slot, schedules shall be replaced by actual generation. So that after 4<sup>th</sup> time block of the next 1<sup>1/2</sup> hrs slot, the revised schedules submitted by the QCA shall be implemented.

(b) If generation is not reduced as per required limit:

Existing schedules shall be reduced by the instructed quantum of generation reduction from 5<sup>th</sup> time block & up to the 4<sup>th</sup> time block of next 1<sup>1/2</sup> hrs slot. After 4<sup>th</sup> time block of the next 1<sup>1/2</sup> hrs slot, the revised schedules submitted by the QCA shall be implemented.

(c) In above cases, if QCA fails to submit the revised schedules, from the 4<sup>th</sup> time block of the next 1<sup>1/2</sup> hrs slot existing Schedules shall be reduced by the quantum of generation reduction instructed.

7.4. Illustrations for above scenarios for Schedule revision are as follows:

7.4.1. Slot-wise timings & time blocks are tabulated below:

| <b>Slot No.</b> | <b>Timing</b>  | <b>Time Block</b> | <b>Effective from Time Block</b> |
|-----------------|----------------|-------------------|----------------------------------|
| R-7             | 09:00 to 10:30 | 37 to 42          | 40                               |
| R-8             | 10:30 to 12:00 | 43 to 48          | 46                               |

7.4.2. In Slot 'R-7' QCA has submitted revised forecast in 37<sup>th</sup> time block. The revised schedule shall be implemented from 40<sup>th</sup> time block. The next revision is permitted in slot of 'R-8' from 43<sup>rd</sup> time block.

7.4.3. Now there is a need of curtailment from 38<sup>th</sup> time block. Thus, MSLDC shall communicate the instructions of curtailment to the QCA in the 38<sup>th</sup> time block and the said instruction shall be implemented w.e.f. 41<sup>st</sup> time block. In such case, the action for implementation of curtailment shall be initiated from the 38<sup>th</sup> time block itself.

7.4.4. In above case, based on the instructions issued by MSLDC, the QCA shall revise the forecast and submit the same in 43<sup>rd</sup> time block, which shall be considered for final implemented schedule, if curtailment quantum is not revised or withdrawn.

7.4.5. If reducing trend in generation is observed for the time blocks 38 to 41, MSLDC shall replace the existing Schedules by actual generation for the said blocks. If reducing trend is not observed, the existing schedules shall remain unchanged.

7.4.6. In regards to Clause No. 7.3.2, MSLDC shall change the existing schedules to 'ZERO' for time blocks 38 to 45.

If QCA fails to submit revised forecasts, existing schedules up to the time block of curtailment revision/withdrawal shall be changed to 'ZERO'.

7.4.7. In regards to Clause No. 7.4.3, if generation is reduced to the quantum as per requirement, the existing schedules for the time blocks 42 to 45 shall be replaced by actual generation. The schedule revision request submitted by the QCA in R-8 slot shall be implemented from 46<sup>th</sup> time block.

If generation is not reduced to the quantum as per requirements, the existing schedules for time blocks 38 to 45 shall be reduced by the quantum of curtailment instructed.

- If it is instructed to reduce the generation by 30 MW, revised schedules shall be as tabulated below.

| <b>Schedule/Time Block</b> | <b>42</b> | <b>43</b> | <b>44</b> | <b>45</b> |
|----------------------------|-----------|-----------|-----------|-----------|
| <b>Existing Schedule</b>   | 80        | 85        | 80        | 87        |
| <b>Revised Schedule</b>    | 50        | 55        | 50        | 57        |

- If it is instructed to reduce the generation and restrict to 50 MW, revised schedules shall be as tabulated below.

| <b>Schedule/Time Block</b> | <b>42</b> | <b>43</b> | <b>44</b> | <b>45</b> |
|----------------------------|-----------|-----------|-----------|-----------|
| <b>Existing Schedule</b>   | 80        | 85        | 80        | 87        |
| <b>Revised Schedule</b>    | 50        | 50        | 50        | 50        |

- If it is instructed to reduce the generation in percentage of installed capacity of 100 MW, say reduce by 40 % of installed capacity, revised schedules shall be as tabulated below.

| <b>Schedule/Time Block</b> | <b>42</b> | <b>43</b> | <b>44</b> | <b>45</b> |
|----------------------------|-----------|-----------|-----------|-----------|
| <b>Existing Schedule</b>   | 80        | 85        | 80        | 87        |
| <b>Revised Schedule</b>    | 48        | 51        | 48        | 52.2      |

- 7.4.8. In regards to Clause No. 7.4.7, if QCA fails to submit revised forecasts, the existing schedules shall be reduced in accordance to the Clause No. 6.7.7 from 42<sup>nd</sup> time block onwards till the revision or withdrawal of curtailment.
- 7.5. In above cases, if the QCA has not submitted revised schedules and there is a need of curtailment, then the QCA shall submit the revised forecasts immediately which shall be implemented from 4<sup>th</sup> time block. Thus, MSLDC shall modify the existing schedules as per above methodology only for the 4 time blocks starting from the time block in which instructions have been issued.
- 7.6. In the absence of protocol for communication between QCA, Generators/Plant operators or non-following the instructions of MSLDC even after 4<sup>th</sup> time block, MSLDC shall direct concerned transmission/distribution licensee of the respective PSS to open the interconnection by opening EHV or 33 kV lines. Such conditions shall be considered as non-compliance to the instructions of the MSLDC and action as per the Section No. 33 of the Act shall be initiated against the generators connected to the PSS.

## **8. MECHANISM FOR MONITORING COMPLIANCE:**

- 8.1. The event of breach or default of the procedure i.e. in complying with the following provisions:
- 8.1.1. Non-submission of PSS-wise details of nodal officers to MSLDC by the QCAs.
- 8.1.2. Non-submission of PSS-wise details of nodal officers of Generating Companies or their Plant Operators to QCA.
- 8.1.3. Non-submission of protocol for submission of communication of curtailments and implementation to MSLDC by QCAs & Generating Companies.
- 8.1.4. Non implementation of curtailment instructions of MSLDC either fully or partially by the QCAs or Generating Companies and/or Plant Operators and/or RE Developers.

8.1.5. Non-compliance of any of the terms/conditions/rules outlined under this procedure.

8.1.6. Non-compliance of any of the directives as per the provisions of this regulation issued by MSLDC.

8.2. Consequences for event of default:

8.2.1. In case of defaults for 8.1.1 to 8.1.3, in case of curtailments, MSLDC shall direct concerned Transmission/Distribution Licensees to open the line breaker and isolator at the PoI within a PSS of the respective Generation Plant and curtail 100 % generation. Under such conditions, the schedules shall be made zero from the time block in which curtailment instructions were issued. Any technical and/or commercial impact shall be the sole responsibility of the concerned Generating Companies.

8.2.2. In case of defaults for the act covered under as per 8.1.4 to 8.1.6, appropriate action as per Section – 33 (Compliance of Directions) of the Electricity Act, shall be initiated by MSLDC by giving prior notice for a period not less than 15 days and adequate opportunity shall be given to the Generating Companies & QCA to represent the case before MSLDC.

8.2.3. In case Generating Companies & QCA fails to address/rectify the breach expressed by MSLDC in the Notice within stipulated time, the MSLDC shall proceed in accordance with the appropriate provisions of the Act, Regulations and would initiate steps for disconnection from the grid.

## **9. GRIEVANCE REDRESSAL:**

9.1. MSLDC shall refer the Complaints regarding unfair practices, delays, discrimination, lack of information, supply of wrong information or any other matters to the Commission for redressal.

9.2. Any disputes between QCA, concern Generating Companies, Plant Operators, RE Developers shall be governed as per the dispute resolution mechanism under their Agreement, failing which it shall be subject to jurisdiction of the MERC. Pending the decision of the State Commission, the directions of the MSLDC shall be complied by the QCA and concerned Generating Company(ies).

## **10. REMOVAL OF DIFFICULTIES:**

- 10.1. In case of any difficulty in implementation of this procedure, MSLDC may approach the Commission for review or revision of the procedure with requisite details.

## **11. GENERAL:**

- 11.1. All costs/expenses/charges associated with the application, including bank charges, Affidavits etc. shall be borne by the applicant.
- 11.2. The Generating Companies and QCA shall abide by the provisions of the Electricity Act, 2003, the MERC Regulations, Indian Electricity Grid Code and MERC (State Grid Code) Regulation - 2020, and applicable CERC and MERC regulations as amended from time to time.
- 11.3. This procedure aims at prompt and pragmatic curtailment of Wind and Solar Generations as a last option considering the Grid security as a main objective. However, some teething problems may still be experienced. The various implications would be known only after practical experience is gained by way of implementing these procedures. In order to resolve the same, this procedure shall be reviewed or revised by the MSLDC with prior approval of Commission.

---X---



**Annexure - 1**

**List of Nodal officers or Sub-stations and PSS Inc-charge**

| Sr. No. | voltage<br>Level<br>(kV) | Name of PSS | Taluka | District | Zone | Area | Solar/<br>Wind<br>/Hybrid | SOLAR<br>(MW) | Wind<br>(MW) | Name of S/stn or<br>Plant Incharge | In-charge Mob. | Email address | S/stn or Plant<br>Control Room Mob<br>No. |
|---------|--------------------------|-------------|--------|----------|------|------|---------------------------|---------------|--------------|------------------------------------|----------------|---------------|-------------------------------------------|
| 1       |                          |             |        |          |      |      |                           |               |              |                                    |                |               |                                           |
| 2       |                          |             |        |          |      |      |                           |               |              |                                    |                |               |                                           |
| 3       |                          |             |        |          |      |      |                           |               |              |                                    |                |               |                                           |
| 4       |                          |             |        |          |      |      |                           |               |              |                                    |                |               |                                           |
| 5       |                          |             |        |          |      |      |                           |               |              |                                    |                |               |                                           |
| 6       |                          |             |        |          |      |      |                           |               |              |                                    |                |               |                                           |
| 7       |                          |             |        |          |      |      |                           |               |              |                                    |                |               |                                           |

Note:  
In case of multiple Plant Operators or Developers within a PSS, details shall be provided for each separately.

## Annexure - 2

### Details of Generation Curtailment / GTS Operation

| SN | Name of PSS   | Date       | Trip Time | Restore Time | Duration | Generation at the time of CB opening (MW) | Generation at the time of CB closing (MW) i.e. at the time of restoration | Reason for Curtailment                                   |
|----|---------------|------------|-----------|--------------|----------|-------------------------------------------|---------------------------------------------------------------------------|----------------------------------------------------------|
| 1  | Wagdari 132kV | 15/08/2025 | 11:33     | 15:05        | 3:32     | 48.5                                      | 0                                                                         | Overloading of Naldurg-Wagdari Line. GTS Stage1 Operated |
| 2  |               |            |           |              |          |                                           |                                                                           |                                                          |
| 3  |               |            |           |              |          |                                           |                                                                           |                                                          |
| 4  |               |            |           |              |          |                                           |                                                                           |                                                          |

Example

Note:

Trip time will be time when actual generation was tripped and it will be different from the time at which instructions were issued.

Restore time will be the actual time at which generation was restored i.e. connected to the Grid. It will be different from the time at which restoration instructions were issued.

In case of multiple feeders/developers within PSS, feeder-wise/developer-wise details should be provided.

Generation at the time of CB closing i.e. at the time of restoration shall be ideally Zero in case of full curtailment. In case of partial curtailment or curtailment instructions not followed, then there will be some value.

| RE Curtailement Details |                |                   |            |                    |            | Date: 15-08-2025                                         |
|-------------------------|----------------|-------------------|------------|--------------------|------------|----------------------------------------------------------|
| Region                  | State          | Wind Curtailement |            | Solar Curtailement |            | Reason for Curtailement                                  |
|                         |                | Max MW            | Energy(MU) | Max MW             | Energy(MU) |                                                          |
| NR                      | Rajasthan      |                   |            |                    |            |                                                          |
|                         | Punjab         |                   |            |                    |            |                                                          |
| WR                      | Chhattisgarh   |                   |            |                    |            |                                                          |
|                         | Gujarat        |                   |            |                    |            |                                                          |
|                         | Madhya Pradesh |                   |            |                    |            |                                                          |
|                         | Maharashtra    | 171.73            | 0.31       | 243.47             | 0.33       | To control heavy underdrawal (1652MW) at high frequency. |
| SR                      | Andhra Pradesh |                   |            |                    |            |                                                          |
|                         | Telangana      |                   |            |                    |            |                                                          |
|                         | Karnataka      |                   |            |                    |            |                                                          |
|                         | Kerala         |                   |            |                    |            |                                                          |
|                         | Tamilnadu      |                   |            |                    |            |                                                          |

## Details of the Generator / Developer non-following curtailment instruction of the MSLDC Control Room

| SN | Name of PSS | Name of Generator/<br>Developer | Date of instructions<br>Passed to Gen/<br>Developer | Time of instruction<br>passed to Gen/ Dev | Name of<br>Representative of Gen/<br>Developer who has<br>taken instructions | Reason for non-<br>implementation of<br>MSLDC instructions<br>(given by Gen / Dev) | Remakrs form Nodal<br>Substation / QCA |
|----|-------------|---------------------------------|-----------------------------------------------------|-------------------------------------------|------------------------------------------------------------------------------|------------------------------------------------------------------------------------|----------------------------------------|
| 1  |             |                                 |                                                     |                                           |                                                                              |                                                                                    |                                        |
| 2  |             |                                 |                                                     |                                           |                                                                              |                                                                                    |                                        |
| 3  |             |                                 |                                                     |                                           |                                                                              |                                                                                    |                                        |
| 4  |             |                                 |                                                     |                                           |                                                                              |                                                                                    |                                        |

## Annexure-A

| Transmission constraints in generation evacuation ( connected GTS details) |              |                         |                                                 |                                                                  |                            |
|----------------------------------------------------------------------------|--------------|-------------------------|-------------------------------------------------|------------------------------------------------------------------|----------------------------|
| Sr No                                                                      | Name of Zone | Name of substation      | Name of element                                 | Generator trimming scheme for                                    | Purpose                    |
| 1                                                                          | Nashik       | 132KV Erondol S/s (SPS) | 132KV Erondol - B Ambhori Ckt                   | 33KV 20MW Sunsure Solar Park Generation Feeder                   | To avoid line overloading  |
|                                                                            |              |                         | 132/33 KV 25 MVA PTF-1                          |                                                                  | To avoid PTF-1 overloading |
|                                                                            |              |                         | 132/33 KV 25 MVA PTF-2                          |                                                                  | To avoid PTF-2 overloading |
| 2                                                                          |              | 220KV Shivajinagar S/s  | 220KV Shivajinagar Malegaon Ckt                 | SPS FOR AMPYR SOLAR GENERATION                                   | To avoid line overloading  |
|                                                                            |              |                         | 200KV Shivajinagar-Gangapur Ckt                 |                                                                  | To avoid line overloading  |
|                                                                            |              |                         | 220/132KV 100MVA ICT-1                          |                                                                  | To avoid ICT-1 overloading |
|                                                                            |              |                         | 220/132KV 100MVA ICT-2                          |                                                                  | To avoid ICT-2 overloading |
| 3                                                                          |              | 220KV Shivajinagar S/s  | 220/132KV 100MVA ICT-1                          | SPS FOR HUOBON SOLAR GENERATION                                  | To avoid ICT-1 overloading |
|                                                                            |              |                         | 220/132KV 100MVA ICT-2                          |                                                                  | To avoid ICT-2 overloading |
| 4                                                                          |              | 220kv Shuvajinagar s/s  | 220KV Shivajinagar Malegaon Ckt                 | SPS FOR Godrej 33kV Feeder no 331& 332 generation                | To avoid line overloading  |
|                                                                            |              |                         | 200KV Shivajinagar-Gangapur Ckt                 |                                                                  | To avoid line overloading  |
|                                                                            |              |                         | 220/33/33KV PTF-1                               |                                                                  | To avoid PTF overloading   |
| 5                                                                          |              | 132KV Huoban S/s        | 132KV Huoban-SAKRI Ckt                          | SPS FOR HUOBON SOLAR GENERATION                                  | To avoid line overloading  |
| 6                                                                          |              | 220KV Gangapur S/s      | 220KV Gangapur- Valve Ckt                       | SPS FOR 220 KV SHIVAJINAGAR SS AMPYR SOLAR GENERATION            | To avoid line overloading  |
|                                                                            |              |                         | 220KV Gangapur- Satana Ckt                      |                                                                  | To avoid line overloading  |
| 7                                                                          |              | 132KV Sakri S/s         | 132KV Sakri-Dhule Ckt                           | SPS FOR 220 KV SHIVAJINAGAR SS AMPYR SOLAR GENERATION            | To avoid line overloading  |
| 8                                                                          |              | 220KV SHIVAJINAGAR S/s  | 220 KV SHIVAJINAGAR-MALEGAON CKT                | SPS FOR 220 KV GANGAPUR SS NEW 33 KV SUZLON 20 MW GENERATION     | To avoid line overloading  |
| 9                                                                          |              | 220KV Gangapur S/s      | 220KV Gangapur- Valve Ckt                       | NEW 33 KV SUZLON 20 MW GENERATION                                | To avoid line overloading  |
|                                                                            |              |                         | 220KV Gangapur- Satana Ckt                      |                                                                  | To avoid line overloading  |
|                                                                            |              |                         | 220KV Gangapur-Shivajinagar Ckt                 |                                                                  | To avoid line overloading  |
| 10                                                                         |              | 220KV Jamde S/s         | 220KV Jamde-Dondaicha Ckt-1                     | SPS for NEW 33 KV SUZLON 20 MW GENERATION AT 220 KV GANGAPUR S/S | To avoid line overloading  |
|                                                                            |              |                         | 220KV Jamde-Dondaicha Ckt-2                     |                                                                  | To avoid line overloading  |
| 11                                                                         |              | 132KV Deepnagar GCR s/s | 132KV Deepnagar-Muktainagar Ckt                 | 27 MW Kalpak solar 33KV x2 feeder at 132KV Malkapur s/s          | To avoid line overloading  |
| 12                                                                         | Amravati     | 132kv Motala s/s        | 132 kV Juniper Solar-Varangian Tap- Khadka line | 132 kV Cyclic Solar Park 100MW                                   | To avoid line overloading  |

| Sr No | Name of Zone | Name of substation      | Name of element                                        | Generator trimming scheme for                                                                                                                                                                                                                                               | Purpose                                                                                                                                              |
|-------|--------------|-------------------------|--------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| 13    | CSN          | 132kV Naldurga s/s      | 132kV Naldurga- Bale                                   | 1) 132kV Waghdari incomer<br>2) 33kV FDIPL 1<br>3) 33kV FDIPL 2<br>4) 33kV ESSL 1<br>5) 33kV ESSL 2<br>6) 33kV Parampujya Solar<br>Total- 45 MW                                                                                                                             | To avoid line overloading                                                                                                                            |
|       |              |                         | 132kV Naldurga- Tuljapur                               |                                                                                                                                                                                                                                                                             |                                                                                                                                                      |
| 14    |              | 220kV Narangwadi        | 132kV killari                                          | Stage1-To Trim 20MW Generation. of M/s Maruti Wind SS at Remote<br>Stage2-To Trim 30MW additional Generation. of M/s Maruti Wind SS at Remote<br>Stage3-To Trim total generation (100MW) by tripping 132KV Maruti Wind Power Project Generation bay at 220KV Narangwadi SS. | To avoid line overloading                                                                                                                            |
|       |              |                         | 132kV Nilanga                                          |                                                                                                                                                                                                                                                                             | To avoid ICT overloading                                                                                                                             |
|       |              |                         | 220/132KV 100MVA ICT-1 LV<br>220/132KV 100MVA ICT-2 LV |                                                                                                                                                                                                                                                                             |                                                                                                                                                      |
| 15    |              | 132kV JSW               | 132KV Tuljapur                                         | Stage 1-To Trim 20MW Generation of M/s JSW<br>Stage 2-To Trim additional 30MW Generation of M/s JSW<br>Stage 3-To Trim total generation (100MW) by tripping 132KV Generation (Metering) bay.                                                                                | To Avoid line overloading                                                                                                                            |
|       |              |                         | 132KV Ujani                                            |                                                                                                                                                                                                                                                                             |                                                                                                                                                      |
| 16    |              |                         | 132kV Umari SS-40MW Enrich Solar power park            | 33kV feeder I &II                                                                                                                                                                                                                                                           | Stage 1- 25MW to trim generation of Enrich Solar power park                                                                                          |
| 17    | Pune         | 220kV South solapur s/s | 132kV south solapur- Bale                              | 132kV Bale line                                                                                                                                                                                                                                                             | To avoid line overloading ( out of service)                                                                                                          |
| 18    |              | 132kV Waghdari s/s      | 132kv Waghdari- Naldurga                               | 1) stage 1- 33kV solar feeder at chetak s/s( 26.5 MW)<br>2) stage 2 - 132kV Tata power 2( 58MW)<br>3) 33kV swami samarth 2 ( 15MW)<br>4) stage 2 33kV solar feeder at chetak s/s(23.5MW)<br>5) stage 2 - 33kV LREHL-2(25MW)                                                 | To avoid line overloading                                                                                                                            |
| 19    |              | 132kV Waghdari s/s      | 132kV Akkalkot ckt 1                                   | 1) 132kV Tata power 1( 62MW)<br>2) 33kV LREHL-1(25MW)                                                                                                                                                                                                                       | To avoid line overloading                                                                                                                            |
| 20    |              | 132kV Waghdari s/s      | 132kV Akkalkot ckt 2                                   | 1) 132kV Tata power 1(62MW)<br>2) 33kV LREHL-1(25MW)                                                                                                                                                                                                                        | To avoid line overloading                                                                                                                            |
| 21    |              | 132kV Waghdari s/s      | 132kv Akkalkot ckt 1& 2                                | 1) 132kV Tata power 1(62MW)<br>2) 33kV LREHL-1 (25MW)                                                                                                                                                                                                                       | To avoid line overloading                                                                                                                            |
| 22    |              | 132kV Waghdari s/s      | 132/33kV 25MVA TF1                                     | 33kv swami samarth 1&2 30MW                                                                                                                                                                                                                                                 | To avoid line overloading                                                                                                                            |
| 23    |              |                         | 132kv Karajgi s/s                                      | 132kv Mandrup line                                                                                                                                                                                                                                                          | 1) stage 1- 33kV Enrich feeder1 (25MW)<br>2) stage 2 - 33KV Enrich feeder 2( 25MW)<br>3) stage 2 132kV Gokul mauli (15MW)<br>4) 132kv Jayhind (30MW) |

| Sr No | Name of Zone      | Name of substation       | Name of element                                                                                                                                                                    | Generator trimming scheme for                                                                            | Purpose                   |
|-------|-------------------|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|---------------------------|
| 24    | Pune              | 132kV Mandrup s/s        | 132kV Soregaon line                                                                                                                                                                | 1) stage1 132kV at mandrup<br>2) 33kV Enrich solar 1<br>3) 33kV Enrich solar 2<br>Total- 50MW            | To avoid line overloading |
| 25    |                   | 132kV Chetak s/s         | 132kV Gokul sugar                                                                                                                                                                  | 1) solar feeder 1& 2 at 132kV chetak s/s( 50MW)<br>2) at 132kV Waghdari s/s ( 62MW)<br>3) LREHL 1( 25MW) | To avoid line overloading |
| 26    |                   | 132kV Gokul sugar        | 132kV south solapur- Bale                                                                                                                                                          | 1) solar feeder 1& 2 at 132kV chetak s/s( 50MW)<br>2) at 132kV Waghdari s/s ( 62MW)<br>3) LREHL 1( 25MW) | To avoid line overloading |
| 27    |                   | 132kV Akkalkot           | 132kV Karajgi line                                                                                                                                                                 | 1) 132kV Tata power 1( 62MW)<br>2) 33kV LREHL 1( 25 MW)                                                  | To avoid line overloading |
| 28    |                   | 132kV Sangola            | 132kV Pandharpur line                                                                                                                                                              | Maruti wind ( 30MW)                                                                                      | To avoid line overloading |
| 29    |                   | 132kV Sangola            | 132kV Digachi line                                                                                                                                                                 | Maruti wind ( 30MW)                                                                                      | To avoid line overloading |
| 30    | Nagpur            | 220KV Butibori-1         | 220/132 kV 100 MVA ICT-1                                                                                                                                                           | Generation backdown at stage-1 : 60MW<br>Stage-2 :60MW at M/S VIPL                                       | To avoid ICT overloading  |
|       |                   |                          | 220 kV Butibori 1 – Abhijeet circuit                                                                                                                                               | Generation backdown 30MW at M/S VIPL                                                                     | To avoid line overloading |
| 31    |                   | 220KV Butibori-3         | 220 kV Buttibori 3 – Wardha circuit                                                                                                                                                | Generation backdown 30MW at M/S VIPL                                                                     | To avoid line overloading |
| 32    |                   | 220KV Karanja SS         | 220/33 kV 25 MVA TF1                                                                                                                                                               | 33KV Swami Samarth Solar Feeder 01<br>backdown of 6.98MW                                                 | To avoid TF overloading   |
|       |                   |                          | 220/33 kV 25 MVA TF2                                                                                                                                                               | 33KV Swami Samarth Solar Feeder 02<br>backdown of 6.98MW                                                 | To avoid TF overloading   |
|       |                   |                          | 132kV Ambazari – Karanja CKT I & II                                                                                                                                                | 33kV Avaada Solar Feeder at 132kV Talegaon Substation<br>backdown of 25 MW                               | To avoid line overloading |
| 33    |                   | 400/220KV Koradi II      | 400 kV Koradi-wardha PGCIL                                                                                                                                                         | presently on alrming , mode only                                                                         | To avoid line overloading |
| 34    | 220kV Wardha (MS) | 220kV Wardha Yeotmal Ckt | SPS Implemented for overloading of 400kV outgoing lines from 400kV Koradi-II s/stn: - 1) stage-I:- loading of any one outgoing line more than or equal to 926MW for more than 3 Se | To avoid line overloading                                                                                |                           |



**Comments/Suggestions of Stakeholders on the draft RE Curtailment Procedure (1<sup>st</sup> Amendment)**

Clause No. 1.1:

This Procedure is in accordance with the various provisions of the Regulation No. 28.2, 30.12 & 30.13 of the MERC (State Grid Code) Regulations, 2020, Regulation No. 14 of the MERC (Forecasting, Scheduling and Deviation Settlement of Solar and Wind Generation) Regulations, 2018 & amendment thereto.

|          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                 |
|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sembcorp | <p><b>Comment:</b><br/>FOR had issued "Model Guidelines for Management of RE Curtailment for Wind and Solar Generation dated November 2022".<br/>These FOR guidelines were issued under directions of APTEL vide its Judgement dated 02-08-2021, in the Appeal No 197 of 2019 &amp; IA No. 1706 of 2019, specifically to formulate guidelines for RE curtailment and define the boundary conditions.<br/>Therefore, these guidelines have a statutory force. When a specific statutory framework is already in place from a superior authority, it is imperative that the same is followed and adopted.</p> <p><b>Suggestion:</b><br/>This Procedure is in accordance with the various provisions of the Regulation No. 28.2, 30.12 &amp; 30.13 of the MERC (State Grid Code) Regulations, 2020, Regulation No. 14 of the MERC .....</p> <p>.....<br/>and the "Model Guidelines for Management of RE Curtailment for Wind and Solar Generation dated November 2022" issued by the Forum of Regulators, hereinafter referred to as "FOR Guidelines".</p> | <p><b>MSLDC Comment:</b></p> <p>While preparing draft procedure, guidelines specified by Hon'ble APTEL have been considered at clause no. 4.2.8. Model Guidelines are also referred while drafting the procedure. However, specifying "in accordance with For Guidelines" in the procedure is not required.</p> |
|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Clause No. 1.3:

With increasing variable RE capacity into grid which is intermittent in nature, complexities of power system operations and grid management challenges are increasing day by day. The SLDC needs to maintain the load-generation balance by maintaining the system parameters within the limits specified by the Grid code. Despite improving accuracy of forecasts (demand and supply), forecast errors and the load variation in the real time would continue and the SLDC needs to maintain the generation to maintain the system frequency & Voltages within the permissible band as per Grid Code. The SLDC while balancing the generation as per the load, the variation in the wind and solar generation adds to the complexity in balancing the generation through other resources like thermal or gas or hydro generation. Even with exercising various measures for managing grid frequency and voltage/congestion management, SLDC may need to manage grid by way of RE generation curtailment in the interest of Grid security.

|                             |                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                  |
|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Bajaj<br>Finserv<br>Limited | <p><b>Comment:</b><br/>The draft acknowledges the need for curtailment due to grid security but does not sufficiently emphasize minimizing economic impact on RE generators.</p> <p><b>Suggestion:</b><br/>Explicitly include a principle that curtailment should be the last resort, after exhausting all other balancing measures (thermal backing down, storage, demand-side management).</p> | <p><b>MSLDC Comment:</b></p> <p>While preparing draft procedure, guidelines specified by Hon'ble APTEL have been considered at clause no. 4.2.8. Clause No. 4.2.9 clearly indicates that after assessing all the measures specified in clause no. 4.2.8, RE curtailment will be carried out.</p> |
|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Clause No. 1.6:**

The objective of the RE curtailment Procedure, is to lay down a comprehensive framework for managing the curtailment of variable RE generation for grid security while keeping the impact of curtailment on RE to the minimum.

The procedure also lay down the roles and responsibilities of the various stakeholders like SLDC, STU, Transmission Licensees, Distribution Licensees, RE Generating companies, RE Developers, OEMs and Qualified Coordinating Agencies (QCA). It also aims to classify the various types of situations which call for curtailment of generation based on which, methodologies for curtailment and restoration have been designed. The procedure also aims to maintain transparency in the instructions issued by SLDC and process followed for curtailment and restoration as per the grid requirement.

|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Bajaj Finserv Limited | <p><b>Comment:</b><br/>The draft acknowledges the need for curtailment due to grid security but does not sufficiently emphasize minimizing economic impact on RE generators.</p> <p><b>Suggestion:</b><br/>Explicitly include a principle that curtailment should be the last resort, after exhausting all other balancing measures (thermal backing down, storage, demand-side management).</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <p><b>MSLDC Comment:</b></p> <p>While preparing draft procedure, guidelines specified by Hon'ble APTEL have been considered at clause no. 4.2.8. Clause No. 4.2.9 clearly indicates that after assessing all the measures specified in clause no. 4.2.8, RE curtailment will be carried out.</p>                                                                                                                                                                                                                                                                                                                              |
| Reconnect, Sunsure    | <p>New Provision to 1.6 to be added<br/>"Provided that this procedure recognizes the Must-Run status of Wind, Solar, Wind-Solar Hybrid and other RE plants as mandated under the Electricity (Promotion of Generation of Electricity from Must-Run Power Plant) Rules, 2021 notified by Ministry of Power under Section 176 of the Electricity Act, 2003 and the Indian Electricity Grid Code (IEGC), 2023 notified by CERC.</p> <p>RE curtailment under this procedure shall be resorted to only as a measure of last resort, strictly for reasons of grid security or technical constraints as defined in this procedure, and not on account of merit order dispatch or any other commercial consideration.</p> <p><b>In the event of curtailment of supply from a must-run RE power plant, compensation shall be payable in accordance</b></p> | <p><b>MSLDC Comment:</b></p> <p>While preparing draft procedure, guidelines specified by Hon'ble APTEL have been considered at clause no. 4.2.8. Clause No. 4.2.9 clearly indicates that after assessing all the measures specified in clause no. 4.2.8, RE curtailment will be carried out.</p> <p>RE Curtailment will be imposed by MSLDC to maintain Grid stable &amp; secure considering the provisions as per Section 32 &amp; 33 of the Act, 2003. Further, Regulatory provisions provide compensation by MSLDC against loss of generation are not available in the State. Curtailment is issued for Grid Security.</p> |

|  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |
|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|  | <p>with the Must-Run Rules, 2021 and applicable APTEL/CERC/MERC orders."</p> <p><b>Rationale:</b></p> <p>The proposed language aligns with the Electricity (Promotion of Generation of Electricity from Must-Run Power Plants) Rules, 2021, which recognize wind, solar, hybrid and certain hydro plants as must-run and prohibit curtailment on account of merit order dispatch or other commercial considerations. Curtailment is permitted only in cases of grid security or technical constraints, and must follow the provisions of the Indian Electricity Grid Code (IEGC).</p> <p>The rules also provide that in case of curtailment, compensation shall be payable to the generator at the applicable tariff, with provisions for sale of unscheduled power in the exchange and adjustment against such compensation. Therefore, emphasizing minimal curtailment and compensation to RE generators is consistent with the intent and safeguards provided under the Must-Run Rules, 2021</p> |  |
|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|

**Clause No. 2: Definitions:**

|       |                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-------|---------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TPREL | <p><b>Suggestion:</b></p> <p>The definition of “<b>Grid Security</b>” and “<b>Must-Run</b>” to be incorporated.</p> | <p><b>MSLDC Comment:</b></p> <p>As per IEGC-2023:<br/><i><b>'Grid Security'</b> means the power system's capability to retain a normal state or to return to a normal state as soon as possible, and which is characterized by operational security limits;</i></p> <p><b>As per MoP romotion of Generation of Electricity from Must-Run Power Plant) Rules, 2021:</b><br/><i><b>“must-run power plant”</b> means a power plant, deemed to be a must-run power plant under sub-rule (1) of rule 3.</i></p> <p><b>Rule – 3:</b></p> <ol style="list-style-type: none"><li><i>1) A wind, solar, wind-solar hybrid or hydro power plant (in case of excess water leading to spillage) or a power plant from any other sources, as may be notified by the Appropriate Government, which has entered into an agreement to sell the electricity to any person, shall be treated as a must-run power plant.”</i></li><li><i>2) A must-run power plant shall not be subjected to curtailment or regulation of generation or supply of electricity on account of merit order dispatch or any other commercial consideration: Provided that electricity generated from a must-run power plant may be curtailed or regulated in the event of any technical constraint in the electricity grid or for reasons of security of the electricity grid: Provided further that for curtailment or regulation of power, the provisions of the Indian Electricity Grid Code shall be followed.</i></li><li><i>3) In the event of a curtailment of supply from a must-run power plant, compensation shall be payable by the procurer to the must-run power plant at the rates specified in the agreement for purchase or supply of electricity.</i></li></ol> |
|-------|---------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|--|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  | 4) <i>Where, in the event of any technical constraint in the electricity grid or for reasons of security of the electricity grid, procurer gives the notice for curtailment to the must-run power plant in advance, prior to the start of the day ahead market or real time market or any other product introduced from time to time in the power exchange, the must-run power plant shall sell the electricity not scheduled by the procurer in the power exchange."</i> |
|--|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

#### **Clause No. 4.1:**

There shall be different scenarios, viz. heavy demand crash, heavy under-drawl by the State at high frequency, sudden increase in RE Generation resulting in to heavy under-drawl beyond permissible limits, Overloading and/or tripping and/or outage of Evacuation network, etc. based on which curtailment methodology shall differ. The scenario-wise methodology shall be as below.

- a) Scenario – 1: Demand crash or High RE penetration in the State with heavy under-drawl from ISTS
- b) Scenario – 2: Planned or Forced outages or Over-loading of the evacuation infrastructure

|               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>MSEDCL</b> | <p><b>Comments:</b></p> <p>The opening paragraph of Clause 4.1 lists four distinct trigger conditions viz. heavy demand crash, heavy under-drawl by the State at high frequency, sudden increase in RE Generation resulting in to heavy under-drawl beyond permissible limits, Overloading and/or tripping and/or outage of Evacuation network. But for detailed procedure all first three triggers are clubbed in scenario 1 -Demand crash or High RE penetration in the State with heavy under-drawl from ISTS.</p> <p>Even if in scenario 1 "State with heavy under-drawl from ISTS." is mentioned, it can be misinterpreted as applicable limited to sudden demand crash or sudden increase in RE Generation only. During monsoon period generally demand remains low which can not be considered as Demand crash.</p> | <p><b>MSLDC Comment:</b></p> <p>While carrying out Resource Adequacy on Week-ahead &amp; Day ahead basis, Distribution Licensees are aware about possibility of surplus scenario. It is the responsibility of Distribution Licensees to manage its contracted resources on its own by appropriate measures.</p> <p>Since surplus scenario is known to the Distribution Licensees in advance, options of Zero Schedule through Cold/Warm/Hot Start, sale of surplus power in market, Banking with other States, Issuing Curtailment instructions to its contracted RE on day ahead basis, IDT with Intra-State Distribution Licensees of whose resources are short during RE Curtailment period or to meet demand required for Pumping of PSPs, etc, should be explored on its own,</p> |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        | <p>The continuous analysis of Load generation balance at state level needs to be under taken.</p> <p>A third distinct scenario is entirely absent: "Anticipated/forecasted low demand with surplus RE generation &amp; all schedulable thermal units have reached their technical minimum constraints as per CERC/MERC Grid Code obligations" scenario requiring advance planned RE curtailment which may lead to heavy underdrawls and frequency disturbance.</p> <p>A heavy under-drawl by the State at high frequency - Scenario should be explicitly &amp; separately mentioned and detailed RE curtailment procedure should be clearly specified to avoid mis interpretation.</p> <p><b>Suggestion:</b></p> <p>The procedure should explicitly specify the suggested scenarios, and the Renewable Energy (RE) curtailment methodology must be clearly defined to avoid any scope for misinterpretation.</p> <p>It is further suggested that all conditions mentioned in Clause 4 of the proposed RE curtailment framework be implemented with a proactive approach to prevent significant underdrawal, through continuous assessment of the system.</p> <p>For this purpose, the SLDC should carry out independent demand forecasting as well as RE generation forecasting, which will enable timely and informed decision-making.</p> <p>In case the SLDC anticipates significant underdrawal due to low demand, it may advise or instruct the Discoms, to withdraw any thermal unit accordingly.</p> | <p>the way Resource shortfall scenarios are handled by Distribution Licensees.</p> <p>The option of Zero Schedule can be exercised by Distribution Licensees in consultation with MSLDC as per the MEGC provisions and such requests can be assessed by MSLDC based on System conditions.</p> <p>If above measures are taken by the Distribution Licensees in advance, then the issue of Anticipated Surplus scenario during low demand seasons can be mitigated. If even after exercising above measures if under-drawl persists in real time, then actions can be initiated by MSLDC in accordance with the RE Curtailment Procedure.</p> |
| Avaada | <p><b>Comments:</b></p> <p>Thermal generators are compensated through fixed cost recovery even during backing down. Pumped Storage Plants (PSP) and BESS have operational flexibility to store energy. However, Solar and Wind generators are weather-dependent and have no control over generation, and currently receive no compensation while supporting grid security through</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <p><b>MSLDC Comment:</b></p> <p>RE Curtailment will be imposed by MSLDC to maintain Grid stable &amp; secure considering the provisions as per Section 32 &amp; 33 of the Act, 2003. Further, Regulatory provisions provide compensation by MSLDC against loss of generation are not available in the State. Curtailment is issued for Grid Security.</p>                                                                                                                                                                                                                                                                                   |

|             | <p>curtailment. The scenarios defined (demand crash, high RE injection, etc.) are typically infrequent and event-driven in nature. However, in practice, frequent or daily curtailments may occur, which are not aligned with the intent of such exceptional scenarios.</p> <p><b>Suggestion:</b><br/>A provision should be introduced for compensation of deemed generation / loss of generation due to grid-imposed curtailment, as RE generators are contributing to grid security without any commercial safeguard. A cap on number and duration of curtailment events should be considered to prevent routine or excessive curtailment. Continuous or daily curtailment should not be allowed under the defined scenarios.</p>                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |           |     |             |            |             |    |             |              |    |             |             |     |            |             |     |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----|-------------|------------|-------------|----|-------------|--------------|----|-------------|-------------|-----|------------|-------------|-----|
| Sembcorp    | <p><b>Comments:</b></p> <ol style="list-style-type: none"> <li>1) It is essential to define objective criterion in terms of technical parameters of grid operation, and the same have already been defined in the FOR Guidelines. Therefore, the word “etc.”, which creates unlimited subjectivity needs to be omitted.</li> <li>2) In view of the FOR Guidelines, the criterion can be simply reproduced in this procedure. (the criterion are not being mentioned in our comments, for the sake of brevity.</li> <li>3) Even under Scenario – 2, the criterion for over-loading of lines, transformers have also been defined in FOR Guidelines (in accordance with CEA (Manual of transmission planning criteria), 2022).</li> </ol> <p><b>Suggestion:</b><br/>Clause to be reframed as below:<br/>There shall be different scenarios, viz. heavy demand crash, heavy under-drawl by the State at high frequency, sudden increase in RE Generation resulting in to heavy under-drawl beyond permissible limits, Overloading and/or tripping and/or outage of Evacuation network, <del>ete</del>. based on which</p> | <p><b>As per FOR,</b><br/>For Scenario-1, curtailment is linked with frequency.</p> <table> <tr> <th>Frequency</th><th>U/D</th><th>Curtailment</th></tr> <tr> <td>Below band</td><td>Any quantum</td><td>No</td></tr> <tr> <td>Within band</td><td>within limit</td><td>No</td></tr> <tr> <td>Within band</td><td>Above limit</td><td>Yes</td></tr> <tr> <td>Above band</td><td>Any quantum</td><td>Yes</td></tr> </table> <p>For assessment of curtailment, frequency violation or U/D violation should be consistently for 2 TB.</p> <p>For Scenario-2, curtailment will be carried out considering loading as per CEA Planning Criteria. It is specified at Clause No. 4.3.2.</p> <p>-----</p> <p>While preparing draft procedure, guidelines specified by Hon'ble APTEL have been considered at clause no. 4.2.8. Also, loading limits as per CEA Criteria has been specified at clause no. 4.3.2.</p> <p><b>MSLDC Comment:</b></p> | Frequency | U/D | Curtailment | Below band | Any quantum | No | Within band | within limit | No | Within band | Above limit | Yes | Above band | Any quantum | Yes |
| Frequency   | U/D                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Curtailment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |           |     |             |            |             |    |             |              |    |             |             |     |            |             |     |
| Below band  | Any quantum                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |           |     |             |            |             |    |             |              |    |             |             |     |            |             |     |
| Within band | within limit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |           |     |             |            |             |    |             |              |    |             |             |     |            |             |     |
| Within band | Above limit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |           |     |             |            |             |    |             |              |    |             |             |     |            |             |     |
| Above band  | Any quantum                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |           |     |             |            |             |    |             |              |    |             |             |     |            |             |     |



|             | <p>curtailment methodology shall differ. The scenario-wise methodology shall be as below.</p> <ul style="list-style-type: none"> <li>• Scenario – 1: Demand crash or High RE penetration in the State with heavy under-drawl from ISTS</li> </ul> <p>An event shall qualify as Scenario – 1, upon achievement of the conditions as specified in FOR Guidelines.</p> <ul style="list-style-type: none"> <li>• Scenario – 2: Planned or Forced outages or Over-loading of the evacuation infrastructure</li> </ul> <p>An event shall qualify as “Over-loading of the evacuation infrastructure” under Scenario – 2, achievement of the conditions as specified in FOR Guidelines.</p>                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |           |     |             |            |             |    |             |              |    |             |             |     |            |             |     |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----|-------------|------------|-------------|----|-------------|--------------|----|-------------|-------------|-----|------------|-------------|-----|
| TPREL       | <p><b>Comments:</b></p> <p>Need to specify below condition for grid security: -</p> <ol style="list-style-type: none"> <li>a) Frequency- when Av. Frequency for two or more successive time block exceed 50.05Hz.</li> <li>b) State volume limit- under- drawl by state beyond the range of (250MW)3 for two or more successive time-blocks.</li> <li>c) Technical minimum for Thermal-need to operate at technical minimum of 55%.</li> <li>d) Thermal limits of transmission lines-Permissible load limit shall be as per CEA (Manual of transmission planning criteria), 2022.</li> <li>e) Transformer/ICT loading limits- ICT rating shall be in accordance with CEA (Manual of transmission planning criteria), 2022.</li> </ol> <p>(vi) Operational Voltage limits- operating within range as specified under Table-1, Clause (b) of Regulation 3 of CEA (Grid Standards) Regulations, 2010 and amendments thereof.</p> | <p><b>As per FOR,</b></p> <p>For Scenario-1, curtailment is linked with frequency.</p> <table> <tr> <th>Frequency</th><th>U/D</th><th>Curtailment</th></tr> <tr> <td>Below band</td><td>Any quantum</td><td>No</td></tr> <tr> <td>Within band</td><td>within limit</td><td>No</td></tr> <tr> <td>Within band</td><td>Above limit</td><td>Yes</td></tr> <tr> <td>Above band</td><td>Any quantum</td><td>Yes</td></tr> </table> <p>For assessment of curtailment, frequency violation or U/D violation should be consistently for 2 TB.</p> <p>For Scenario-2, curtailment will be carried out considering loading as per CEA Planning Criteria. It is specified at Clause No. 4.3.2.</p> <p>-----</p> <p>While preparing draft procedure, guidelines specified by Hon'ble APTEL have been considered at clause no. 4.2.8. Also, loading limits as per CEA Criteria has been specified at clause no. 4.3.2.</p> <p><b>MSLDC Comment:</b></p> | Frequency | U/D | Curtailment | Below band | Any quantum | No | Within band | within limit | No | Within band | Above limit | Yes | Above band | Any quantum | Yes |
| Frequency   | U/D                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Curtailment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |           |     |             |            |             |    |             |              |    |             |             |     |            |             |     |
| Below band  | Any quantum                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |           |     |             |            |             |    |             |              |    |             |             |     |            |             |     |
| Within band | within limit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |           |     |             |            |             |    |             |              |    |             |             |     |            |             |     |
| Within band | Above limit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |           |     |             |            |             |    |             |              |    |             |             |     |            |             |     |
| Above band  | Any quantum                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |           |     |             |            |             |    |             |              |    |             |             |     |            |             |     |

**Clause No. 4.2.1:**

There are chances of sudden demand crash in the State due to sudden changes in weather or tripping of any bulk load. Also, demand may crash due to some partial/major grid disturbances, viz. tripping of 765 kV or 400 kV or major 220 kV Sub-Station or ring main, feeding load to the metro cities, etc.

|          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                       |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sembcorp | <p><b>Comments:</b></p> <p>FOR had issued "Model Guidelines for Management of RE Curtailment for Wind and Solar Generation dated November 2022".</p> <p>These FOR guidelines were issued under directions of APTEL vide its Judgement dated 02-08-2021, in the Appeal No 197 of 2019 &amp; IA No. 1706 of 2019, specifically to formulate guidelines for RE curtailment and define the boundary conditions.</p> <p>Therefore, theses guidelines have a statutory force.</p> <p>When a specific statutory framework is already in place from a superior authority, it is imperative that the same is followed and adopted.</p> <p><b>Suggestion:</b></p> <p>Clause to be reframed as below:</p> <p>There are chances of sudden demand crash in the State due to sudden changes in weather or tripping of any bulk load. Also, demand may crash due to some partial/major grid disturbances, viz. tripping of 765 kV or 400 kV or major 220 kV Sub-Station or ring main, feeding load to the metro cities, etc. <b>When such reasons lead to occurrence of the criterion specified in the FOR Guidelines, the event shall quality as Scenario-1.</b></p> | <p><b>MSLDC Comment:</b></p> <p>While preparing draft procedure, guidelines specified by Hon'ble APTEL have been considered at clause no. 4.2.8. Also, loading limits as per CEA Criteria has been specified at clause no. 4.3.2.</p> |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Clause No. 4.2.8:**

Under such conditions, MSLDC shall initiate following actions in real time:

- Backing down of all the Intra-State Thermal generation to operate at technical minimum level based on technical parameters of the generating unit subject to any unit constraints, with due consideration of Network Constraints, Congestion, Voltage Management and any System security measures.
- Pumped Storage Units will be instructed to operate in the Pumping Mode depending up on the availability of margin for pumping.
- BESS units, if available, will be instructed to operate in charging mode depending up on the availability of margin.
- Distribution Licensees shall be directed to reduce the requisition from contracted Inter-State Generating Stations (ISGS) through revision of Schedules and explore possibility of selling surplus Intra-State Power in the market.
- Distribution Licensees shall be instructed to withdraw any demand curtailments, if any.
- In case of demand crash is due to tripping or break-down or manual opening of the electrical network, concerned transmission & distribution licensee shall be directed to restore the network elements on priority so as to restore demand.

|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                    |
|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TPREL               | <p><b>Comments:</b></p> <p>Incorporation of “Hydro-plant operating shall be curtailed to zero” prior to any curtailment issued of wind or solar plant.</p>                                                                                                                                                                                                                                                                                                                                                                                                                          | <p><b>MSLDC Comment:</b></p> <p>New addition:<br/> <i>“Backing down of Intra-State Hydro Generation subject to transmission constraints, congestion, Voltage Management, System Security measures and requirements from Irrigation department.”</i></p>                                                                                                                                            |
| RE-Connect, Sunsire | <p><b>Suggestion:</b></p> <p><b>Following to be added:</b><br/> “Backing down of all Intra-State thermal generation to operate at a minimum power level of 40%, in line with the Central Electricity Authority (Flexible Operation of Coal based Thermal Power Generating Units) Regulations, 2023, or such lower level as may be technically feasible, subject to network constraints, congestion, voltage management and system security considerations. MSLDC shall maintain and publish on its website a unit-wise technical minimum register, updated on an annual basis.”</p> | <p><b>MSLDC Comment:</b></p> <p>Intra-State Thermal Units are operating as per the Technical Minimum limits specified in the MERC MYT Regulations.</p> <p>The Generating Unit-wise Technical Minimum levels for each Intra-State Thermal Generating Stations is available on MSLDC Website.</p> <p>Operation at 40 % technical minimum level as per the CEA needs State regulatory amendments.</p> |

|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                       | <p><b>Rationale:</b></p> <p>The proposed modification aligns the provision with the Central Electricity Authority (Flexible Operation of Coal based Thermal Power Generating Units) Regulations, 2023, which prescribe a technical minimum of up to 40% for thermal units. This approach is also consistent with the Maharashtra Renewable Energy &amp; Energy Storage Policy 2025–36, thereby supporting greater flexibility in thermal operations and facilitating renewable energy integration. Explicitly specifying this benchmark will bring regulatory clarity and consistency in the backing down of thermal generation during system surplus conditions.</p> <p>Further, maintaining and publishing a unit-wise technical minimum register on the MSLDC website would enhance transparency and accountability in system operations, ensuring that backing down decisions are based on verified technical parameters of generating units while also supporting optimal grid management before resorting to renewable energy curtailment.</p> |                                                                                                                                                                                                                                                                                                                                                                                                              |
| Bajaj Finserv Limited | <p><b>Comments:</b></p> <p>Curtailment is mentioned after backing down thermal generation and using storage, but no clear prioritization is defined.</p> <p>Suggestions:<br/>Add a transparent merit order of actions before curtailment, ensuring RE is curtailed only after conventional and flexible resources are fully optimized. Also, exclude immediate curtailment periods from DSM settlement, as QCAs cannot reschedule already finalized schedules on the portal.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <p><b>MSLDC Comment:</b></p> <p>While preparing draft procedure, guidelines specified by Hon'ble APTEL have been considered at clause no. 4.2.8. Clause No. 4.2.9 clearly indicates that after assessing all the measures specified in clause no. 4.2.8, RE curtailment will be carried out. Methodology for Schedule revisions during curtailment period is specified in the procedure at clause no. 7.</p> |
| MSEDCL                | <p><b>Comments:</b></p> <p>Clause 4.2.8 directs Distribution Licensees to reduce requisition from contracted ISGS through schedule revision and explore possibility of selling surplus intra-state power in</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <p><b>MSLDC Comment:</b></p> <p>Actions of Discoms can be seen from the Schedules in the DSM Scheduling as well as in ISTS Schedule. The response from the RE Generators can be seen from the reduction in</p>                                                                                                                                                                                               |

|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                  |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|      | <p>the market as a pre-curtailment measure before RE curtailment is triggered. However, the procedure provides no mechanism whatsoever for real-time verification and ensuring compliance of this surplus sale action at MSLDC end.</p> <p>Further, under real-time operating conditions, the sale of surplus power is feasible only with a certain time lag; therefore, maintaining the system in a state of underdrawal until such surplus is liquidated is not considered appropriate.</p> <p><b>Suggestions:</b></p> <p>Procedural clarity may be provided on how discretionary decisions for issuing real-time Renewable Energy (RE) curtailment under the said provision will be finalized at MSLDC.</p> <p>Further, it is suggested that, considering the overall load-generation balance, in cases where significant underdrawal is anticipated due to an increase in RE generation and/or a decline in demand, the SLDC shall direct the concerned Distribution Licensee(s) (Discoms) to undertake the sale of surplus power.</p> <p>In the event that such surplus power is not fully materialized or is only partially cleared, the SLDC shall take appropriate action, including RE curtailment, as necessary. This will ensure that timely operational measures are undertaken by the SLDC to avoid substantial underdrawal.</p> | <p>actual injection. In case of default, actions can be initiated as per the compliance monitoring process defined in the procedure. Hence, it seems no need of separate procedural clarity.</p> |
| AEML | <p><b>Suggestion:</b></p> <p>Following change to be considered<br/>Under-drawing Distribution Licensees shall be directed to reduce the requisition from contracted Inter-State Generating Stations (ISGS) through revision of Schedules and explore possibility of selling surplus Intra-State Power in the market to the extent of Under-drawal.</p> <p>If State is Under-drawing due to very high Scheduled RE and if Specific DISCOM is not under-drawing, then if the</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <p><b>MSLDC Comment:</b></p>                                                                                                                                                                     |

|  |                                                                                                             |  |
|--|-------------------------------------------------------------------------------------------------------------|--|
|  | Contracted ISGS of that DISCOM is reduced to minimize the State UD, will lead to Over-drawal of that DISCOM |  |
|--|-------------------------------------------------------------------------------------------------------------|--|

#### Clause No. 4.2.9:

Once above measures are assessed, RE Curtailment will be carried out to maintain system parameters viz. Voltages, frequency, heavy under-drawl from ISTS, etc. within the permissible limits, for safe & secure grid operations.

| MSEDCL      | <p><b>Comments:</b></p> <p>The procedure does not define any specific threshold or objective criterion for triggering RE curtailment on account of high frequency / heavy under-drawal. Specifically:</p> <p>(a) No frequency value (Hz) is specified at which pre-curtailment measures under Clause 4.2.8 must begin.</p> <p>(b) No frequency value (Hz) is specified at which RE curtailment under Clause 4.2.9 becomes mandatory.</p> <p>(c) "Heavy under-drawal" is used throughout but never quantified in MW —</p> <p>(d) Whether high frequency AND heavy under-drawal must occur simultaneously or either one independently is sufficient to trigger curtailment is not defined. - As persistent heavy underdrawl may lead to frequency deviations.</p> <p>(e) No minimum sustained duration of high frequency/ Under-drawl condition before curtailment is triggered is specified.</p> <p>The procedure references Grid Code limits but does not consolidate relevant thresholds, requiring System Operator to cross-reference multiple external documents in real time during emergency conditions — defeating the purpose of a standalone operational procedure.</p> <p><b>Suggestion:</b></p> | <p><b>As per FOR,</b></p> <p>For Scenario-1, curtailment is linked with frequency.</p> <table> <tr> <th>Frequency</th><th>U/D</th><th>Curtailment</th></tr> <tr> <td>Below band</td><td>Any quantum</td><td>No</td></tr> <tr> <td>Within band</td><td>within limit</td><td>No</td></tr> <tr> <td>Within band</td><td>Above limit</td><td>Yes</td></tr> <tr> <td>Above band</td><td>Any quantum</td><td>Yes</td></tr> </table> <p>For assessment of curtailment, frequency violation or U/D violation should be consistently for 2 TB.</p> <p>For Scenario-2, curtailment will be carried out considering loading as per CEA Planning Criteria. It is specified at Clause No. 4.3.2.</p> <p><b>MSLDC Comment:</b></p> | Frequency | U/D | Curtailment | Below band | Any quantum | No | Within band | within limit | No | Within band | Above limit | Yes | Above band | Any quantum | Yes |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----|-------------|------------|-------------|----|-------------|--------------|----|-------------|-------------|-----|------------|-------------|-----|
| Frequency   | U/D                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Curtailment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |           |     |             |            |             |    |             |              |    |             |             |     |            |             |     |
| Below band  | Any quantum                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |           |     |             |            |             |    |             |              |    |             |             |     |            |             |     |
| Within band | within limit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |           |     |             |            |             |    |             |              |    |             |             |     |            |             |     |
| Within band | Above limit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |           |     |             |            |             |    |             |              |    |             |             |     |            |             |     |
| Above band  | Any quantum                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |           |     |             |            |             |    |             |              |    |             |             |     |            |             |     |

|          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                               |
|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          | <p>a) It is necessary to quantify “heavy underdrawal” in MW by prescribing an objective threshold. Considering that underdrawal at frequencies above 50.10 Hz is not permitted under the Central Electricity Regulatory Commission (Deviation Settlement Mechanism and Related Matters) Regulations, 2024, and that the State is liable to pay 10% of the normal rate for the entire quantum of underdrawal (i.e., power injected into the grid), it is proposed that, at such high frequencies, RE curtailment shall be undertaken when underdrawal exceeds 250 MW.</p> <p>b) In other cases, any underdrawal exceeding 350 MW (corresponding to VLB2) shall be treated as “heavy underdrawal,” as beyond this threshold, no DSM receivable accrues to the State. Such a situation results in inefficient utilization of State resources, imposes an additional financial burden on Distribution Licensees (Discoms), and adversely impacts the DSM pool.</p> <p>c) Further, any instance of heavy underdrawal exceeding 250 MW persisting for a maximum of two consecutive time blocks shall trigger RE curtailment, as two time blocks are considered sufficient for the SLDC to undertake necessary actions as envisaged under Clause 4 of this procedure.</p> <p>d) Additionally, in real-time operations, SLDC operators are generally aware of the available margin in intrastate generating stations for revising schedules up to Technical Minimum (TM). Accordingly, based on forward-looking load forecasts and overall load–generation balance, the SLDC shall advise the concerned Discom(s) to revise schedules of ISGS generators in advance, so as to bring generation down to TM levels, in cases where timely action has not been taken by the Discom(s).</p> |                                                                                                                                                               |
| Sembcorp | <b>Comments:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <p><b>As per FOR,</b><br/> For Scenario-1, curtailment is linked with frequency.<br/> Frequency                      U/D                      Curtailment</p> |

|             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |            |             |    |             |              |    |             |             |     |            |             |     |
|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-------------|----|-------------|--------------|----|-------------|-------------|-----|------------|-------------|-----|
|             | <p>FOR had issued "Model Guidelines for Management of RE Curtailment for Wind and Solar Generation dated November 2022".</p> <p>These FOR guidelines were issued under directions of APTEL vide its Judgement dated 02-08-2021, in the Appeal No 197 of 2019 &amp; IA No. 1706 of 2019, specifically to formulate guidelines for RE curtailment and define the boundary conditions.</p> <p>Therefore, these guidelines have a statutory force.</p> <p>When a specific statutory framework is already in place from a superior authority, it is imperative that the same is followed and adopted.</p> <p><b>Suggestion:</b></p> <p>Once above measures are assessed, RE Curtailment will be carried out to maintain system parameters viz. Voltages, frequency, heavy under-drawl from ISTS, etc. within the permissible limits, for safe &amp; secure grid operations, as more specifically provided in the FOR Guidelines.</p> | <table border="1"> <tr> <td>Below band</td><td>Any quantum</td><td>No</td></tr> <tr> <td>Within band</td><td>within limit</td><td>No</td></tr> <tr> <td>Within band</td><td>Above limit</td><td>Yes</td></tr> <tr> <td>Above band</td><td>Any quantum</td><td>Yes</td></tr> </table> <p>For assessment of curtailment, frequency violation or U/D violation should be consistently for 2 TB.</p> <p>For Scenario-2, curtailment will be carried out considering loading as per CEA Planning Criteria. It is specified at Clause No. 4.3.2.</p> <p><b>MSLDC Comment:</b></p> | Below band | Any quantum | No | Within band | within limit | No | Within band | Above limit | Yes | Above band | Any quantum | Yes |
| Below band  | Any quantum                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |            |             |    |             |              |    |             |             |     |            |             |     |
| Within band | within limit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |            |             |    |             |              |    |             |             |     |            |             |     |
| Within band | Above limit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            |             |    |             |              |    |             |             |     |            |             |     |
| Above band  | Any quantum                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            |             |    |             |              |    |             |             |     |            |             |     |

### Clause No. 4.3

#### Scenario – 2: Planned or Forced outages or Over-loading of the evacuation infrastructure

|       |                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                         |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TPREL | <p><b>Comments:</b></p> <p>For scenario 2- the planned or forced outages in Associated Evacuation network cannot be considered for the purpose of issuing curtailment instruction as STU have redundancy to accommodate planned or forced outages in the existing infrastructure.</p> | <p><b>MSLDC Comment:</b></p> <p>In many cases, it has been observed that with the addition of RE capacity, the associated network gets overloaded. Also, while seeking Grid Connectivity from STU, RE Developers are submitting undertaking about curtailment of generation in case of overloading. Hence, this scenario is needed.</p> |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|



### Clause No. 4.3.2

In case of Overloading or tripping or outage on **Dedicated evacuation network**, resulting in to reduction in evacuation capacity:

- (a) Partially, then RE injection from the concerned PSS shall be curtailed partially and injection shall be restricted to limit the loading on dedicated evacuation network which is in service, within thermal limits.  
The Thermal limit shall be in accordance with the limits provided in the appropriate CEA (CEA Transmission Planning Criteria, 2022)/CERC/MERC Regulations related to Connectivity standards/Grid Code, etc.
- (b) Fully, then RE injection from the concerned PSS shall be curtailed Fully.
- (c) Such instances shall not be treated as curtailment imposed by MSLDC, as it is the responsibility of the concerned Wind/Solar Developer and Generating Companies to construct, operate & maintain dedicated evacuation infrastructure.
- (d) It shall be the responsibility of the concerned Wind/Solar Developer and Generating Companies to install required Special Protection Scheme (SPS) at the PoI to curtail generation automatically, in consultation with the respective Transmission/Distribution Licensee. Such SPS shall be governed by the provisions of the Grid Code.

|          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                       |
|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sembcorp | <p><b>Comments:</b></p> <p>The Dedicated evacuation network is the network behind the Point of Interconnection (PoI), as already defined under definition 2 B.</p> <p>Therefore, maintaining such network in operational condition, and any consequence of non-achievement of the parameters is under the scope of the RE developer, and will lead to a break-down, that is internal to the RE project. Therefore, such network need not form part of the curtailment procedure.</p> <p>Suggestions:</p> <p>In case of Overloading or tripping or outage on Dedicated evacuation network, resulting into reduction in evacuation capacity:, the same shall not be covered under this procedure.</p> <p><del>(a) Partially, then RE injection from the concerned PSS shall be curtailed partially and injection shall be restricted to limit</del></p> | <p><b>MSLDC Comment:</b></p> <p>The clause itself clarifies that such condition shall be not be considered as Imposition of curtailment by MSLDC.</p> |
|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|

|             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             | <p><del>the loading on dedicated evacuation network which is in service, within thermal limits.</del></p> <p><del>The Thermal limit shall be in accordance with the limits provided in the appropriate CEA (CEA Transmission Planning Criteria, 2013)/CERC/MERC Regulations related to Connectivity standards/Grid Code, etc.</del></p> <p><del>(b) Fully, then RE injection from the concerned PSS shall be curtailed Fully.</del></p> <p><del>(c) Such instances shall not be treated as curtailment imposed by MSLDC, as it is the responsibility of the concerned Wind/Solar Developer and Generating Companies to construct, operate &amp; maintain dedicated evacuation infrastructure.</del></p> <p><del>(d) It shall be the responsibility of the concerned Wind/Solar Developer and Generating Companies to install required Special Protection Scheme (SPS) at the PoI to curtail generation automatically, in consultation with the respective Transmission/Distribution Licensee. Such SPS shall be governed by the provisions of the Grid Code.</del></p> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Hexaclimate | <p><b>Comments:</b></p> <p>Commercially significant: Curtailment events that occur because the STU's associated network (220 kV / 132 kV) is congested but routed through the developer's 'dedicated' feeder can be misclassified under this clause, leaving developers with no recourse. SPS installation cost (₹50–200 lakh per substation) is an unbudgeted capex for operating projects.</p> <p><b>Suggestions:</b></p> <p>Define a clear technical demarcation test for 'Dedicated vs. Associated' Evacuation Network with independent verification by STU. Curtailment caused by failure or inadequacy of the STU's own associated network — even if it flows through the developer's dedicated feeder — must be classified as MSLDC curtailment and compensated. SPS</p>                                                                                                                                                                                                                                                                                        | <p><b>MSLDC Comment:</b></p> <p>Demarcation of Dedicated &amp; Associated Evacuation Network is clearly specified &amp; defined in the procedure, also, diagrammatically.</p> <p>In many cases, it has been observed that with the addition of RE capacity, the associated network gets overloaded. Also, while seeking Grid Connectivity from STU, RE Developers are submitting undertaking about curtailment of generation in case of overloading. Hence, this scenario is needed.</p> <p>Also, the need of SPS will be required only if the dedicated evacuation network is not redundant or overloaded requiring partial curtailment among multiple Generating Companies. In case PPC is available and capable of curtailing generation, then installation of separate SPS will not be required.</p> |

|       |                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|       | installation mandate should be time-bound and cost-shared with STU.                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| TPREL | <p><b>Comments:</b></p> <p>The mandatory requirement for developers to install System Protection scheme (“SPS”) at PoI, is an illegitimate requirement. Since, at the time of grant of grid connectivity, such requirement was not present for existing plant. Hence, the same should not be made applicable to give any retrospective effect.</p> | <p><b>MSLDC Comment:</b></p> <p>In case of Wind/Solar Parks, there are multiple Generating Companies. In case of partial curtailment, to avoid any discriminatory curtailment among multiple generating companies, this provision has been considered so that while designing &amp; installing SPS, RE Developers &amp; Generating Companies will be aware of the method of curtailment. Also, the need of SPS will be required only if the dedicated evacuation network is not redundant or overloaded requiring partial curtailment among multiple Generating Companies. In case PPC is available and capable of curtailing generation, then installation of separate SPS will not be required.</p> |

#### Clause No. 4.3.3

In case of overloading or tripping or outage on **Associated Evacuation network** through which power from a single or group of PSS is evacuated, resulting in to reduction in evacuation capacity:

- (a) Partially, then RE injection from the concerned PSS shall be curtailed partially and injection shall be restricted to limit the loading on evacuation network which is in service within thermal limits. The PSS-wise curtailment shall be on pro-rata basis based on installed capacity.

The Thermal limit shall be in accordance with the limits provided in the appropriate CEA (CEA Transmission Planning Criteria, 2013)/CERC/MERC Regulations related to Connectivity standards/Grid Code, etc.

- (b) Fully, then RE injection from the concerned single or group of PSS shall be curtailed Fully.
- (c) The real time visibility of 400 kV transmission network is completely available at MSLDC. However, the real time visibility of transmission network below 400 kV is very less. The real time visibility of 220 kV network is substantial whereas the real time visibility of 132 kV & below network is very less.

Most of the EHV connected Wind & Solar Generating plants are connected at 220 kV level & below network. Thus, in the absence of real time visibility of this network, it is not possible for MSLDC to monitor the line loadings and assess the need of curtailment. Under such conditions, MSLDC relies up on the respective Transmission Licensee's field offices who are observing the system in real time. As such, MSLDC is monitoring 220 kV & above network. Also, the outages of transmission elements at 220 kV & above are managed by MSLDC. The transmission network & elements below 220 kV level are monitored by field officers of the respective Transmission Licensees.

In case of any transmission constraints or overloading of transmission elements connected below 220 kV level, to protect the constrained element(s) and to avoid cascade tripping of the local transmission network resulting in to complete loss of RE Generation, concerned Transmission Licensees are installing LTS/GTS/SPS schemes to protect the transmission network below 220 kV level. Thus, with the operation of such LTS/SPS/GTS, RE generation will be curtailed automatically. The list of existing LTS/SPS/GTS installed in the State wherein curtailment of RE Generation is considered is attached as **ANNEXURE - A**.

Further, in the absence of such LTS/SPS/GTS, respective field offices of Transmission Licensees carry out RE curtailment manually by intimating the respective RE Developers, Generating Companies, Plant Operators, etc. Further, such actions are intimated to MSLDC at later stage.

|             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                           |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Hexaclimate | <p><b>Comments:</b></p> <p>CRITICAL: Loss of revenue for every unit curtailed with no financial recourse. Developers with Renewable Purchase Obligation (RPO) linked PPAs may face off-take shortfalls. Projects financed on project finance basis face debt servicing risk if curtailment is frequent. Solar projects in Nashik/Pune zones with existing SPS (Annexure-A) already face uncompensated curtailment.</p> <p><b>Suggestions:</b></p> <p>STRONGLY RECOMMEND: Insert a specific clause mandating deemed generation compensation for all MSLDC-directed curtailments, consistent with CERC framework. Curtailment on the Dedicated Evacuation Network due to STU/TRANSCO infrastructure failure should be treated as</p> | <p><b>MSLDC Comment:</b></p> <p>RE Curtailment will be imposed by MSLDC to maintain Grid stable &amp; secure considering the provisions as per Section 32 &amp; 33 of the Act, 2003. Further, Regulatory provisions provide compensation by MSLDC against loss of generation are not available in the State. Curtailment is issued for Grid Security.</p> |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                        |
|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          | force majeure and compensated. Request MERC to issue a standalone order on curtailment compensation before this procedure is finalized.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                        |
| Sembcorp | <p><b>Comments:</b></p> <p>It is imperative that an action like Curtailment, which has a direct bearing on commercial aspects of RE projects, should be carried out only as a last resort, and in a transparent manner. If Transmission Licensees themselves do not have adequate system installed in their network, and curtailment is carried out manually, it would be prone to discretionary and inefficient practices.</p> <p>Further, it should not happen that even after the grid returns to normal conditions, the restoration of curtailment takes longer time just because of inadequate infrastructure in the state's network.</p> <p>Therefore, the necessary upgradation of state's network should be carried out in top priority.</p> <p><b>Suggestion:</b></p> <p>To be added in the clause.</p> <p>Transmission Licensees should strive to install LTS/GTS/SPS in remaining part of the state's network at the earliest, and in <b>no later than 2 years</b> from the date of notification of this procedure. The ANNEXURE – A shall be updated periodically and uploaded on the MSLDC website.</p> | <p><b>MSLDC Comment:</b></p> <p>Suitable timelines for design &amp; installation of GTS/SPS by Transmission Licensees in co-ordination with RE Developers &amp; Generating Companies to be added in the procedure.</p> |

#### Clause No. 4.3.4

Under such scenario of non-visibility of transmission network to MSLDC, Field Offices of the STU/concerned Transmission Licensees shall use the powers of Curtailment & restoration of RE Generation till the concerned Transmission Network is visible to MSLDC in real time. However, actions taken by the Field Offices of the STU/concerned Transmission Licensees shall be reported without fail to MSLDC in accordance with the provisions specified in this procedure. The detailed procedure in such scenario is specified at Clause No. 6.4.2.

|             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Hexaclimate | <p><b>Comments:</b></p> <p>HIGH RISK OF ARBITRARINESS: Field office curtailment without MSLDC oversight creates scope for inconsistent, undocumented, and potentially discriminatory curtailment. Developers at sub-220 kV connected PSS (most wind and solar projects are at 132 kV or below) are most exposed. There is no equivalent of the 'Code' system for field office instructions, making audit trails weak.</p> <p><b>Suggestions:</b></p> <p>Mandate that field office curtailment instructions must be issued only after telephonic intimation to MSLDC Control Room (even if formal approval is not required). Introduce a mandatory 'Field Curtailment Code' system similar to the MSLDC Code system. Require field offices to issue written confirmation (WhatsApp/email) to the QCA simultaneously with telephonic instruction. MSLDC should expand real-time SCADA visibility to 132 kV level within a defined timeframe (suggest 18 months).</p> | <p><b>MSLDC Comment:</b></p> <p>Informing MSLDC before issuing curtailment will not be always possible depending up on severity of the need of curtailment. However, the clause can be reframed mentioning that the Transmission Licensee along with RE Generating Companies/Developers/QCA shall mutually decide protocol of communication similar to that proposed by MSLDC in the said procedure for intimation of curtailments.</p> <p>The issue of expanding communication network has been already taken up by STU.</p> |
| Sembcorp    | <p><b>Comments:</b></p> <p>It is imperative that an action like Curtailment, which has a direct bearing on commercial aspects of RE projects, should be carried out only as a last resort, and in a transparent manner. If Transmission Licensees themselves do not have adequate system installed in their network, and curtailment is carried out manually, it would be prone to discretionary and inefficient practices.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <p><b>MSLDC Comment:</b></p> <p>Suitable timelines for design &amp; installation of GTS/SPS by Transmission Licensees in co-ordination with RE Developers &amp; Generating Companies to be added in the procedure.</p>                                                                                                                                                                                                                                                                                                        |

|  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |
|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|  | <p>Further, it should not happen that even after the grid returns to normal conditions, the restoration of curtailment takes longer time just because of inadequate infrastructure in the state's network.</p> <p>Therefore, the necessary upgradation of state's network should be carried out in top priority.</p> <p>Suggestion:<br/>To be added in the clause.</p> <p>Transmission Licensees should strive to install LTS/GTS/SPS in remaining part of the state's network at the earliest, and <b>in no later than 2 years</b> from the date of notification of this procedure. The ANNEXURE – A shall be updated periodically and uploaded on the MSLDC website.</p> |  |
|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|

#### Clause No. 4.4

##### Process for pre-deciding Wind & Solar Curtailment Phases

- 4.4.1. The Solar & Wind Curtailment Phases are required to be predefined for ease of implementation and to avoid repetition of the curtailment for the same Pooling Sub-Station (PSS) for consecutive events.
- 4.4.2. The phases of Wind & Solar PSS shall be prepared considering that every phase shall have an approximately equal quantum and mix of PSS across the State's geography.
- 4.4.3. Each phase shall have PSS having total installed capacity of around 1000 MW. However, depending up on requirements, the quantum per phase will be modified by MSLDC.
- 4.4.4. There shall be separate phases for Wind & Solar capacity.
- 4.4.5. Each phase shall have details such as Name of PSS, Installed Capacity, Details of Nodal Officer of QCA, Generating Company, Plant Operator, Wind/Solar Developer, PSS In-charge, Nodal Sub-station, etc.
- 4.4.6. The phases shall be reviewed & updated on half-yearly basis and as & when any changes in the information is intimated to MSLDC.
- 4.4.7. The phases shall be uploaded on MSLDC website.

|             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Hexaclimate | <p><b>Comments:</b></p> <p>MODERATE POSITIVE — but opacity in phase design creates risk. Developers do not know which phase their PSS is assigned to until it is published. If phase composition is skewed (e.g., one region or one technology bears disproportionate curtailment), there is no upfront mechanism to challenge it. Half-yearly review is infrequent given rapidly changing installed capacity.</p> <p><b>Suggestions:</b></p> <p>RECOMMEND: Publish the initial phase composition simultaneously with the final procedure notification — not after. Establish a transparent methodology document for phase design (equal installed capacity, geographic balance, technology mix). Allow stakeholders to flag phase</p> | <p><b>MSLDC Comment:</b></p> <p>The procedure has clearly defined the composition of phases &amp; review timelines. If review is taken on quarterly basis, then there will be possibilities of miscommunication due to frequent changes.</p> <p>Geographical phasing is not possible as most of RE Plants are located in specific districts and desired curtailed quantum will not be obtained unless geographic mix is not considered while phasing.</p> <p>Also, capacity addition in existing PSS is not uniform and in case if large capacity is added in the existing PSS and in redesigning, if such PSS is shifted to other phases, there are possibilities of disputes and likely non-uniformness in curtailment. Hence, review has been proposed on six monthly basis.</p> |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|



|                       |                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                        |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                       | imbalances at each OCC meeting. Increase review frequency to quarterly given the pace of new RE additions in Maharashtra.                                                                                                                                           | It is proposed that Curtailment Phases will be discussed in the OCC meeting before publishing for implementation.                                                                                                                                                                      |
| Bajaj Finserv Limited | <p><b>Comments:</b></p> <p>Pre-defining phases of curtailment is useful.</p> <p><b>Suggestion:</b></p> <p>Publish clear criteria for phase allocation (capacity mix, geography, fairness) and ensure rotation so that the same PSS is not repeatedly curtailed.</p> | <p><b>MSLDC Comment:</b></p> <p>The procedure has clearly defined the composition of phases &amp; review timelines. Phases are published on MSLDC website which will be updated as &amp; when reviewed. MSLDC is maintaining the records of phase-wise curtailment implementation.</p> |

#### Clause No. 5.2.4

MSLDC shall issue Curtailment instructions telephonically and through e-mail in accordance with the provisions of this procedure.

|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Avaada              | <p><b>Comments:</b></p> <p>Curtailment instructions are currently issued via SLDC → Nodal Substation → QCA → Generator, which may lead to lack of transparency and delay in communication.</p> <p><b>Suggestions:</b></p> <p>SLDC should directly communicate curtailment instructions (along with reasons) to Generators and PSS. Additionally, PSS should be mandated to maintain detailed records of curtailment/shutdowns imposed on generators for transparency and audit purposes.</p> | <p><b>MSLDC Comment:</b></p> <p>As per MERC F &amp; S Regulation. QCA as the designated single point of contact between SLDC and Generating Companies. Also, QCA is responsible for Scheduling activities on behalf of Generating Companies, hence, it is necessary to pass on the instructions to QCA also. Further, there are more than 1800 No. of individual Generating Companies, which will increase in future. To get timely response for curtailment, it is necessary to pass on the instructions to Nodal Substations which are directly connected &amp; in co-ordination with the respective RE Developers &amp; Generating Companies. Also, MSLDC is sending curtailment instructions to QCAs through WhatsApp Group which are confirmed through e-mail. This communication has details of PSS along with reason. Hence, Generating Companies can get details from QCAs.</p> |
| RE-Connect, Sunsure | <b>Comments:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>MSLDC Comment:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

|  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                             |
|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p>MSLDC shall issue Curtailment instructions telephonically and through e-mail in accordance with the provisions of this procedure.</p> <p>The modification clarifies that curtailment instructions are issued specifically to the QCA as the designated single point of contact, ensuring clear accountability, streamlined communication, and uniform implementation across generating entities.</p> <p><b>Suggestion:</b></p> <p>MSLDC shall issue Curtailment instructions to QCA telephonically and through e-mail in accordance with the provisions of this procedure.</p> | <p>MSLDC is sending curtailment instructions to QCAs through WhatsApp Group which are confirmed through e-mail. Also, the instructions are issued to Nodal Sub-stations telephonically.</p> |
|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

#### Clause No. 5.2.6

MSLDC shall maintain the details of Curtailment instructions along with reason, quantum of curtailment (MW/MUs) and upload on MSLDC website on monthly basis.

|                       |                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                               |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Bajaj Finserv Limited | <p><b>Comments:</b></p> <p>Monthly reporting of curtailment quantum is positive, but lacks granularity.</p> <p><b>Suggestions:</b></p> <p>Reports should include reason for curtailment, duration, affected PSS, and MW/MUs curtailed. This will improve transparency and allow RE developers to assess impact.</p> | <p><b>MSLDC Comment:</b></p> <p>A Separate Monthly Report having details of PSS, curtailment period along with curtailed quantum, etc will be published on MSLDC website.</p> |
| Sembcorp              | <p><b>Comments:</b></p>                                                                                                                                                                                                                                                                                             | <p><b>MSLDC Comment:</b></p>                                                                                                                                                  |

|  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                         |
|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
|  | <p>In case the data uploaded is in picture format, or even if PDF which is not text-searchable, it becomes difficult for all the stakeholders to process the information.</p> <p>Therefore, in order to ensure transparency and support the motto of ease of doing business, all data should be in a downloadable format, and contents of all files should be text-searchable.</p> <p><b>Suggestion:</b></p> <p>MSLDC shall maintain the details of Curtailment instructions along with reason, quantum of curtailment (MW/MUs) and upload on MSLDC website on monthly basis.</p> <p><b>The details shall be in a downloadable format, and the contents of such files would be text-searchable.</b></p> | <p>A downloadable &amp; searchable PDF copy of report will be published on website.</p> |
|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|

#### Clause No. 5.3.1:

QCA is a single point contact between MSLDC & Generating Companies. Hence, QCA shall be responsible for communicating the instructions to RE Developers and Generating Companies connected to the PSS for which it is acting as a QCA.

|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                             |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RE-Connect, Sunsire | <p><b>Comments:</b></p> <p>QCA is a single point contact between MSLDC &amp; Generating Companies. Hence, QCA shall be responsible for communicating the instructions to RE Developers and Generating Companies connected to the PSS for which it is acting as a QCA. The proposed modification seeks to enhance clarity, accountability, and traceability in communication of curtailment instructions. While QCA is designated as the single point of contact, explicitly specifying that communication shall be carried out through telephonic and e-mail modes ensures both real-time dissemination and formal documentation of instructions.</p> <p><b>Suggestions:</b></p> | <p><b>MSLDC Comment:</b></p> <p>The MERC RE F&amp;S Procedure dated 15-01-2025 already mandates QCAs &amp; Generating Companies to design &amp; establish a communication protocol based on mutual understanding. The same has been specified in the curtailment procedure also. Hence, QCAs should communicate with Generating Companies according to the already formulated protocol.</p> |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                     | <p>QCA is a single point contact between MSLDC &amp; Generating Companies. Hence, QCA shall be responsible for communicating the instructions to RE Developers and Generating Companies connected to the PSS for which it is acting as a QCA</p> <p>Further, it is provided that instructions shall be communicated telephonically and through e-mail in accordance with the provisions of this procedure.</p>                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Manikaran Analytics Limited (5.3.1) | <p><b>Comments:</b></p> <p>The draft procedure designates QCA as the single point of contact for communication with the Load Despatch Centre. However, QCAs do not have operational control over generation assets and rely on plant operators for implementation of instructions. Assigning operational accountability to QCA without plant-level control may create compliance risk. In case of wind, control lies with OEMs however for solar the control lies with lead generators.</p> <p><b>Suggestion:</b></p> <p>The clause should explicitly state that QCA role is limited to communication and coordination with generators, and actual implementation responsibility lies with the OEMs for Wind and Lead generator or plant operator for Solar as given in Clause 5.4.3.</p> | <p><b>MSLDC Comment:</b></p> <p>As per Regulations, QCA is a single point of contact for communication between SLDC &amp; Generating Companies. The MERC RE F&amp;S Procedure dated 15-01-2025 already mandates QCAs &amp; Generating Companies to design &amp; establish a communication protocol based on mutual understanding. The same has been specified in the curtailment procedure also. Hence, QCAs should communicate with Generating Companies accordingly and ensure curtailment.</p> |

### Clause No. 5.3.2:

QCA shall be responsible for implementation of the curtailment issued along with revision in schedules in real time.

|                             |                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                     |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Manikaran Analytics Limited | <p><b>Comments:</b></p> <p>The clause requires QCA to implement curtailment instructions issued by the SLDC. However, QCA has no direct physical or supervisory control over generation facilities and cannot independently enforce generation reduction. Modify</p> | <p><b>MSLDC Comment:</b></p> <p>As per Regulations, QCA is a single point of contact for communication between SLDC &amp; Generating Companies. The MERC RE F&amp;S Procedure dated 15-01-2025 already mandates QCAs &amp; Generating Companies to design &amp;</p> |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|  |                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                               |
|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | the clause to state that QCA shall communicate curtailment instructions and facilitate schedule revisions, while implementation responsibility rests with generators or plant operators as given in Clause 5.4.3. QCA will do level best to ensure the communication effectively. | establish a communication protocol based on mutual understanding. The same has been specified in the curtailment procedure also. Hence, QCAs should communicate with Generating Companies accordingly and ensure curtailment. |
|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Clause No. 5.3.3:**

QCA shall inform the contact details of 3 Nos. of representatives to whom instructions shall be issued by the Nodal Sub-Stations/MSLDC. As the need for curtailment may arise at any time, one of the contact details shall be mandatorily, of the Control room operated 24x7 by the QCA. In case of changes in the details of representatives, the same shall be communicated within 24 hours to MSLDC.

**Clause No. 5.3.4:**

QCA shall ensure implementation of the curtailment through respective Generating Companies or the Plant operators, viz. OEMs, RE Developers, etc.

|                                             |                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------------------------------------|------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Manikaran Analytics Limited (5.3.3 & 5.3.4) | <p><b>Comments:</b></p> <p>Should be in line with Clause 5.3.1 &amp; 5.3.2 as commented and suggested above.</p> | <p><b>MSLDC Comment:</b></p> <p>As per Regulations, QCA is a single point of contact for communication between SLDC &amp; Generating Companies. The MERC RE F&amp;S Procedure dated 15-01-2025 already mandates QCAs &amp; Generating Companies to design &amp; establish a communication protocol based on mutual understanding. The same has been specified in the curtailment procedure also. Hence, QCAs should communicate with Generating Companies accordingly and ensure curtailment.</p> |
|---------------------------------------------|------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Clause No. 5.3.5:**

QCA shall immediately inform the details of PSS and Generating Companies which have not followed curtailment instructions issued by MSLDC and not implemented the curtailment. The details shall include date & time at which instructions were received by QCA from MSLDC, date & time at which instructions were issued to Generating Companies & Plant Operators including RE Developers, reasons for non-implementation of the curtailment instructions.

|                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                          |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Manikaran Analytics Limited | <p><b>Comments:</b></p> <p>The clause requires QCA to immediately report cases where generators fail to implement curtailment instructions. However, real-time information may not always be immediately available to QCAs due to communication delays or SCADA data latency.</p> <p><b>Suggestions:</b></p> <p>Reporting timelines should be on next day of curtailment and clarify that reporting shall be based on information received from RE Generators/plant operators and available telemetry data.</p> <p>MSLDC should provide a software application/portal (like NRLDC OMS portal) to monitor real-time curtailment activities for co-ordination.</p> | <p><b>MSLDC Comment:</b></p> <p>Reporting timelines are as specified in the MEGC'2020. MSLDC will explore the possibility of development of real time curtailment monitoring portal.</p> |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Clause No. 5.3.6:**

QCA shall keep all the records of curtailment instructions passed on to the Generating Companies, Plant Operators viz. OEMs, RE Developers, etc. having various details such as date & time of instructions received from MSLDC, date & time of instructions issued to Generating Companies & Plant Operators including RE Developers, actual time of curtailment & generation at the time of the curtailment & restoration timings etc. The information should be communicated to the MSLDC in the prescribed format within two time blocks from which instructions were issued by MSLDC.

|                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Bajaj Finserv Limited       | <p><b>Comments:</b></p> <p>QCAs are tasked with reporting non-compliance, but no mechanism is defined for dispute resolution if generators contest curtailment instructions.</p> <p><b>Suggestions:</b></p> <p>Introduce a real-time grievance redressal mechanism where RE developers can raise disputes on curtailment instructions, with OCC/GCC oversight.</p>                                                                                                                                                                                                                                                           | <p><b>MSLDC Comment:</b></p> <p>Dispute resolution mechanism is specified in the procedure. Further, in the procedure, it has been specified that all the curtailment instances will be put-up before OCC for discussions.</p> |
| Manikaran Analytics Limited | <p><b>Comments:</b></p> <p>Maintaining detailed records of curtailment instructions and compliance within two time blocks for each generator across multiple pooling substations may create operational complexity for QCAs managing large generator portfolios.</p> <p><b>Suggestions:</b></p> <p>Introduce standardized automated reporting templates integrated with proposed Outage Management System (OMS) portal/REMC to avoid manual data handling. Or Increase the compliance reporting timelines to next day to handle and consolidate such information of multiple PSS with large no. of generators connected.</p> | <p><b>MSLDC Comment:</b></p> <p>Reporting timelines are as specified in the MEGC'2020. MSLDC will explore the possibility of development of real time curtailment monitoring portal.</p>                                       |

**Clause No. 5.3.7:**

QCA shall revise the Schedules in accordance with the quantum of curtailment as instructed by MSLDC and/or intimated by the respective Generating Companies, RE Developers and Plant Operators in case of auto curtailment due to operation of LTS/SPS/GTS and manual curtailment imposed by Field Office of transmission licensee.

|                     |                                                                                                                                           |                                                                                                                           |
|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| RE-Connect, Sunsure | <p><b>Comments:</b></p> <p>QCA shall revise the Schedules in accordance with the quantum of curtailment as instructed by MSLDC and/or</p> | <p><b>MSLDC Comment:</b></p> <p>Reporting mechanism and publication on website is specified clearly in the procedure.</p> |
|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|

|                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                          |
|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
|                             | <p>intimated by the respective Generating Companies, RE Developers and Plant Operators in case of auto curtailment due to operation of LTS/SPS/GTS and manual curtailment imposed by Field Office of transmission licensee. The proposed modification enhances transparency and traceability in curtailment operations by ensuring that detailed information, including reason and quantum, is systematically communicated and recorded. It also promotes consistent documentation and periodic reporting, enabling better monitoring and regulatory oversight.</p> <p><b>Suggestions:</b></p> <p>QCA shall revise the Schedules in accordance with the quantum of curtailment as instructed by MSLDC and/or intimated by the respective Generating Companies, RE Developers and Plant Operators in case of auto curtailment due to operation of LTS/SPS/GTS and manual curtailment imposed by Field Office of transmission licensee.</p> <p>Further provided that the details of curtailment instructions, including the reason for curtailment and quantum of curtailment (MW/MUs), shall be communicated telephonically and through e-mail in accordance with the provisions of this procedure and shall be maintained and shared on a monthly basis.</p> |                                                                                          |
| Manikaran Analytics Limited | <p><b>Comments:</b></p> <p>The clause requires schedule revision in response to curtailment instructions or automatic tripping through protection schemes such as SPS/GTS/LTS. Such protection schemes operate independently of QCA control and may cause sudden generation changes.</p> <p><b>Suggestions:</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <p><b>MSLDC Comment:</b></p> <p>Deviation accounting is as per the MERC Regulations.</p> |



|  |                                                                                                                                                                            |  |
|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|  | Explicitly provide that schedule revisions caused by protection scheme operations shall not attract deviation penalties and shall be treated as force majeure grid events. |  |
|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|

**Clause No. 5.3.8:**

QCA in co-ordination with Generators shall develop protocol for communication of Curtailment instructions from MSLDC for actual implementation. Such PSS-wise protocol shall be submitted to MSLDC within 30 days from the date of notification of the said procedure. Non-submission of such protocol shall be treated as non-compliance of the said procedure.

|                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Manikaran Analytics Limited | <p><b>Comments:</b></p> <p>The draft requires QCAs to submit pooling substation-wise communication protocols within 30 days but developing such protocols requires coordination among multiple stakeholders including generators, SCADA vendors, OEMs, and transmission utilities.</p> <p><b>Suggestions:</b></p> <p>MSLDC should develop the proposed OMS portal for all kinds of communication to QCAs and OEMs/Lead generators and that portal to be used for communication between QCAs and OEMs/Lead generators.</p> | <p><b>MSLDC Comment:</b></p> <p>As per Regulations, QCA is a single point of contact for communication between SLDC &amp; Generating Companies. The MERC RE F&amp;S Procedure dated 15-01-2025 already mandates QCAs &amp; Generating Companies to design &amp; establish a communication protocol based on mutual understanding. The same has been specified in the curtailment procedure also. Hence, QCAs should communicate with Generating Companies accordingly. MSLDC will explore the possibility of development of real time curtailment monitoring portal.</p> |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Clause No. 5.3.1:**

QCA is a single point contact between MSLDC & Generating Companies. Hence, QCA shall be responsible for communicating the instructions to RE Developers and Generating Companies connected to the PSS for which it is acting as a QCA.

**Clause No. 5.3.2:**

QCA shall be responsible for implementation of the curtailment issued along with revision in schedules in real time.

**Clause No. 5.3.4:**

QCA shall ensure implementation of the curtailment through respective Generating Companies or the Plant operators, viz. OEMs, RE Developers, etc.

**Clause No. 5.3.6:**

QCA shall keep all the records of curtailment instructions passed on to the Generating Companies, Plant Operators viz. OEMs, RE Developers, etc. having various details such as date & time of instructions received from MSLDC, date & time of instructions issued to Generating Companies & Plant Operators including RE Developers, actual time of curtailment & generation at the time of the curtailment & restoration timings etc. The information should be communicated to the MSLDC in the prescribed format within two time blocks from which instructions were issued by MSLDC.

|        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Avaada | <p><b>Comments:</b></p> <p>QCA acts only as an intermediary for communication and does not have operational control over generators. Holding QCA accountable for non-compliance by generators is not practical. Also, multi-layer communication leads to delays in implementation.</p> <p><b>Suggestion:</b></p> <ol style="list-style-type: none"> <li>1) Curtailment instructions should be communicated directly to generators or through PSS, reducing dependency on QCA.</li> <li>2) Responsibility of implementation should lie with PSS / Generator, not QCA.</li> <li>3) QCA should only be responsible for reporting to SLDC, which may be allowed on day-end basis, as reporting within 2 time blocks is operationally challenging.</li> </ol> | <p><b>MSLDC Comment:</b></p> <p>As per Regulations, QCA is a single point of contact for communication between SLDC &amp; Generating Companies. The MERC RE F&amp;S Procedure dated 15-01-2025 already mandates QCAs &amp; Generating Companies to design &amp; establish a communication protocol based on mutual understanding. The same has been specified in the curtailment procedure also. Hence, QCAs should communicate with Generating Companies accordingly and ensure curtailment.</p> |
|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Clause No. 5.3.8:**

QCA in co-ordination with Generators shall develop protocol for communication of Curtailment instructions from MSLDC for actual implementation. Such PSS-wise protocol shall be submitted to MSLDC within 30 days from the date of notification of the said procedure. Non-submission of such protocol shall be treated as non-compliance of the said procedure.

**Clause No. 5.4.3:**

Since the QCAs are primarily responsible for Forecasting, Scheduling & settlement of Deviation accounts, the onus of implementation of curtailment shall be with the generating companies, hence, the Generating companies shall coordinate with their plant operators and with respective QCAs to jointly develop PSS-wise protocol for communication of Curtailment instructions for actual implementation. Such PSS-wise protocol shall be submitted to MSLDC within 30 days from the date of notification of the said procedure through QCA. Non-submission of such protocol shall be treated as non-compliance of the said procedure.

**Clause No. 5.5.2:**

All the concerned Transmission & Distribution Licensees shall declare the PSS-wise detailed list of Nodal officers or Sub-stations and PSS In-charge to MSLDC for co-ordination for curtailment implementation within 30 days from the date of notification of this procedure. The details shall be in accordance with the **ANNEXURE - 1**. Any changes in the details of the Nodal officer or Sub-station and PSS In-charge shall be communicated to MSLDC within 07 days from the date of change. Non-submission of such details shall be treated as non-compliance of the said procedure.

|             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                      |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| Hexaclimate | <p><b>Comments:</b></p> <p>MODERATE OPERATIONAL RISK: For large QCAs managing 50+ PSS, developing individual PSS-level protocols in 30 days is operationally challenging. Non-submission triggers immediate risk of forced 100% curtailment and schedule zeroing (Cl. 8.2.1). The 24-hour update window for QCA contact changes creates operational burden for routine HR changes.</p> <p><b>Suggestion:</b></p> <p>RECOMMEND: Extend the initial protocol submission deadline to 60 days for QCAs managing more than 20 PSS. Provide a standard template protocol format from MSLDC to reduce drafting burden (similar to the format provided in</p> | <p><b>MSLDC Comment:</b></p> <p>Considering Grid security, communication is very important. Hence, timelines cannot be modified.</p> |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|

|  |                                                                                                                                                                                                                                            |  |
|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|  | Annexure-1 for nodal officers). Treat first-time non-submission as a notice-based default rather than immediate curtailment action. Relax the QCA contact update window to 72 hours — 24 hours is impractical for weekend/holiday changes. |  |
|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|

**Clause No. 5.4.1:**

At most of the PSS, large no. of generating companies are connected to single PSS. Such wind/solar farms are normally operated by Plant Operators appointed by the generators. In some of the PSS, there are multiple Plant Operators who are operating plants on behalf of their generators.

Due to involvement of such large no. of stake-holders, it becomes crucial to implement curtailment which is issued under extreme emergency conditions, in short time frame for getting required relief for maintaining system security. It is the combined responsibility of all the stake-holders, viz. QCAs, Generating Companies, RE Developers, Plant Operators, OEMs, etc. for providing support to MSLDC for operating the grid at normal level and maintaining the grid safe, reliable and stable.

|                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Manikaran Analytics Limited | <p><b>Comments:</b></p> <p>Many Pooling Sub-Stations (PSS) have multiple generators and different OEMs. If one generator fails to comply with curtailment instruction, then the draft procedure puts all the generators at commercial risk.</p> <p><b>Suggestion:</b></p> <p>Nodal officer should be identified for each PSS. Non-compliance of any curtailment instructions and its implementation should be highlighted by QCAs to the Nodal officer and SLDC. It should be the responsibility of the Nodal officer/SLDC to take action. A summary report will be shared on weekly basis by QCAs.</p> | <p><b>MSLDC Comment:</b></p> <p>As per Regulations, QCA is a single point of contact for communication between SLDC &amp; Generating Companies. The MERC RE F&amp;S Procedure dated 15-01-2025 already mandates QCAs &amp; Generating Companies to design &amp; establish a communication protocol based on mutual understanding. The same has been specified in the curtailment procedure also. Hence, QCAs should communicate with Generating Companies accordingly and ensure curtailment.</p> |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Clause No. 5.4.3:**

Since the QCAs are primarily responsible for Forecasting, Scheduling & settlement of Deviation accounts, the onus of implementation of curtailment shall be with the generating companies, hence, the Generating companies shall coordinate with their plant operators and with respective QCAs to jointly develop PSS-wise protocol for communication of Curtailment instructions for actual implementation. Such PSS-wise protocol shall be submitted to MSLDC within 30 days from the date of notification of the said procedure through QCA. Non-submission of such protocol shall be treated as non-compliance of the said procedure.

|                       |                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                       |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Bajaj Finserv Limited | <p><b>Comments:</b></p> <p>Onus of implementation is placed on generators, but no safeguard is provided against arbitrary or excessive curtailment.</p> <p><b>Suggestion:</b></p> <p>Include a clause that curtailment instructions must be backed by recorded system data (frequency, voltage, congestion) and shared with affected generators/QCAs.</p> | <p><b>MSLDC Comment:</b></p> <p>MSLDC is sending curtailment instructions to QCAs through WhatsApp Group which are confirmed through e-mail. This communication is having reasons for curtailment. Also, the actions to be taken by MSLDC prior to RE Curtailment are specified in the procedure.</p> |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

#### Clause No. 5.4.4:

Once the QCA is registered for any PSS, it shall be binding on all the generating companies connected to the said PSS to act upon the instructions passed on by the MSLDC through QCA even if any generating company has not issued consent to the respective QCA.

|             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                        |
|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| Hexaclimate | <p><b>Comments:</b></p> <p>Generators without a direct contractual relationship with the QCA of a shared PSS lose agency over their own curtailment decisions. If the QCA revises schedules to zero, the generating company has no independent mechanism to challenge or override — creating a unilateral power asymmetry. This could expose generators to DSM charges without their authorisation.</p> <p><b>Suggestion:</b></p> <p>RECOMMEND: Amend Cl. 5.4.4 to require that all generators at a PSS must mandatorily register consent with the designated QCA within 30 days of this procedure taking effect. MSLDC should maintain a registry of QCA-generator agreements per PSS. Instructions should flow only through an authorised QCA with documented generator consent. Provide a dispute mechanism where a generator can challenge QCA actions without halting curtailment.</p> | <p><b>MSLDC Comment:</b></p> <p>As per the MERC RE F&amp;S Procedure dated 15-01-2025, necessary provisions are already specified.</p> |
|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|

**Clause No. 5.4.5:**

It shall be binding on all the Generating Companies, RE Developers and Plant Operators to curtail RE Generation & restoration thereof, as per the instructions issued by MSLDC through Nodal Sub-stations and/or QCA.

Also, the instructions of RE curtailment and/or restoration issued by Field Offices of respective Transmission Licensees shall be binding on all the Generating Companies, RE Developers and Plant Operators.

Provided that the protocol for communication of instructions of RE Curtailment & restoration thereof shall be as specified in this procedure.

|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RE-Connect, Sunsune | <p><b>Comments:</b></p> <p>It shall be binding on all the Generating Companies, RE Developers and Plant Operators to curtail RE Generation &amp; restoration thereof, as per the instructions issued by MSLDC through Nodal Substations and/or QCA. Also, the instructions of RE curtailment and/or restoration issued by Field Offices of respective Transmission Licensees shall be binding on all the Generating Companies, RE Developers and Plant Operators. Provided that the protocol for communication of instructions of RE Curtailment &amp; restoration thereof shall be as specified in this procedure. The proposed addition ensures that curtailment instructions are aligned with Grid Code provisions and subject to verification, thereby enhancing fairness and regulatory compliance, while providing generators a mechanism to seek review of unjustified curtailment.</p> <p><b>Suggestion:</b></p> <p>It shall be binding on all the Generating Companies, RE Developers and Plant Operators to curtail RE Generation &amp; restoration thereof, as per the instructions issued by MSLDC through Nodal Substations and/or QCA. Also, the instructions of RE curtailment and/or restoration</p> | <p><b>MSLDC Comment:</b></p> <p>This Procedure is in accordance with the various provisions of the Regulation No. 28.2, 30.12 &amp; 30.13 of the MERC (State Grid Code) Regulations, 2020, Regulation No. 14 of the MERC (Forecasting, Scheduling and Deviation Settlement of Solar and Wind Generation) Regulations, 2018 &amp; amendment thereto. Further, the curtailment reports will be published on MSLDC website.</p> |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |
|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|  | <p>issued by Field Offices of respective Transmission Licensees shall be binding on all the Generating Companies, RE Developers and Plant Operators.</p> <p>Provided that the protocol for communication of instructions of RE Curtailment &amp; restoration thereof shall be as specified in this procedure.</p> <p>Provided that such instructions shall be in accordance with Grid Code provisions and subject to post-facto verification. Generators shall have the right to seek review of unjustified curtailment.</p> |  |
|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|



**Clause No. 5.4.6:**

If the generating company, Wind/Solar Developer, Plant Operator doesn't follow the MSLDC's instructions for curtailment and/or Field Offices of Transmission Licensees, the action will be initiated against generating companies and/or plant operators as per Section 32(1), 32(2)(d), 32(2)(e) & Section 33(1), 33(2), 33(5), 142 & 146 of the Act' 2003.

|       |                                                                                                                                                               |                                                                                                  |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| TPREL | <b>Comments:</b><br><br>Upon non-compliance with MSLDC instructions, a procedure is already specified. Hence, such provision of EA, 2003 needs to be removed. | <b>MSLDC Comment:</b><br><br>EA, 2003 Act define functions of MSLDC and compliance of directions |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|

**Clause No. 5.4.8**

It shall be the responsibility of the Generating Companies, RE Developers and Plant Operators to install LTS/SPS/GTS in co-ordination with the Field Offices of respective Transmission Licensees.

|             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Hexaclimate | <b>Comments:</b><br><br>UNBUDGETED CAPEX RISK: SPS/LTS installation cost ranges from ₹30–200 lakh per substation depending on complexity. For operating projects, this is a surprise capex not modelled in the original project IRR. Developers with multiple PSS connections face cumulative SPS costs running into crores. There is no provision for cost recovery through tariff or regulatory asset base.<br><br><b>Suggestions:</b><br><br>Clearly assign SPS/LTS installation responsibility to Transmission Licensees for constraints on their own network elements. Developers should only be responsible for SPS at/behind their own PoI. Where MSLDC/STU directs SPS installation for grid-side constraints, provide a cost-sharing framework or allow cost recovery through a MERC-approved surcharge. Set a maximum response | <b>MSLDC Comment:</b><br><br>Suitable timelines for design & installation of GTS/SPS by Transmission Licensees to be added.<br>Further, STU plans adequate transmission network to evacuate RE Generation. However, as per MEGC, 2020, it is the responsibility of all the Stake holders to maintain Grid in stable & secure. Hence, RE Developers/RE Generating Companies need to provide suitable defense mechanism for reliable & stable Grid Operations. |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                        |
|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          | timeline of 6 months for STU to install SPS — until then, manual curtailment events must be treated as compensable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                        |
| Sembcorp | <p><b>Comments:</b></p> <p>For the project already planned (by way of participating in a bid, or availing grid-connectivity, or getting commissioned), it will be a retrospective change, which would be unfair and unjust.</p> <p><b>Suggestion:</b></p> <p>To be added in the clause.<br/>         “It shall be the responsibility of the Generating Companies, RE Developers and Plant Operators to install LTS/SPS/GTS in coordination with the Field Offices of respective Transmission Licensees. <b>However, this condition shall be applicable for those wind and solar plants whose date of commissioning, or grant of connectivity, or bid-submission is later than the date of notification of this procedure.</b></p> | <p><b>MSLDC Comment:</b></p> <p>STU plans adequate transmission network to evacuate RE Generation. However, as per MEGC, 2020, it is the responsibility of all the Stake holders to maintain Grid stable &amp; secure. Hence, RE Developers/RE Generating Companies need to provide suitable defense mechanism for reliable &amp; stable Grid Operations considering dynamic behavior of the Grid.</p> |

### Clause No. 5.5.3

After issuance of curtailment instructions from MSLDC, the Nodal Officer or Sub-station shall pass on the instructions to respective PSS for implementation of the Curtailment.

The PSS In-charge shall pass on the instructions to respective Generating Companies or Plant Operators for implementation. The Nodal Officer or Sub-station and PSS In-charge shall maintain the record having various details such as date & time of instructions received from MSLDC, date & time of instructions issued to Generating Companies & Plant Operators including RE Developers, actual time of curtailment & generation at the time of the curtailment & restoration timings etc.

|                     |                  |                       |
|---------------------|------------------|-----------------------|
| RE-Connect, Sunsure | <b>Comments:</b> | <b>MSLDC Comment:</b> |
|---------------------|------------------|-----------------------|

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>After issuance of curtailment instructions from MSLDC, the Nodal Officer or Sub-station shall pass on the instructions to respective PSS for implementation of the Curtailment.</p> <p>The PSS In-charge shall pass on the instructions to respective Generating Companies or Plant Operators for implementation. The Nodal Officer or Sub-station and PSS In-charge shall maintain the record having various details such as date &amp; time of instructions received from MSLDC, date &amp; time of instructions issued to Generating Companies &amp; Plant Operators including RE Developers, actual time of curtailment &amp; generation at the time of the curtailment &amp; restoration timings etc.</p> <p><b>Suggestions:</b></p> <p>After issuance of curtailment instructions from MSLDC, the Nodal Officer or Sub-station shall pass on the instructions to respective PSS for implementation of the Curtailment, <b>through telephonically and through e-mail in accordance with the provisions of this procedure.</b></p> <p>The PSS In-charge shall pass on the instructions to respective Generating Companies or Plant Operators for implementation.</p> <p>The Nodal Officer or Sub-station and PSS In-charge shall maintain the record having various details such as date &amp; time of instructions received from MSLDC, date &amp; time of instructions issued to Generating Companies &amp; Plant Operators including RE Developers, actual time of curtailment &amp; generation at the time of the curtailment &amp; restoration timings etc.</p> <p><b>Provided that details of Curtailment instructions along with reason and quantum of curtailment (MW/MUs) shall be maintained and uploaded on MSLDC website on monthly basis.</b></p> <p><b>Rationale:</b></p> | <p>Relevant clause mentioning that the Transmission Licensee along with RE Generating Companies/Developers/QCA shall mutually decide protocol of communication similar to that proposed by MSLDC in the said procedure can be added in the procedure.</p> <p>As per 5.2.6, MSLDC shall maintain the details of Curtailment instructions along with reason, quantum of curtailment (MW/MUs) and upload on MSLDC website on monthly basis.</p> |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |
|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|  | <p>The proposed modification aims to strengthen transparency, traceability, and accountability in the curtailment process. By specifying that instructions shall be communicated telephonically and through e-mail, it ensures both real-time execution and formal documentation, thereby reducing the risk of delays or disputes.</p> <p>Further, inclusion of detailed record-keeping requirements—such as reason for curtailment, quantum (MW/MUs), and timelines—along with monthly disclosure on the MSLDC website, will enhance visibility of curtailment events to stakeholders. This is particularly important to ensure that curtailment is undertaken strictly in line with regulatory provisions and grid security requirements.</p> |  |
|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|

#### Clause No. 5.5.4

The PSS In-charge shall be responsible for opening of the Line Isolator & Breaker at the Point of Inter-connection in a PSS if the generation is not reduced within 2 time blocks.

Such instances shall be reported to MSLDC within 1 time block from the action of opening of breaker & isolator is taken along with details of communication held between the Generating companies and/or Plant Operators.

#### Clause No. 7.6

In the absence of protocol for communication between QCA, Generators/Plant operators or non-following the instructions of MSLDC even after 4<sup>th</sup> time block, MSLDC shall direct concerned transmission/distribution licensee of the respective PSS to open the interconnection by opening EHV or 33 kV lines. Such conditions shall be considered as non-compliance to the instructions of the MSLDC and action as per the Section No. 33 of the Act shall be initiated against the generators connected to the PSS.

|             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                 |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MSDCL       | <p><b>Comments:</b></p> <p>Two conflicting provisions govern physical disconnection of non-compliant generators:<br/>(a) Timeline conflict: Clause 5.5.4 mandates PSS In-charge to open Line Isolator &amp; Breaker at PoI within 2 time blocks independently, whereas Clause 7.6 states MSLDC shall direct Tx/Dx Licensee to open EHV or 33kV lines after the 4th time block.</p> <p><b>Suggestions:</b></p> <p>A clear sequential escalation framework may kindly be defined.</p> | <p><b>MSLDC Comment:</b></p> <p>It will be the responsibility of the PSS In-charge to physically disconnect after 2 time blocks. Further, if anticipated relief is not observed by MSLDC within 4 time blocks, MSLDC shall instruct the PSS which has not acted up on as per the procedure.</p> |
| Hexaclimate | <p><b>Comments:</b></p> <p>HIGH RISK: Older wind projects (pre-2015) with individual WTG controllers and no park-level SCADA cannot physically curtail 100+ turbines in 30 minutes. Forced disconnection leads to sudden loss of all generation, equipment stress (turbine restarts, transformer energisation),</p>                                                                                                                                                                 | <p><b>MSLDC Comment:</b></p> <p>Curtailment of RE will be carried out as a last resort, hence, to immediate//fast response is mandatory from Grid security point of view.</p>                                                                                                                   |

|  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|  | <p>and potential grid disturbance — the very outcome the procedure aims to prevent. Re-synchronisation after forced disconnection typically takes 2–4 hours.</p> <p><b>Suggestions:</b></p> <p>RECOMMEND: Extend the implementation window to minimum 4 time blocks (60 minutes) for partial curtailment and 6 time blocks for full curtailment. Forced disconnection (breaker opening) should be a last resort only after written confirmation of non-compliance — not an automatic consequence. Provide a separate, longer window for plants without park-level SCADA/remote dispatch capability.</p> |  |
|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|

#### Clause No. 5.5.5

Once the action as per Clause No. 5.5.4 is initiated, the restoration shall be done only after the instructions from the MSLDC Control Room.

|          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                               |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sembcorp | <p><b>Comments:</b></p> <p>Once the Line Isolator &amp; Breaker at the Point of Inter-connection have been opened under 5.5.4, the restoration process and criterion should be objectively defined under 5.5.5.</p> <p><b>Suggestions:</b></p> <p>Once the action as per Clause No. 5.5.4 is initiated, the restoration shall be done only after the instructions from the MSLDC Control Room. The instruction for restoration shall be issued by MSLDC within 6 time-blocks of achievement of the following parameters/conditions- (a)_____, (b)_____, (c),_____</p> <p>Alternatively</p> <p>The instruction for restoration shall be issued by MSLDC within 6 time-blocks of achievement of the certain objective parameters/conditions- which shall be notified separately.</p> | <p><b>MSLDC Comment:</b></p> <p>Restoration of curtailment depends on real time grid conditions. However, tentative time of restoration can be specified.</p> |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|

|             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                              |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|
| Hexaclimate | <p><b>Comments:</b></p> <p>EXTENDED GENERATION LOSS: If MSLDC Control Room is managing multiple simultaneous events and delays restoration instructions, generators remain disconnected even after the grid condition has normalised. No SLA (Service Level Agreement) for restoration instruction issuance exists. For solar projects, delayed restoration during peak afternoon generation hours could result in disproportionate energy loss — 2–4 hours of disconnection during 12:00–16:00 represents the highest-value generation window.</p> <p><b>Suggestions:</b></p> <p>RECOMMEND: Mandate a maximum response time for MSLDC to issue restoration instructions — suggest 2 time blocks after system conditions normalise. Define 'normalised conditions' objectively (e.g., frequency within band, underdrawal below threshold) so generators can anticipate restoration. Allow conditional self-restoration after a defined period (e.g., 4 time blocks) if no MSLDC restoration instruction is received and grid conditions are publicly observable as normal. Track and publish average restoration delay times monthly.</p> | <p><b>MSLDC Comment:</b></p> |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|

### Clause No. 5.5.9

The main objective of Mukhyamantri Saur Krishi Vahini Yojana (MSKVY) scheme is to provide Day time Supply to farmers & Agriculture through Solarization of AG feeders. Hence, it shall be the responsibility of the concerned Distribution Licensee to maintain AG Load & Solar Generation balance.

A Scheme for monitoring local AG Load-Solar Generation balance automated manner shall be installed by the concerned Distribution Licensee. Till the installation of such automated scheme, balancing & curtailment shall be carried out manually with centralized monitoring.

The details of Solar Generation curtailed by concerned Distribution Licensee shall be reported to MSLDC as & when such generation is curtailed either manually or automatically.

|             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                      |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| Sembcorp    | <p><b>Comments:</b></p> <p>The state plans for a large scale of implementation of MSKVY projects, which are connected to Distribution network. The capacity of MSKVY project being very substantial, it has a bearing on other solar projects in terms of increased risk of curtailment.</p> <p>In case of non-availability of an automated scheme for balancing &amp; curtailment in MSKVY projects, it will render other solar project more prone to curtailment.</p> <p>Therefore, to create an equitable position, it is essential that automated scheme is implemented at the earliest.</p> <p><b>Suggestions:</b></p> <p>The main objective of Mukhyamantri Saur Krishi Vahini Yojana (MSKVY) scheme is to provide Day time Supply to farmers &amp; Agriculture through Solarization of AG feeders. Hence, it shall be the responsibility of the concerned Distribution Licensee to maintain AG Load &amp; Solar Generation balance.</p> <p>A Scheme for monitoring local AG Load-Solar Generation balance automated manner shall be installed by the concerned Distribution Licensee. Till the installation of such automated scheme, balancing &amp; curtailment shall be carried out manually with centralized monitoring. <b>However, the Distribution Licensee shall endeavor to install such scheme at the earliest, and in no later than 2 years from the date of notification of this procedure.</b></p> <p>The details of Solar Generation curtailed by concerned Distribution Licensee shall be reported to MSLDC as &amp; when such generation is curtailed either manually or automatically.</p> | <p><b>MSLDC Comment:</b></p> <p>Reporting by MSEDCL to MSLDC can be considered in the procedure.</p> |
| Hexaclimate | <p><b>Comments:</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <p><b>MSLDC Comment:</b></p>                                                                         |



|  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                 |
|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p>MSKVY developers operate under state scheme PPAs with low tariffs premised on full off-take. Distribution-level curtailment for AG feeder balancing directly erodes project economics with no compensation framework. Manual curtailment by DISCOM field staff without a Code system means no audit trail and no recourse for developers. This affects hundreds of small solar projects (1–10 MW scale) which lack the institutional capacity to pursue MERC grievances.</p> <p><b>Suggestions:</b></p> <p>RECOMMEND: Set a mandatory timeline of 6 months for DISCOMs to install automated AG load-solar monitoring systems — the 'till installation' carve-out should not be open-ended. Mandate the same 'Code' system for DISCOM-level curtailment instructions as used by MSLDC. Include MSKVY curtailment data in MSLDC's monthly website reporting. Provide a deemed generation framework for MSKVY curtailments ordered for AG load balancing, since developers cannot control agricultural demand variability.</p> | <p>Reporting by MSEDCL to MSLDC can be considered in the procedure and same can be considered in the Curtailment report published by MSLDC.</p> |
|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|

## Clause No. 6: PROTOCOL FOR COMMUNICATION & IMPLEMENTATION

|                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Solarcraft<br>Mahasolar<br>Private<br>limited | <p><b>Comments:</b></p> <p>Communication protocol and inclusion of QCAs in real-time curtailment instructions</p> <p><b>Suggestions:</b></p> <ul style="list-style-type: none"><li>a) Under the Draft Procedure, curtailment instructions are envisaged to be first issued through voice or telephonic communication by MSLDC to nodal substations and field officers, with written confirmation being provided subsequently to the relevant Qualified Coordinating Agencies (“QCAs”) through email or the web-based portal within a period of one hour. QCAs are thereafter required to undertake schedule revisions and communicate the curtailment instructions to the relevant generators.</li><li>b) In this construct, QCAs are not informed at the first instance of curtailment directions, despite being the entities responsible for aggregation of generation, schedule management and coordination with generators. This results in a time lag between the issuance of operational instructions at the field level and the receipt of such instructions by QCAs, who are ultimately responsible for ensuring compliance by generators.</li><li>c) Such a sequencing may lead to delays in dissemination of curtailment instructions to generators, misalignment between field-level actions and scheduling decisions, and consequent challenges in timely implementation of curtailment. Given that the procedure also contemplates strict timelines for implementation, including potential physical disconnection in case of non-compliance within specified time blocks, this delay may unfairly expose</li></ul> | <p><b>MSLDC Comment:</b></p> <p>Instructions to QCAs and Nodal Sub-stations are in parallel &amp; not sequential. MSLDC is sending curtailment instructions to QCAs through WhatsApp Group which are confirmed through e-mail. This communication is having reasons for curtailment. Also, the actions to be taken by MSLDC prior to RE Curtailment are specified in the procedure.</p> |
|-----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |
|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|  | <p>generators to adverse consequences or penalties despite the absence of any fault on their part.</p> <p>d) In this context, it is submitted that all curtailment instructions issued through voice or telephonic communication should simultaneously be communicated to QCAs, in addition to nodal substations and field officers. This would enable QCAs to immediately initiate schedule revisions and promptly communicate instructions to generators, thereby ensuring timely and efficient implementation of curtailment directions. Since QCAs possess the necessary system visibility and generator-level data, their involvement at the initial stage will significantly enhance coordination, reduce implementation delays, and improve overall compliance with curtailment instructions.</p> |  |
|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|

**Clause No. 6.1:**

The first aim of System Operator is to maintain and restore the System conditions to normal level, hence, preliminary instructions shall be passed on through voice/telephonic communication only with a code through nodal officer/substation & QCAs.

**Clause No. 6.2:**

It shall be binding on all the QCAs, Generating Companies, Plant Operators, RE Developers etc. to adhere to the instructions given (including Curtailment instructions) by MSLDC through any mode of communication (voice/telephonic/WhatsApp) communication and implement it immediately without waiting for written communication.

**Clause No. 6.3:**

The voice/telephonic communication shall be confirmed by MSLDC through e-mail to the respective QCA within next 1 hour from the voice communication.

|                             |                                                                                                                                                                                                          |                                                                                                                                                                                           |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Manikaran Analytics Limited | <p><b>Comments:</b></p> <p>Voice/telephonic instructions lack immediate authentication for generators, who often demand written proof before implementing significant generation reductions. Relying</p> | <p><b>MSLDC Comment:</b></p> <p>MSLDC is sending curtailment instructions to QCAs through WhatsApp Group which are confirmed through e-mail. This communication is having reasons for</p> |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|  |                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                    |
|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
|  | <p>solely on a follow-up email within one hour is insufficient for real-time compliance.</p> <p><b>Suggestions:</b></p> <p>In addition to the OMS portal proposed, it is suggested that MSLDC implement an SMS broadcast or automated text message system that issues the unique "Code" to all stakeholders (QCAs and OEMs/Lead Generators) simultaneously. This provides the necessary "authentication proof" required for immediate action.</p> | <p>curtailment. Also, the actions to be taken by MSLDC prior to RE Curtailment are specified in the procedure.</p> |
|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|

**Clause No. 6.3:**

The voice/telephonic communication shall be confirmed by MSLDC through e-mail to the respective QCA within next 1 hour from the voice communication.

|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                               |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RE-Connect, Sunsure | <p><b>Comments:</b></p> <p>The voice/telephonic communication shall be confirmed by MSLDC through e-mail to the respective QCA within next 1 hours from the voice communication.</p> <p><b>Suggestions:</b></p> <p>The voice/telephonic communication shall be confirmed by MSLDC through e-mail to the respective QCA within next 1 hours from the voice communication.<br/>Provided that, in case such confirmation is not received from MSLDC within the stipulated time, the QCA shall send an e-</p> | <p><b>MSLDC Comment:</b></p> <p>MSLDC is sending curtailment instructions to QCAs through WhatsApp Group which are confirmed through e-mail. This communication is having reasons for curtailment. However, suggestion can be considered.</p> |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |
|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|  | <p>mail to MSLDC within two hours from the voice communication for record and confirmation.</p> <p><b>Rationale:</b><br/>The proposed modification ensures proper documentation and traceability of telephonic curtailment instructions. In case the e-mail confirmation from MSLDC is delayed, allowing QCA to send an e-mail confirmation will help create a written record of the instruction, avoid disputes regarding curtailment implementation, and improve communication transparency between MSLDC and QCA.</p> |  |
|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|

### Clause No. 6.3.2:

The curtailment instructions shall have following information:

- Name of PSS.
- Quantum of Generation to be curtailed or Quantum to which generation is to be restricted.
- Date & Time Block from which curtailment to be implemented.
- Probable Date & Time Block at which curtailment shall be withdrawn.
- Reason for Curtailment.

|       |                                                                                             |                                                                                                                                             |
|-------|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| TPREL | <p><b>Suggestions:</b></p> <p>The instruction shall also include:<br/>a) Grid frequency</p> | <p><b>MSLDC Comment:</b></p> <p>MSLDC is sending curtailment instructions to QCAs through WhatsApp Group which are confirmed through e-</p> |
|-------|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|

|  |                                                                                                                                                                                                                                               |                                                                                                                                                            |
|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | b) Wind & solar generation schedule for period of curtailment.<br>c) Details of transmission constraints with loading conditions.<br>d) Confirmation of operation of thermal unit at its technical minimum & also about merit order dispatch. | mail. This communication is having reasons for curtailment. Also, the actions to be taken by MSLDC prior to RE Curtailment are specified in the procedure. |
|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|

### Clause No. 6.3.3:

Based on the System conditions, the System Operators in MSLDC Control Room shall review the decision of revision in the quantum of curtailment or withdrawal of curtailment. Such revision in quantum or withdrawal of curtailment shall be informed to QCA through voice communication for implementation which shall be confirmed through e-mail within next one hour.

|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                               |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RE-Connect, Sunsire | <p><b>Comments:</b></p> <p>Based on the System conditions, the System Operators in MSLDC Control Room shall review the decision of revision in the quantum of curtailment or withdrawal of curtailment. Such revision in quantum or withdrawal of curtailment shall be informed to QCA through voice communication for implementation which shall be confirmed through e-mail within next one hour.</p> <p><b>Suggestions:</b></p> <p>Based on the System conditions, the System Operators in MSLDC Control Room shall review the decision of revision in the quantum of curtailment or withdrawal of curtailment. Such revision in quantum or withdrawal of curtailment shall be informed to QCA through voice communication for implementation which shall be confirmed through e-mail within next one hour.</p> <p>Provided that, in case such confirmation is not received from MSLDC within the stipulated time, the QCA shall send an e-mail to MSLDC within two hours from the voice communication for record and confirmation.</p> | <p><b>MSLDC Comment:</b></p> <p>MSLDC is sending curtailment instructions to QCAs through WhatsApp Group which are confirmed through e-mail. This communication is having reasons for curtailment. However, suggestion can be considered.</p> |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|  |                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|  | <p><b>Rationale:</b><br/> The proposed modification ensures proper documentation and traceability of telephonic curtailment instructions. In case the e-mail confirmation from MSLDC is delayed, allowing QCA to send an e-mail confirmation will help create a written record of the instruction, avoid disputes regarding curtailment implementation, and improve communication transparency between MSLDC and QCA.</p> |  |
|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|

**Clause No. 6.4.1:**

Point No. 2:

MSLDC Control Room System Operator shall issue telephonic instructions for active power curtailment with reactive power support along with list of PSS, quantum & reason supported with 'Code' to Nodal Substations of Transmission/Distribution Licensees.

|       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TPREL | <p><b>Suggestions:</b></p> <ol style="list-style-type: none"> <li>1) The requirement of reactive power component is as per the applicable CEA (grid connectivity) regulation, RE Plant commissioned before such regulation doesn't have reactive power components. Hence, those plant need to be exempted.</li> <li>2) While providing reactive power support, RE generator shall get incentives from the nodal agency for maintaining grid stability</li> </ol> | <p><b>MSLDC Comment:</b></p> <p>Reactive Power support will be necessary under certain grid conditions. Hence, instead of removing the provisions, it can be considered as "where ever such provision is available, such reactive support should be provided".<br/> As per the CEA Standards, it is the responsibility of the Generators to provide Reactive support up to specified limit.</p> |
|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Clause No. 6.4.1:**

Point No. 4:

Nodal Substations shall issue telephonic instructions to respective PSS with 'Code'.

|       |                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                   |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TPREL | <b>Comments:</b><br><br>When the telephonic communication is made from nodal sub-station to PSS in charge, there should be some written communication either in form of email/ website, for avoiding any confusion. | <b>MSLDC Comment:</b><br><br>Transmission Licensee along with RE Generating Companies/Developers/QCA shall mutually decide protocol of communication similar to that proposed by MSLDC in the said procedure can be added in the procedure. Further, MSLDC is sending curtailment instructions to QCAs through WhatsApp Group which are confirmed through e-mail. |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Clause No. 6.4.1:**

Point No. 9:

PSS in-charge shall provide the details such as actual time and actual generation quantum (MW) at the time of implementation of curtailment to the respective Nodal Substation **within One Time block** from the time block in which instructions were issued to respective PSS. Details shall be in the format as per **ANNEUXRE - 2**.

|       |                                                                                                                                      |                                                                                       |
|-------|--------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| TPREL | <b>Comments:</b><br><br>The PSS in charge shall provide details to nodal substation within two-time block instead of one-time block. | <b>MSLDC Comment:</b><br><br>Time blocks can be changed from one block to two blocks. |
|-------|--------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|

**Clause No. 6.4.2:**

MSLDC Control Room shall issue telephonic instructions for active power curtailment with reactive power support along with list of PSS, quantum & reason supported with 'Code' to Nodal Substations of Transmission/Distribution Licensees and PSS In-charges.

|          |                  |                       |
|----------|------------------|-----------------------|
| Sembcorp | <b>Comments:</b> | <b>MSLDC Comment:</b> |
|----------|------------------|-----------------------|



|       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                              |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|       | <p>In case the outage are not sudden, but planned, an advance intimation well in time, will help the RE generators to optimize their operational plan.</p> <p>Suggestions:<br/>MSLDC Control Room shall issue telephonic instructions for active power curtailment with reactive power support along with list of PSS, quantum &amp; reason supported with 'Code' to Nodal Substations of Transmission/Distribution Licensees and PSS In-charges. <b>In case of planned outages, such instructions shall be issued as soon as possible, and preferably one day ahead.</b></p> | <p>In case of planned outages, Transmission Licensees are seeking NoC from the respective RE Developers/Generating Companies. Hence, co-ordination is already in place. However, Transmission Licensee along with RE Generating Companies/Developers/QCA shall mutually decide protocol of communication to avoid any mis-communication.</p> |
| TPREL | <p><b>Comments:</b></p> <p>The Scenario 2 doesn't reflect that along with telephonic conversation, it would further communicate with written emails.</p>                                                                                                                                                                                                                                                                                                                                                                                                                      | <p><b>MSLDC Comment:</b></p> <p>Confirmation through e-mail is already mentioned at point no. 4 of 6.4.2</p>                                                                                                                                                                                                                                 |

#### Clause No. 6.4.2:

Point No. 10:

PSS in-charge shall provide the details such as actual time and actual generation quantum (MW) at the time of implementation of curtailment to the respective Nodal Substation **within One Time block** from the time block in which instructions were issued to respective PSS. Details shall be in the format as per ANNEUXRE - 2.

|       |                                                                                                                                              |                                                                                                                                           |
|-------|----------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| TPREL | <p><b>Comments:</b></p> <p>The PSS- in-charge shall provide details to nodal substation within two-time block instead of one-time block.</p> | <p><b>MSLDC Comment:</b></p> <p>The PSS- in-charge shall provide details to nodal substation within one-time block. To be considered.</p> |
|-------|----------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|

#### Clause No. 6.5.12:

Based on the details received from Nodal substations, MSLDC shall a prepare Curtailment Report and upload the same on MSLDC website on the next working day. Details shall be in the format as per ANNEUXRE - 3.

|          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                             |
|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Sembcorp | <p><b>Comments:</b></p> <p>In case the data uploaded is in picture format, or even if PDF which is not text-searchable, it becomes difficult for all the stakeholders to process the information. Therefore, in order to ensure transparency and support the motto of ease of doing business, all data should be in a downloadable format, and contents of all files should be text-searchable.</p> <p><b>Suggestions:</b></p> <p>Based on the details received from Nodal substations, MSLDC shall a prepare Curtailment Report and upload the same on MSLDC website on the next working day. Details shall be in the format as per ANNEUXRE - 3. <b>The details shall be in a downloadable format and the contents of such files would be text-searchable.</b></p> | <p><b>MSLDC Comment:</b></p> <p>A downloadable &amp; searchable PDF copy of signed report will be published on website.</p> |
|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|

#### Clause No. 7.1:

The curtailment shall be implemented from 4<sup>th</sup> time block including time block in which instructions have been issued. However, the implementation shall be started by the Generating Companies, Plant Operators & RE Developers from the time block in which instructions have been issued so that actual results shall be obtained in short time frame not later than 4<sup>th</sup> time block.

|                             |                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                    |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Manikaran Analytics Limited | <p><b>Comments:</b></p> <p>Curtailment instructions may be issued close to or after schedule revision deadlines, which could result in unavoidable schedule deviations for generators represented by QCAs.</p> <p><b>Suggestions:</b></p> <p>It is strongly suggested that MSLDC adopt the "Trans Down" logic utilized by RLDCs. Under this logic, the</p> | <p><b>MSLDC Comment:</b></p> <p>Procedure has defined how deviation accounting will be carried out during curtailment period. Further, possibility of maintaining original schedules submitted by QCAs during curtailment period will be explored in the Software application.</p> |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                   |
|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          | <p>existing schedule shall remain unchanged to maintain visibility of the plant's potential and probability of generation. Only the actual physical injection should be reduced based on grid security instructions. This ensures the grid is protected without creating artificial commercial imbalances. Additionally, any schedule deviations resulting from such SLDC-directed curtailment must be explicitly exempt from DSM charges.</p> <p>*A illustration is provided below for reference.</p>                                                                                                                                    |                                                                                                                                                                                                                                   |
| Avaada   | <p><b>Comments:</b></p> <p>During curtailment, generation reduction is due to grid instruction and not generator deviation. However, DSM impact may still arise due to timing mismatch in schedule revision.</p> <p><b>Suggestions:</b><br/>here should be zero DSM penalty during curtailment period. Additionally, a buffer of -1 time block before curtailment start and +1 time block after curtailment end should be considered to avoid DSM impact due to operational lag in implementation. The above criteria should be followed when grid disturbance, Curtailment initiated due to constraint at Local PSS or transmission.</p> | <p><b>MSLDC Comment:</b></p> <p>Procedure has defined how deviation accounting will be carried out during curtailment period.</p>                                                                                                 |
| Sembcorp | <p><b>Comments:</b></p> <p>1. The same word "implemented" has been used in 1st para and 2nd para, but with distinct meanings. Therefore, the suggested corrections will help avoid any confusion.</p> <p>2. When the plant operators start taking steps to implement curtailment, such exercise would certainly lead to more deviation. Therefore, for such periods, the deviation should be treated zero.</p> <p><b>Suggestions:</b></p>                                                                                                                                                                                                 | <p><b>MSLDC Comment:</b></p> <p>Suggestion “<i>However, the necessary steps for implementation of curtailment</i>” can be considered without modification in the deviation accounting methodology specified in the procedure.</p> |

|  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |
|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|  | <p>The curtailment shall be implemented from 4th time block including time block in which instructions have been issued. However, the <b>necessary steps</b> for implementation of <b>curtailment</b> shall be started by the Generating Companies, Plant Operators &amp; RE Developers from the time block in which instructions have been issued so that actual results shall be obtained in short time frame not later than 4th time block.</p> <p>Since the plant operators taking such necessary steps well ahead of the 4th time-block would adversely impact their DSM charges. Therefore, to incentivize an early action in support of grid, the deviation shall be considered Zero from the time block in which instructions have been issued, provided that the actual generation has not increased above the schedule.</p> |  |
|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|

#### Clause No. 7.2:

QCA shall revise the schedule as per the instructions of MSLDC and punch in the MSLDC REMC Scheduling Software. As the Plant is available for generation, the AvC shall not be changed.

|             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                      |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Hexaclimate | <p><b>Comments:</b></p> <p>RPO RISK: DISCOMs procure RE to meet RPO obligations. If a generator's AvC remains high but actual generation is curtailed to zero, the DISCOM's RPO obligation is not met through this source. Simultaneously, the generator cannot claim RECs for curtailed generation (only actual generation earns RECs under CERC REC mechanism). This creates a gap between RPO obligation and actual RE supply — particularly acute for solar projects in high-curtailment zones.</p> <p><b>Suggestions:</b></p> <p>RECOMMEND: Introduce a 'Curtailed Generation' flag in the scheduling software so that curtailed MUs are separately tracked and can be considered for RPO compliance on a</p> | <p><b>MSLDC Comment:</b></p> <p>Possibility of incorporating 'Curtailment Flag' in the Scheduling Software application will be explored. Regarding REC &amp; other suggestions, regulatory changes are required.</p> |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|  |                                                                                                                                                                                                                                                                   |  |
|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|  | deemed basis. Engage with MERC to issue a clarification that curtailed generation (for which MSLDC instruction exists) shall be deemed generated for RPO accounting purposes. Allow REC issuance for curtailed generation certified by MSLDC curtailment records. |  |
|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|

### Clause No. 7.3:

As per the F&S Regulations, one revision in each 1<sup>1/2</sup> hrs slot is permitted, and there are chances that the QCA have revised schedule in a slot and there is a need of curtailment.

Under such conditions, QCA shall prepare the revised schedules and punch in the MSLDC REMC Scheduling software immediately when the next slot of 1<sup>1/2</sup> hrs is started. Thus, the schedule submitted by the QCA shall be implemented from the 4<sup>th</sup> time block of next slot of 1<sup>1/2</sup> hrs.

MSLDC shall revise the schedules for such time blocks for which it is not possible for QCA to update schedules i.e. the block from which curtailment was issued and the 4<sup>th</sup> time block of the next 1<sup>1/2</sup> hrs. The methodology for such schedule revisions shall be as follows:

### Clause No. 7.4:

Illustrations for above scenarios for Schedule revision are as follows:

|             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                   |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Hexaclimate | <p><b>Comments:</b></p> <p>The combination of unilateral schedule revision + DSM settlement creates an opaque financial outcome for generators. A generator cannot predict their DSM position during an active curtailment event because MSLDC's schedule adjustments are retroactive and not pre-communicated. This makes real-time financial management impossible and creates risk of systematic underestimation of curtailment losses in project models.</p> <p><b>Suggestions:</b><br/>RECOMMEND: Require MSLDC to communicate the intended schedule revision formula to the QCA</p> | <p><b>MSLDC Comment:</b></p> <p>The clause is clear. Schedule revisions during curtailment period will be based on the metered data prior to DSM computation.</p> |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                      |
|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                             | simultaneously with the curtailment instruction (e.g., 'schedules will be set to zero from block X'). Publish a standardised schedule revision calculator so QCAs can independently verify MSLDC's adjustments. Introduce a 48-hour window post-curtailment for QCAs to flag schedule revision errors before DSM settlement is finalised. Restrict retroactive schedule revisions to a maximum of 4 time blocks before the curtailment instruction time.                                                                       |                                                                                                                                                                                                      |
| Manikaran Analytics Limited | <p><b>Comments:</b></p> <p>The draft allows schedules to be reduced to zero if curtailment instructions are not implemented within the specified time blocks. However, renewable generation plants require ramp-down time due to technical constraints of plant controllers and inverter systems</p> <p><b>Suggestions:</b></p> <p>Provide technical ramp-down window of at least 3 time blocks excluding the time block in which the curtailment instruction has been issued by MLSDC before zero scheduling is enforced.</p> | <p><b>MSLDC Comment:</b></p> <p>Clauses are clearly drafted. If instructions are not followed and curtailment is not imposed as per required time, then only schedules will be replaced by zero.</p> |

### Clause No. 7.3.1:

If reducing trend in actual generation within 3 time blocks is observed, the schedules for these 4 time blocks shall be replaced by the actual generation. If no reducing trend is observed, the schedules for these time blocks shall be made 'Zero'.

|          |                                                                                                                                                     |                                                                                                                                                                                                |
|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TPREL    | <p><b>Comments:</b></p> <p>While reducing the actual generation within 3-time block, no DSM charges should be levied upon the generator.</p>        | <p><b>MSLDC Comment:</b></p> <p>As Schedules will be replaced by actual generation, if reducing trend is observed during 3 time blocks, deviation will be zero, thus no deviation charges.</p> |
| Sembcorp | <p><b>Comments:</b></p> <p>It would be incorrect to replace schedule with Zero. By not replacing schedule with actual, the generator is anyways</p> | <p><b>MSLDC Comment:</b></p> <p>As instructions are not followed, by this arrangement, deviation charges will be more as schedules are made zero.</p>                                          |

|        |                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        | <p>liable to pay the DSM charges. The same is also established by the provision 7.4.5</p> <p><b>Suggestions:</b><br/>If reducing trend in actual generation within 3 time blocks is observed, the schedules for these 4 time blocks shall be replaced by the actual generation. If no reducing trend is observed, the schedules for these time blocks shall <del>be made</del> <b>‘Zero’ not be replaced with actual generation.</b></p> |                                                                                                                                                                                                                                                                                                                                                                                                                    |
| MSEDCL | <p><b>Comments:</b></p> <p>Within Clause 7.3.1 itself, there is an internal inconsistency. The first part refers to "reducing trend in actual generation within 3 time blocks" as the observation window, while the second part directs replacement of "schedules for these 4 time blocks."</p> <p><b>Suggestions:</b><br/>The ambiguity in the said clause may kindly be addressed.</p>                                                 | <p><b>MSLDC Comment:</b></p> <p>No inconsistency in the clause. This clause refers the schedule replacement method once curtailment instructions are issued. As per the clause, if there is reducing trend, that means generator is acting up on the instructions of MSLDC. To avoid deviation charges due to following MSLDC instructions, schedules for 4 time blocks will be replaced by actual generation.</p> |

#### Clause No. 7.3.1:

If reducing trend in actual generation within 3 time blocks is observed, the schedules for these 4 time blocks shall be replaced by the actual generation. If no reducing trend is observed, the schedules for these time blocks shall be made ‘Zero’.

#### Clause No. 7.3.2:

100 % curtailment is issued, i.e. total generation is to be reduced to ‘ZERO’:

From 5<sup>th</sup> time block & up to the 4<sup>th</sup> time block of next 1<sup>1/2</sup> hrs slot, existing schedules shall be made ‘ZERO’. So that after 4<sup>th</sup> time block of the next 1<sup>1/2</sup> hrs slot, the revised schedules submitted by the QCA shall be implemented.

From 5<sup>th</sup> time block, even if the actual generation is not reduced to ‘ZERO’ and/or the QCA fails to submit revised forecasts in MSLDC Scheduling software, existing schedules shall be changed to ‘ZERO’ unless curtailment quantum is not revised or withdrawn. The violation of MSLDC instructions shall be dealt with appropriately as per relevant provisions of the MEGC, 2020 & EA, 2003, as amended from time to time.

|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                              |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|
| AEML | <p><b>Comments:</b></p> <p>If reducing trend in actual generation within 3 time blocks is observed, the schedules for these 4 time blocks shall be replaced by the actual generation. If no reducing trend is observed, the schedules for these time blocks shall be made 'Zero'. The Beneficiary DISCOM schedules will remain same as it was before generation revision</p> <p><b>Suggestions:</b></p> <p>Even though Generator Schedules are made zero, DISCOM schedules should remain unchanged as this may result in DISCOM Over-drawal.</p> | <p><b>MSLDC Comment:</b></p> |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|

**Clause No. 7.3.1:**

If reducing trend in actual generation within 3 time blocks is observed, the schedules for these 4 time blocks shall be replaced by the actual generation. If no reducing trend is observed, the schedules for these time blocks shall be made 'Zero'.

**Clause No. 7.3.3:**

Partial curtailment is issued i.e. out of total generation, actual generation is restricted to specific quantum:

(a) If generation is reduced as per required limits:

From 5<sup>th</sup> time block & up to the 4<sup>th</sup> time block of next 1½ hrs slot, schedules shall be replaced by actual generation. So that after 4<sup>th</sup> time block of the next 1½ hrs slot, the revised schedules submitted by the QCA shall be implemented.

(b) If generation is not reduced as per required limit:

Existing schedules shall be reduced by the instructed quantum of generation reduction from 5<sup>th</sup> time block & up to the 4<sup>th</sup> time block of next 1½ hrs slot. After 4<sup>th</sup> time block of the next 1½ hrs slot, the revised schedules submitted by the QCA shall be implemented.

(c) In above cases, if QCA fails to submit the revised schedules, from the 4<sup>th</sup> time block of the next 1½ hrs slot existing Schedules shall be reduced by the quantum of generation reduction instructed.

|         |                         |                              |
|---------|-------------------------|------------------------------|
| MSSEDCL | <p><b>Comments:</b></p> | <p><b>MSLDC Comment:</b></p> |
|---------|-------------------------|------------------------------|



|  |                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                          |
|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p>Under partial curtailment scenario, in Clause 7.3.1 MSLDC to reduce schedules Zero (no reducing trend case), whereas in Clause 7.3.3(c) MSLDC to reduce schedules only by the instructed quantum.</p> <p><b>Suggestions:</b><br/>The ambiguity in the treatment of post facto schedule adjustments for the first four time blocks may kindly be addressed.</p> | <p>No inconsistency in the clause. Clause 7.3.1 refers the schedule replacement method once curtailment instructions are issued. Clause 7.3.3 (c ) refers the schedule revision in case of partial curtailment and QCA has already used applicable revision slot before curtailment instructions are issued and is not able to revise the schedules.</p> |
|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Clause No. 7.3.1:**

If reducing trend in actual generation within 3 time blocks is observed, the schedules for these 4 time blocks shall be replaced by the actual generation. If no reducing trend is observed, the schedules for these time blocks shall be made 'Zero'.

**Clause No. 7.4.5:**

If reducing trend in generation is observed for the time blocks 38 to 41, MSLDC shall replace the existing Schedules by actual generation for the said blocks. If reducing trend is not observed, the existing schedules shall remain unchanged.

|       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                       |
|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MSDCL | <p><b>Comments:</b></p> <p>Clause 7.3.1 (parent rule) states that if no reducing trend is observed in actual generation, schedules for those time blocks shall be made Zero. However, Clause 7.4.5 (illustration of the same rule) states that if no reducing trend is observed, existing schedules shall remain unchanged. These are directly contradictory outcomes for the identical situation.</p> <p><b>Suggestions:</b><br/>Clause 7.4.5 being an illustration of Clause 7.3.1 must be aligned with its parent clause.<br/>Further, it is also suggested that schedule-based billing for Renewable Energy (RE) be implemented at the earliest, so as</p> | <p><b>MSLDC Comment:</b></p> <p>To be modified as: "If reducing trend in generation is observed for the time blocks 38 to 41, MSLDC shall replace the existing Schedules by actual generation for the said blocks. If reducing trend is not observed, the existing schedules shall be made zero."</p> |
|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                       |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                             | to ensure that deviations in RE generation are not passed on to the contracted (Discoms), which may otherwise adversely impact their load-generation balance and lead to an increase in (DSM) charges.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                       |
| Manikaran Analytics Limited | <p><b>Comments:</b></p> <p>Clause 7.3.1 specifies that if reducing trend in generation is not observed, schedules shall be made “Zero” but in contradictory clause 7.4.5 states that if reducing trend is not observed, existing schedules shall remain unchanged. This creates inconsistency in the schedule revision methodology and may lead to ambiguity in DSM settlement.</p> <p><b>Suggestions:</b></p> <p>It is suggested that the methodology provided in Clause 7.4.5 be adopted for handling such situations and Clause 7.3.1 be aligned accordingly, so that in case no reducing trend is observed, the existing schedules remain unchanged. This will ensure consistency and avoid operational and settlement disputes.</p> | <p><b>MSLDC Comment:</b></p> <p>To be modified as: "If reducing trend in generation is observed for the time blocks 38 to 41, MSLDC shall replace the existing Schedules by actual generation for the said blocks. If reducing trend is not observed, the existing schedules shall be made zero."</p> |

### **Clause No. 7.3.2:**

100 % curtailment is issued, i.e. total generation is to be reduced to ‘ZERO’:

From 5<sup>th</sup> time block & up to the 4<sup>th</sup> time block of next 1½ hrs slot, existing schedules shall be made ‘ZERO’. So that after 4<sup>th</sup> time block of the next 1½ hrs slot, the revised schedules submitted by the QCA shall be implemented.

From 5<sup>th</sup> time block, even if the actual generation is not reduced to ‘ZERO’ and/or the QCA fails to submit revised forecasts in MSLDC Scheduling software, existing schedules shall be changed to ‘ZERO’ unless curtailment quantum is not revised or withdrawn. The violation of MSLDC instructions shall be dealt with appropriately as per relevant provisions of the MEGC, 2020 & EA, 2003, as amended from time to time.

### **Clause No. 7.6:**

In the absence of protocol for communication between QCA, Generators/Plant operators or non-following the instructions of MSLDC even after 4<sup>th</sup> time block, MSLDC shall direct concerned transmission/distribution licensee of the respective PSS to open the

interconnection by opening EHV or 33 kV lines. Such conditions shall be considered as non-compliance to the instructions of the MSLDC and action as per the Section No. 33 of the Act shall be initiated against the generators connected to the PSS.

**Clause No. 8.2.1:**

In case of defaults for 8.1.1 to 8.1.3, in case of curtailments, MSLDC shall direct concerned Transmission/Distribution Licensees to open the line breaker and isolator at the PoI within a PSS of the respective Generation Plant and curtail 100 % generation. Under such conditions, the schedules shall be made zero from the time block in which curtailment instructions were issued. Any technical and/or commercial impact shall be the sole responsibility of the concerned Generating Companies.

|             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                          |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Hexaclimate | <p><b>Comments:</b></p> <p>DOUBLE JEOPARDY: Generator faces both (a) forced loss of revenue from curtailed generation and (b) adverse DSM charges because MSLDC sets schedule to zero while physical generation continues (or vice versa). This creates a financial penalty on top of curtailment loss with no upper cap. For large projects (100+ MW), this can mean ₹10–50 lakh per event in DSM charges alone.</p> <p><b>Suggestions:</b></p> <p>RECOMMEND: Separate the schedule revision mechanism from the penalty mechanism. MSLDC's schedule revision should be limited to matching actual generation (not set to zero unless actual generation is zero). DSM charges should be waived for the curtailment period for all generators who received curtailment instructions, regardless of implementation compliance — MSLDC should use Section 33 action as the enforcement tool, not adverse DSM. Cap aggregate DSM liability per curtailment event.</p> | <p><b>MSLDC Comment:</b></p> <p>Clauses are clearly drafted. If instructions are not followed and curtailment is not implemented as per required time, then only schedules will be replaced by zero.</p> |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Clause No. 7.4:**

Illustrations for above scenarios for Schedule revision are as follows:

|                             |                                                                                                                                                                                                                                                                                                                                                                              |                                                              |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|
| Manikaran Analytics Limited | <p><b>Comments:</b></p> <p>The illustration assumes instantaneous reduction in generation upon receipt of curtailment instructions. In practice, there is a time lag between instruction communication and physical reduction in generation.</p> <p><b>Suggestions:</b></p> <p>Revise the illustration to reflect practical ramp-down response time of renewable plants.</p> | <p><b>MSLDC Comment:</b></p> <p>Illustrations are clear.</p> |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|

**Clause No. 7.4.7:**

In regards to Clause No. 7.4.3, if generation is reduced to the quantum as per requirement, the existing schedules for the time blocks 42 to 45 shall be replaced by actual generation. The schedule revision request submitted by the QCA in R-8 slot shall be implemented from 46<sup>th</sup> time block.

If generation is not reduced to the quantum as per requirements, the existing schedules for time blocks 38 to 45 shall be reduced by the quantum of curtailment instructed.

If it is instructed to reduce the generation in percentage of installed capacity of 100 MW, say reduce by 40 % of installed capacity, revised schedules shall be as tabulated below.

| Schedule/Time Block | 42 | 43 | 44 | 45   |
|---------------------|----|----|----|------|
| Existing Schedule   | 80 | 85 | 80 | 87   |
| Revised Schedule    | 48 | 51 | 48 | 52.2 |

|                             |                                                                                                                                                                                                                   |                                                                                                                                                  |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Manikaran Analytics Limited | <p><b>Comments:</b></p> <p>There is a contradiction between the text and the illustration for percentage-based curtailment. The text specifies a reduction based on "Installed Capacity," but the calculation</p> | <p><b>MSLDC Comment:</b></p> <p>Illustration to be modified. Suggestion of considering AvC rather than Installed capacity can be considered.</p> |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|

|  |                                                                                                                                                                                                                                                                                                                                                                                                              |  |
|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|  | <p>in the table applies the percentage to the "Existing Schedule".</p> <p><b>Suggestions:</b><br/>For technical accuracy, curtailment should be based on "Available Capacity" rather than Installed Capacity, as the latter does not reflect either operational status of the machines or real-time weather-dependent generation potential. The illustration and text should be aligned to reflect this.</p> |  |
|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|

#### **Clause No. 7.4.7:**

In regards to Clause No. 7.4.7, if QCA fails to submit revised forecasts, the existing schedules shall be reduced in accordance to the Clause No. 6.7.7 from 42<sup>nd</sup> time block onwards till the revision or withdrawal of curtailment.

|                             |                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                             |
|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| Manikaran Analytics Limited | <p><b>Comments:</b></p> <p>This clause refers to reduction of existing schedules if QCA fails to submit revised forecasts as per Clause no. 6.7.7 which is not available in the draft document, which creates ambiguity in interpretation and implementation of the procedure</p> <p><b>Suggestions:</b><br/>It is suggested to correct the clause reference number to ensure clarity and avoid confusion during implementation.</p> | <p><b>MSLDC Comment:</b></p> <p>Clause 7.4.8 to be modified by replacing 6.7.7 to 7.4.7</p> |
|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|

#### **Clause No. 7.5:**

In above cases, if the QCA has not submitted revised schedules and there is a need of curtailment, then the QCA shall submit the revised forecasts immediately which shall be implemented from 4<sup>th</sup> time block. Thus, MSLDC shall modify the existing schedules as per above methodology only for the 4 time blocks starting from the time block in which instructions have been issued.

|        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                     |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MSEDCL | <p><b>Comments:</b></p> <p>Clause 7.5 states that,<br/>In above cases, if the QCA has not submitted revised schedules and there is a need of curtailment, then the QCA shall submit the revised forecasts immediately which shall be implemented from 4th time block. Thus, MSLDC shall modify the existing schedules as per above methodology only for the 4 time blocks. -clarity required if revised schedules or revised forecast to be submitted by QCA</p> <p><b>Suggestions:</b><br/>The ambiguity in the said clause may kindly be addressed.</p> | <p><b>MSLDC Comment:</b></p> <p>In RE, Forecast is equal to Schedule. Once forecasts are submitted by QCAs in the REMC System, the accepted data is considered as Schedules. Based on the curtailment instructions, Full or Partial, the QCAs need to submit revised forecasts.</p> |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

#### Clause No. 8:

#### MECHANISM FOR MONITORING COMPLIANCE

|                             |                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Manikaran Analytics Limited | <p><b>Comments:</b></p> <p>The procedure provides for severe actions such as complete curtailment or schedule zeroing in case communication protocol or nodal contact details are not submitted. Such penalties may affect generators due to administrative delays.</p> <p><b>Suggestions:</b><br/>Provide warning notices and a reasonable compliance window before enforcement measures are applied.</p> | <p><b>MSLDC Comment:</b></p> <p>As per the MERC RE F&amp;S Procedure dated 15-01-2025, QCAs &amp; RE Generating Companies are mandated to submit such protocol. Thus, within this period, it is expected that such protocol must have already established. Without availability of such mechanism, it will be difficult to implement curtailment instructions required for System security.</p> |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

#### Clause No. 8.2:

#### Consequences for event of default

|                             |                                                                                                                                               |                                                                                                                               |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| Manikaran Analytics Limited | <p><b>Comments:</b></p> <p>The clause allows enforcement action under Section 33 of the Electricity Act 2003 for non-compliance. However,</p> | <p><b>MSLDC Comment:</b></p> <p>Depending up on type of default &amp; its severity, appropriate action will be initiated.</p> |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|

|  |                                                                                                                                                                                                                                                                                        |  |
|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|  | <p>enforcement provisions should be applied only in cases of deliberate operational non-compliance.</p> <p><b>Suggestions:</b><br/>Clarify that enforcement actions shall be invoked only in cases of proven operational violation and not for procedural or communication delays.</p> |  |
|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|

### Clause No. 9:

Any disputes between QCA, concern Generating Companies, Plant Operators, RE Developers shall be governed as per the dispute resolution mechanism under their Agreement, failing which it shall be subject to jurisdiction of the MERC. Pending the decision of the State Commission, the directions of the MSLDC shall be complied by the QCA and concerned Generating Company(ies).

|                             |                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Manikaran Analytics Limited | <p><b>Comments:</b></p> <p>The procedure refers disputes to regulatory mechanisms but does not provide a structured platform for operational review of curtailment events.</p> <p><b>Suggestions:</b><br/>Introduce periodic curtailment review meetings involving QCAs, generators, and MSLDC to address operational concerns.</p> | <p><b>MSLDC Comment:</b></p> <p>At Clause No. 5.2.7, it has been specified that all the curtailment instances either imposed by MSLDC or due to GTS/SPS operation will be discussed in the OCC. Thus, a process of periodic review of curtailment has already been considered. However, Quarterly/Bi-annual Curtailment review meetings with QCAs can be carried out. QCA being single point contact can discuss the issues with individual Generating Companies prior to such meeting. In case of any critical issues and found appropriate, Generating Companies may be invited to attend meetings.</p> |
| Hexaclimate                 | <p><b>Comments:</b></p> <p>Structural imbalance: MSLDC acts as both the instruction-issuing authority and the first-level dispute recipient. Developers who believe a curtailment was unjustified must continue complying while pursuing MERC adjudication —</p>                                                                    | <p><b>MSLDC Comment:</b></p> <p>MSLDC is sending curtailment instructions to QCAs through WhatsApp Group which are confirmed through e-mail. This communication is having reasons for curtailment. Thus, a time-stamped record will be</p>                                                                                                                                                                                                                                                                                                                                                                |

|  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                        |
|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p>which typically takes 6–24 months. The financial impact of disputed curtailments accumulates without interim relief, and there is no retrospective compensation mechanism if MERC eventually upholds the developer's case.</p> <p><b>Suggestions:</b><br/>RECOMMEND: Introduce a two-tier grievance system: (1) First-tier: MSLDC's own Grievance Officer must acknowledge and respond within 7 working days; (2) Second-tier: MERC adjudication for unresolved issues. Mandate that MSLDC maintain a timestamped curtailment log accessible to developers via the website (not just monthly reports). Allow developers to flag disputed curtailments in the OCC meeting agenda. For disputes ultimately decided in developer's favour, provide a defined compensation/schedule adjustment mechanism.</p> | <p>available with the QCAs. Hence, there is no need to provide any separate tool for maintaining such records.</p> <p>Further, the clause 9.2 clearly specifies about jurisdiction of MERC for dispute resolution.</p> |
|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## ANNEXURE - A:

The list of existing LTS/SPS/GTS installed in the State

|             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Hexaclimate | <p><b>Comments:</b></p> <p>Generators in Annexure-A zones face uncompensated, unpredictable, automatic curtailments triggered by grid contingencies. Key schemes include: Shivajinagar (Nashik) — Ampyr Solar 30 MW curtailed; Naldurga (Pune/CSN) — multiple schemes totalling 150+ MW; Waghdari — 3 separate SPS stages. These zones coincide with high solar/wind development activity, making future projects in these areas particularly risky.</p> <p><b>Suggestions:</b></p> | <p><b>MSLDC Comment:</b></p> <p>Existing GTS/SPS/LTS will be published on Website. Procedure already specifies that each curtailment instance either imposed by MSLDC or due to GTS/SPS operation will be discussed in OCC meeting. Also, procedure specifies to design &amp; install GTS/SPS in co-ordination with Generating Companies/RE Developer at clause no. 5.5.7. Curtailment of Generation through GTS/SPS is in the interest of integrated operation of local transmission system and its security. Regulatory provisions provide</p> |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|



|  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                         |
|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
|  | <p><b>RECOMMEND:</b> Require STU to formally communicate all existing SPS/GTS/LTS schemes (with operating parameters, trigger thresholds, and expected frequency) to all affected generators within 30 days of procedure notification. Treat SPS/GTS automatic curtailments as MSLDC-equivalent curtailments for compensation purposes. Publish a quarterly report of SPS/GTS activation events, curtailed MUs, and affected generators on the MSLDC website. Mandate that any new SPS/GTS scheme affecting existing generating projects requires mandatory consultation with affected generators before installation.</p> | <p>compensation by MSLDC against loss of generation are not available in the State.</p> |
|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|

New/Additional Points:

|                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Bajaj Finserv Limited</p> | <p><b>Comments:</b></p> <p>The draft does not address compensation for curtailed energy, which directly impacts project viability and financing.</p> <p><b>Suggestions:</b></p> <p>Suggest inclusion of a compensation framework (e.g., deemed generation benefit or regulatory mechanism) for curtailments not attributable to RE developers.</p>                                                                                                                                                                              | <p><b>MSLDC Comment:</b></p> <p>Regulatory provisions provide compensation by MSLDC against loss of generation are not available in the State. Curtailment is issued for Grid Security.</p>                                                                                                                                                                                                                                                                                          |
| <p>Bajaj Finserv Limited</p> | <p><b>Suggestions:</b></p> <ol style="list-style-type: none"> <li>1) All curtailment instructions should be logged electronically with time stamps and shared with stakeholders in real time.</li> <li>2) We request Hon'ble MERC / MSLDC to review periodic curtailment data to ensure fairness and compliance with the principle of "minimum impact on RE."</li> <li>3) Field offices of transmission licensees should undergo standardized training to ensure uniform implementation of curtailment instructions.</li> </ol> | <p><b>MSLDC Comment:</b></p> <p>MSLDC is in the process of developing a RE Scheduling &amp; Deviation Accounting Software application. In the said application, login credentials will be provided to RE Generating Companies and RE Developers. Hence, curtailment/restoration instructions will be issued through this application which will have timestamp. However, till the said application is ready, methodology for passing instructions are detailed in the procedure.</p> |

|                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <p>At Clause No. 5.2.7, it has been specified that all the curtailment instances either imposed by MSLDC or due to GTS/SPS operation will be discussed in the OCC. Thus, a process of periodic review of curtailment has already been considered.</p> <p>A Workshop of various stakeholders will be conducted once the procedure is approved by GCC.</p> |
| Manikaran Analytics Limited | <p><b>Comments:</b></p> <p>The draft procedure does not address the issue of commercial impact of curtailment on renewable generators, particularly in cases where curtailment occurs due to transmission congestion or system constraints unrelated to generator performance. Renewable energy generators operate under long-term PPAs with fixed tariffs and depend on generation availability for financial viability. Frequent or prolonged curtailment without compensation may adversely affect project bankability and investor confidence in the State's renewable energy sector.</p> <p><b>Suggestions:</b></p> <p>The procedure should clarify that curtailment arising due to transmission congestion or system constraints should be treated as "deemed generation" or compensated as per applicable regulatory provisions or PPA terms. Alternatively, the procedure may provide that such events be reported to the Commission for appropriate regulatory treatment.</p> | <p><b>MSLDC Comment:</b></p> <p>Regulatory provisions provide compensation by MSLDC against loss of generation are not available in the State. Curtailment is issued for Grid Security.</p>                                                                                                                                                              |
| Manikaran Analytics Limited | <p><b>Comments:</b></p> <p>The procedure does not clearly distinguish between curtailment due to grid security conditions and curtailment due to transmission congestion or operational constraints. Under regulatory principles governing renewable integration, curtailment should occur only as a last resort for grid security reasons. Curtailment arising due to</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <p><b>MSLDC Comment:</b></p> <p>Various conditions of curtailment are clearly drafted at Clause No. 4 of the draft procedure.</p>                                                                                                                                                                                                                        |

|                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                             | <p>transmission limitations may indicate planning or network adequacy issues rather than operational security concerns.</p> <p><b>Suggestions:</b><br/>The final procedure should clearly define categories of curtailment (e.g., grid security, congestion management, protection operation, system balancing) and ensure that renewable curtailment is undertaken only when unavoidable for maintaining grid security in accordance to Clause 4.2.8 &amp; 4.2.9.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Manikaran Analytics Limited | <p><b>Comments:</b></p> <p>Under the existing Approved RE F&amp;S Procedure, it is mandatory for data from generating units and pooling stations to be integrated into MSLDC's SCADA system using the IEC-104 protocol, which is a peer-to-peer communication architecture, Since MSLDC already has this direct, point-to-point technical visibility and communication link with the generator's RTU, the responsibility for implementing curtailment should rest where the physical control exists. A QCA does not have access to the Plant Power Controller (PPC) to execute these commands and should not be labeled as an "ensurer" of physical compliance.</p> <p><b>Suggestions:</b><br/>It is suggested that MSLDC utilize the existing IEC-104 peer-to-peer infrastructure to forward curtailment instructions directly to the generators for immediate action. The role of the QCA should be redefined as a "messenger" or coordinator responsible for facilitating communication and reporting, rather than being held liable for the physical implementation of generation reductions which they cannot technically execute.</p> | <p><b>MSLDC Comment:</b></p> <p>As per the Regulations, QCA as the single point of contact for communication between RE Generating Companies and MSLDC. Further, QCAs are carrying out scheduling activities on behalf of the Generating Companies. Hence, it is the responsibility of the QCAs to intimate the curtailment &amp; Restoration instructions to RE Generating Companies in accordance with the communication protocol established among themselves as per the MERC RE F&amp;S Procedure dated 15.01.2025 and ensure implementation of the MSLDC instructions.</p> |
| Manikaran Analytics Limited | <p><b>Comments:</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <p><b>MSLDC Comment:</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

|                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                             | <p>The draft procedure introduces significant technical and commercial complexities, including real-time reporting within tight windows, high penalty risks (spot fines), and new communication protocols.</p> <p><b>Suggestions:</b><br/>It is strongly suggested that MSLDC conduct a formal public hearing or a comprehensive stakeholder consultation workshop involving all QCAs, RE Generators, and Plant Operators before submitting the final draft to the Hon'ble State Commission (MERC) for approval. This will ensure the procedure is pragmatic, technically feasible, and avoids future operational disputes or legal challenges</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <p>The procedure is prepared in accordance with the mandate provided in the MEGC'2020. As per the regulation no. 28.2 of MEGC,2020, Grid Co-ordination Core Committee is the authority to ratify the said procedure and submission to Hon'ble MERC for information. Hence, approval of Hon'ble MERC is not expected. Further, considering the suggestion, a workshop will be conducted by MSLDC to sensitize all the Stake holders once the procedure is approved in GCC.</p> |
| Manikaran Analytics Limited | <p><b>Suggestions:</b></p> <p>*Illustration of "Trans Down" Logic Implementation<br/>To illustrate the benefits of this logic over the proposed draft, consider the following scenario based on operational discussion:<br/>Initial Scenario: A solar plant has an Available Capacity (AvC) of 300 MW and an Existing Schedule of 300 MW.<br/>MSLDC Instruction: Due to a grid security event (e.g., demand crash), MSLDC issues a code to restrict generation to 200 MW.<br/>Under the Proposed Draft Procedure: The schedule would be revised or "zero" to match the 200 MW instruction. If the generator is unable to ramp down instantly, the gap between the actual injection and the new "Zero" schedule results in heavy DSM penalties. Furthermore, MSLDC now sees a "200 MW potential" and loses sight of the fact that the plant could actually provide 300 MW.<br/>Under the Suggested "Trans Down" Logic:<br/>The Schedule remains at 300 MW, clearly showing MSLDC the plant's true generation capability.<br/>The Actual Injection is reduced to 200 MW as per the grid instruction.</p> | <p><b>MSLDC Comment:</b></p> <p>By way of modification in the Schedules to the curtailed quantum, MSLDC is nullifying the DSM charges, if curtailment instructions are adhered. Hence, proposed methodology in the procedure is not having any adverse impact on the Grid as well as on Generating companies. Further, the regulatory provisions of Tras-Down is not available in the State.</p>                                                                              |

|        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        | <p>The 100 MW difference is flagged as a "Curtailment Event" and is exempted from DSM settlement.</p> <p>Result: MSLDC maintains perfect visibility of the 100 MW "held-back" power, allowing them to restore it the moment the grid constraint eases without fear of a sudden supply-demand gap</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| MSEDCL | <p><b>Comments:</b></p> <p>It is rightly mentioned in the draft that “while balancing generation as per the load, variations in wind and solar generation add to the complexity of balancing generation through other resources such as thermal, gas, or hydro generation.” Considering the critical nature of grid operations, improvement in Renewable Energy (RE) forecasting accuracy is essential for maintaining grid security and operational reliability. In this regard, it is proposed that the RE Forecasting and Scheduling Regulations notified by Maharashtra Electricity Regulatory Commission be strictly aligned with the RE Forecasting and Scheduling Regulations issued by Central Electricity Regulatory Commission, including the adoption of stricter deviation margins, which may be implemented with immediate effect.</p> | <p><b>MSLDC Comment:</b></p> <p>Hon’ble MERC has already notified 1<sup>st</sup> amendment to the existing RE F&amp;S Regulations, 2018. As per the said amendment, deviation band for the Wind &amp; Solar Generation has been tightened as compared to that of the Principle Regulations.</p>                                                                                                                                                   |
| MSEDCL | <p><b>Comments:</b></p> <p>Further, under the existing actual-based RE scheduling framework, DISCOMs are required to account for RE generation deviations while undertaking demand forecasting and are consequently liable to bear DSM charges arising out of such deviations. This results in an additional financial burden on DISCOMs due to inherent limitations in demand forecast accuracy and the associated DSM implications. In order to address this anomaly and ensure regulatory alignment, it is proposed that migration to a schedule-based RE scheduling framework, consistent with the regulations of the Central Electricity Regulatory Commission, be implemented with immediate effect.</p>                                                                                                                                      | <p><b>MSLDC Comment:</b></p> <p>Hon’ble MERC has already notified 1<sup>st</sup> amendment to the existing RE F&amp;S Regulations, 2018. As per the said amendment, MSLDC has already filed petition for seeking time extension for implementation of the Trial Mode Operation of the proposed Scheduled-Generation based methodology. The amended regulations will be implemented once directives are issued by Hon’ble MERC in this matter.</p> |
| MSEDCL | <p><b>Comments:</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

|          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                           |
|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          | <p>It is further suggested that the State RE DSM Regulations be harmonized with the Central Electricity Regulatory Commission (Deviation Settlement Mechanism and Related Matters) Regulations applicable to wind and solar (WS) sellers.</p> <p>Recently, the Central Electricity Regulatory Commission (CERC), in Suo Motu Petition No. 9/SM/2025, while considering grid security concerns highlighted by the National Load Despatch Centre (NLDC), has issued an amendment to the DSM framework stipulating that no payment shall be made to RE generators for any injection at frequencies above 50.10 Hz.</p> <p>A similar provision may be incorporated into the State DSM Regulations. This would incentivize improved forecasting accuracy by RE generators and contribute to overall grid discipline and security.</p>                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                           |
| Sembcorp | <p><b>Comments:</b></p> <p>It is noteworthy, that unlike the conventional generators, the wind and solar generators do not get fixed capacity charges. In this context, the suggested provisions become essential to maintain equity.</p> <p>It may also be noted that under CERC Ancillary Services Regulations, the RE is curtailed under TRAS-Down Emergency provision. In such cases also, the generating stations continue to receive tariff, regardless of curtailment.</p> <p><b>Suggestions:</b></p> <p>In case commercial settlement is done on the basis of actual energy, then the amount of energy curtailed should be added to the actual injection while issuing the JMR, Credit Report, State Energy Account, and all related records.</p> <p>In case commercial settlement is done on the basis of schedule energy, then in case of curtailment, the schedule should not be reduced. Anyways, in the event of curtailment, if the beneficiaries continue to draw, it will only support the grid, so there is no reason to reduce their drawl. At the same</p> | <p><b>MSLDC Comment:</b></p> <p>Regulatory provisions provide compensation by MSLDC against loss of generation are not available in the State. Curtailment is issued for Grid Security.</p> <p>In case of Actual Generation-based settlement regime, it will be difficult to assess the exact quantum of curtailed generation as injection from Wind &amp; Solar is infirm in nature.</p> |

|                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                     |
|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                      | time, the RE Generators will also remain commercially unaffected by such curtailment. Thus, there would be no disincentive for curtailment.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                     |
| AEML                                 | <p><b>Comments:</b></p> <p>During force curtailment of RE schedules, DISCOM Target Drawal schedule should not get curtailed, treatment as per Market suspension to be considered for DSM charges. Else DISCOM may arrange power from its backed down generation or RTM purchase.</p> <p>Under Scenario-1: Heavy Demand Crash or High RE injection - DISCOMS should not arrange power for curtailment of RE power, else the RE curtailment will not help in managing Regional exchange.</p> <p>Under Scenario - 2 : Restriction due to evacuation infrastructure: Since the congestion is local &amp; RE curtailment will only help to relieve transmission congestion, DISCOMS may buy power from Market in lieu of RE curtailed, to avoid Deviation charges</p> <p><b>Suggestions:</b></p> <p>Due to RE curtailment during force majeure instances, DISCOMS should not suffer from DSM charges, hence treatment of Market suspension to be considered during such instances.</p> | <b>MSLDC Comment:</b>                                                                                                                                                               |
| Solarcraft Mahasolar Private limited | <p><b>Comments:</b></p> <p>Need for transparent and non-discriminatory curtailment principles.</p> <p><b>Suggestions:</b></p> <p>a) While the Draft Procedure sets out the mechanics for communication and implementation of curtailment, it does not provide any guiding principles for identification of pooling substations or generators to be curtailed, nor does it specify the basis on which the quantum of</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <p><b>MSLDC Comment:</b></p> <p>Phasing of PSS, sequencing of curtailment, methodology for identification of PSS is specified at Clause No. 4.4 &amp; 6 of the draft procedure.</p> |

|       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                             |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|       | <p>curtailment is to be determined across different generators.</p> <p>b) In the absence of such guiding principles, there is a likelihood that the selection and sequencing of curtailment may effectively be determined at the transmission or field level based on operational discretion, without a clearly defined and transparent framework. This creates a risk of inconsistent or non-uniform application of curtailment across similarly placed generators, and may lead to situations where certain generators are disproportionately impacted without an objective basis.</p> <p>c) Further, the absence of a clearly defined methodology, such as pro-rata curtailment, constraint-based allocation or any form of merit order or priority framework, increases the potential for perceived or actual discriminatory treatment. This concern is further exacerbated in a scenario where QCAs are not informed in real time of curtailment instructions, thereby limiting their ability to assess, validate or rationalise the curtailment actions across their portfolio.</p> |                                                                                                                                                                                             |
| TPREL | <p><b>Comments:</b></p> <p>Compensation for loss of generation due to curtailment instruction- In line with the IEGC, 2023 where the generator is compensated by load dispatch center during TRAS (Tertiary reserved ancillary services) compensation through pool account, similarly MSLDC shall provide similar provision in the procedure for such instances.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <p><b>MSLDC Comment:</b></p> <p>Regulatory provisions provide compensation by MSLDC against loss of generation are not available in the State. Curtailment is issued for Grid Security.</p> |
| TPREL | <p><b>Comments:</b></p> <p>1) Compensation clause need to be incorporated Grid- unavailability: If the grid- unavailability time mentioned in the PPA. If not prescribed in PPA then any limit specified by MERC shall be exempted. However, if the grid is not available for more than above limit then the compensation shall be made as described below:</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <p><b>MSLDC Comment:</b></p> <p>Regulatory provisions provide compensation by MSLDC against loss of generation are not available in the State. Curtailment is issued for Grid Security.</p> |



|  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |
|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|  | <p>The Compensation be as per PPA, or else [Generation loss per hour = Avg. Generation per hour during contract year x no. of un-availability hours of grid or transmission element]. [Note: The above compensation shall be borne by MSETCL]</p> <p>2) Compensation for reason other than grid security- In accordance with PPA. If PPA doesn't have the compensation clause then it shall be as per the formula provided in TBCB Guidelines notified by MoP for respective projects. [Note: The Compensation shall be borne by MSLDC]</p> |  |
|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|

# Agenda No.\_\_\_\_ Draft RE Curtailment Procedure (1<sup>st</sup> Amendment)

Discussion on comments/suggestions received from various  
Stakeholders

14th OCC

26-05-2026

## Brief Overview

- ❑ The RE Curtailment procedure dated 31-12-2020 was prepared based on various regulatory provisions such as:
  - Regulation No. 28.2, 30.12 & 30.13 of the MERC (State Grid Code) Regulations, 2020
  - Regulation No. 14 of the MERC (Forecasting, Scheduling and Deviation Settlement of Solar and Wind Generation) Regulations, 2018 & amendment thereto
- ❑ The Procedure was implemented in the State w.e.f. 31-12-2020 after seeking comments from Stakeholders, ratification in the OCC & approval from GCC Core Committee.
- ❑ Based on the experience gained while implementation of curtailments, the existing procedure was amended
- ❑ The draft amended procedure was published on MSLDC Website on 11-03-2026 for seeking Comments/suggestions from Stakeholders
- ❑ 11 No. of Stakeholders have submitted total 106 No. of comments/suggestions
- ❑ After scrutinizing the comments/suggestions received from various Stakeholders, the comments/suggestions are grouped and detailed herewith for discussion of the OCC members:

## Suggestion Group – 1\_Curtail RE as a last resort

APPEAL NO.197 OF 2019

### ❑ Suggestion:

As per the guidelines issued by Hon'ble APTEL in its Judgement dated 02-08-2021, in the Appeal No 197 of 2019 & IA No. 1706 of 2019, RE should be curtailed as a last resort as specified in the said order.

### ❑ MSLDC Comment:

While preparing draft procedure, guidelines specified by Hon'ble APTEL have been considered at clause no. 4.2.8.

Clause No. 4.2.9 clearly indicates that after assessing all the measures specified in clause no. 4.2.8, RE curtailment will be carried out.

### ***OCC Members may like to Discuss***

- (i) For Future, any curtailment of Renewable Energy shall not be considered as meant for grid security if the backing down instruction were given under following conditions:
  - a) System Frequency is in the band of 49.90Hz-50.05Hz
  - b) Voltages level is between: 380kV to 420kV for 400kV systems & 198kV to 245kV for 220kV systems
  - c) No network over loading issues or transmission constraints
  - d) Margins are available for backing down from conventional energy sources
  - e) State is overdrawing from the grid or State is drawing from grid on short-term basis from Power Exchange or other sources simultaneously backing down power from intra-state conventional or non-conventional sources.

## Suggestion Group – 2\_Define Conditions for RE Curtailment Decision

### ❑ Suggestion:

The FoR has published model RE Curtailment Procedure in year 2022. In the said procedure, specific conditions which will trigger the RE Curtailment are specified.

The MSLDC RE Curtailment Procedure should adopt the same.

- 4.4.2 The SLDCs may initiate the Backing down or Curtailment in case under-drawal of State is beyond the Threshold Limit at the state periphery. The SLDCs shall also take into consideration the Grid Frequency while acting on the volume limits.

**Table 1: Representation of Curtailment Decisions by SLDC**

[RE Curtailment only after exercising other measures as outlined under Cl. 4.2.3 to Cl. 4.2.10 ]

|                                      | Curtailment for maintaining Volume Limit (Under-drawal) at State Periphery                                  |                                                                                                                                                     |
|--------------------------------------|-------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
|                                      | For Deviation <= 250 MW (or threshold limit as specified)                                                   | For Deviation > 250 MW (or threshold limit as specified)                                                                                            |
| <b>F &lt; 49.90 Hz</b>               | No                                                                                                          | No                                                                                                                                                  |
| <b>F &gt;49.90 and &lt; 50.05 Hz</b> | No                                                                                                          | Yes                                                                                                                                                 |
| <b>F &gt; 50.05 Hz</b>               | Yes<br><br>( <sup>9</sup> Provided Grid Frequency exceeds 50.05 Hz for two or more successive time-blocks.) | Yes<br><br>(Provided Under-drawal by State at state periphery is outside the range of 250 MW <sup>10</sup> for two or more successive time-blocks.) |

## Suggestion Group – 2\_Define Conditions for RE Curtailment

### ☐ MSLDC Comment :

Proposal of MSLDC is as below:

If State U/D is persistently above 1000 MW for consecutive 4 time blocks and is expected to remain for next 12 time blocks as per DSM System

|                     | RE to be Curtailed or not |
|---------------------|---------------------------|
| Grid Frequency (Hz) | State U/D >1000 MW        |
| F < 49.90           | NO                        |
| 49.90 < F < 50.05   | YES *                     |
| F > 50.05           | YES #                     |

If State U/D is persistently in the range of 500 to 800 for consecutive 4 time blocks and is expected to further increase in next 4 time blocks as per DSM System

|                     | RE to be Curtailed or not               |
|---------------------|-----------------------------------------|
| Grid Frequency (Hz) | State U/D in the range of 500 to 800 MW |
| F < 49.90           | NO                                      |
| 49.90 < F < 50.05   | YES *                                   |
| F > 50.05           | YES #                                   |

(\*) Frequency should be within band for consecutive 4 time blocks

(#) Frequency should be above 50.05 Hz for consecutive 4 time blocks

**OCC Members may like to Discuss**

## Suggestion Group – 3\_Provide Compensation for Curtailed Generation

### ☐ **Suggestion:**

As per MoP (Promotion of Generation of Electricity from Must-Run Power Plant) Rules, 2021, RE is having “MUST RUN” status.

As per Rule 3, in the event of a curtailment of supply from a must-run power plant, compensation shall be payable by the procurer to the must-run power plant at the rates specified in the agreement for purchase or supply of electricity.

### ☐ **MSLDC Comment:**

RE Curtailment will be imposed by MSLDC to maintain Grid stable & secure considering the provisions as per Section 32 & 33 of the Act, 2003. Curtailment is issued for Grid Security.

Further, Regulatory provisions provide compensation by MSLDC against loss of generation are not available in the State.

***OCC Members may like to Discuss***

## **Suggestion Group – 4\_RE Curtailment in the event of anticipated Surplus during low demand season**

### **❑ Suggestion:**

A third distinct scenario is entirely absent:

"Anticipated/forecasted low demand with surplus RE generation & all schedulable thermal units have reached their technical minimum constraints as per CERC/MERC Grid Code obligations" scenario requiring advance planned RE curtailment which may lead to heavy under-drawls and frequency disturbance.

The procedure should explicitly specify the suggested scenarios, and the Renewable Energy (RE) curtailment methodology must be clearly defined to avoid any scope for misinterpretation.

It is further suggested that all conditions mentioned in Clause 4 of the proposed RE curtailment framework be implemented with a proactive approach to prevent significant under-drawal, through continuous assessment of the system.

For this purpose, the SLDC should carry out independent demand forecasting as well as RE generation forecasting, which will enable timely and informed decision-making.

In case the SLDC anticipates significant under-drawal due to low demand, it may advise or instruct the Discoms, to withdraw any thermal unit accordingly.



## **Suggestion Group – 4\_RE Curtailment in the event of anticipated Surplus during low demand season**

### **❑ MSLDC Comment :**

While carrying out Resource Adequacy on Week-ahead & Day ahead basis, Distribution Licensees are aware about possibility of surplus scenario. It is the responsibility of Distribution Licensees to manage its contracted resources on its own by appropriate measures.

Since surplus scenario is known to the Distribution Licensees in advance, options of Zero Schedule through Cold/Warm/Hot Start, sale of surplus power in market, Banking with other States, Issuing Curtailment instructions to its contracted RE on day ahead basis, IDT with Intra-State Distribution Licensees of whose resources are short during RE Curtailment period or to meet demand required for Pumping of PSPs, etc, should be explored on its own, the way Resource shortfall scenarios are handled by Distribution Licensees.

The Zero Scheduling can be exercised by Distribution Licensees in consultation with MSLDC as per the MEGC provisions.

If above measures are taken by the Distribution Licensees in advance, then the issue of Anticipated Surplus scenario during low demand seasons can be mitigated.

The scenario of anticipated Under-drawl will be aggravated with increasing Solar Roof top & Solar Generation under MSKVY 2.0. This capacity along with load being fed through these sources is known to the Distribution Licensees only. Hence, curtailment of such generation needs to be assessed.

***OCC Members may like to Discuss***

## Suggestion Group – 5\_Schedule revisions by target Discoms

### ❑ Suggestion:

During force curtailment of RE schedules, DISCOM Target Drawal schedule should not get curtailed, treatment as per Market suspension to be considered for DSM charges. Else DISCOM may arrange power from its backed down generation or RTM purchase.

Under Scenario-1: Heavy Demand Crash or High RE injection - DISCOMS should not arrange power for curtailment of RE power, else the RE curtailment will not help in managing Regional exchange.

Under Scenario - 2 : Restriction due to evacuation infrastructure: Since the congestion is local & RE curtailment will only help to relieve transmission congestion, DISCOMs may buy power from Market in lieu of RE curtailed, to avoid Deviation charges

Due to RE curtailment during force majeure instances, DISCOMS should not suffer from DSM charges, hence treatment of Market suspension to be considered during such instances.

### ❑ MSLDC Comment:

***OCC Members may like to Discuss***

## Suggestion Group – 6\_Flexible Operation of Thermal Plants

### ❑ Suggestion:

The CEA (Flexible Operation of Coal based Thermal Power Generating Units) Regulations, 2023 have been notified in the Country. As per the said regulations, Intra-State Thermal Generating Units should be operated at 40 % Technical Minimum level.

This approach is consistent with the Govt. of Maharashtra's State RE & ES Policy' 2026.

MSLDC shall maintain and publish on its website a unit-wise technical minimum register, updated on an annual basis.

### ❑ MSLDC Comment:

Intra-State Thermal Units are operating as per the Technical Minimum limits specified in the MERC MYT Regulations.

The Generating Unit-wise Technical Minimum levels for each Intra-State Thermal Generating Stations is available on MSLDC Website.

Operation at 40 % technical minimum level as per the CEA needs State regulatory amendments.

***OCC Members may like to Discuss***

## **Suggestion Group – 7\_Surrendering CS Share & Sale of surplus power in market**

### **❑ Suggestion:**

Clause 4.2.8 directs Distribution Licensees to reduce requisition from contracted ISGS through schedule revision and explore possibility of selling surplus intra-state power in the market as a pre-curtailment measure before RE curtailment is triggered. However, the procedure provides no mechanism whatsoever for real-time verification and ensuring compliance of this surplus sale action at MSLDC end.

It is suggested that, considering the overall load-generation balance, in cases where significant under-drawal is anticipated due to an increase in RE generation and/or a decline in demand, the SLDC shall direct the concerned Distribution Licensee(s) (Discoms) to undertake the sale of surplus power.

In the event that such surplus power is not fully materialized or is only partially cleared, the SLDC shall take appropriate action, including RE curtailment, as necessary. This will ensure that timely operational measures are undertaken by the SLDC to avoid substantial under-drawl.

Such instructions should be passed to the Discom which is under-drawing. This will avoid over-drawl of any Discom which is not under-drawing but surrendered share as per SLDC instructions.

### **❑ MSLDC Comment:**

Actions of Discoms can be seen from the Schedules in the DSM Scheduling as well as in ISTS Schedule. Also, the response from the RE Generators can be seen from the reduction in actual injection.

In case of default, actions can be initiated as per the compliance monitoring process defined in the procedure.

***OCC Members may like to Discuss***

## Suggestion Group – 8\_Installation of SPS/GTS

### ❑ Suggestion:

The mandatory requirement for developers to install System Protection scheme (“SPS”) at Pol, is an illegitimate requirement. Since, at the time of grant of grid connectivity, such requirement was not present for existing plant. Hence, the same should not be made applicable to give any retrospective effect.

Transmission Licensees should strive to install LTS/GTS/SPS in remaining part of the state’s network at the earliest, and in no later than 2 years from the date of notification of this procedure.

SPS installation cost (₹50–200 lakh per substation) is an unbudgeted capex for operating projects. SPS installation mandate should be time-bound and cost-shared with STU.

### ❑ MSLDC Comment:

In many cases, it has been observed that with the addition of RE capacity, the associated network gets overloaded. This also happens in case of slipover of commissioning of strengthening schemes. Also, while seeking Grid Connectivity from STU, RE Developers are submitting undertaking about curtailment of generation in case of overloading. Hence, in the interest of secure grid operations, installation of SPS/GTS is required.

STU & concerned transmission licensee will be responsible for installation of SPS/GTS at PSS level, however, any installations at RE Plant/Park level will be the responsibility of the RE Developer/Generating Companies.

Installation of such SPS/GTS should be within 2 years from the date of notification of this procedure. Clause will be amended accordingly.

***OCC Members may like to Discuss***

## Suggestion Group – 9\_Communication Protocol at Field level with Nodals

### ❑ Suggestion:

Mandate that field office curtailment instructions must be issued only after telephonic intimation to MSLDC Control Room (even if formal approval is not required).

Introduce a mandatory 'Field Curtailment Code' system similar to the MSLDC Code system. Require field offices to issue written confirmation (WhatsApp/email) to the QCA simultaneously with telephonic instruction.

MSLDC should expand real-time SCADA visibility to 132 kV level within a defined timeframe (suggest 18 months).

### ❑ MSLDC Comment:

Informing MSLDC before issuing curtailment will not be always possible depending up on severity of the need of curtailment. However, the clause can be reframed mentioning that the Transmission Licensee along with RE Generating Companies/Developers/QCA shall mutually decide protocol of communication similar to that proposed by MSLDC in the said procedure for intimation of curtailments.

The issue of expanding communication network has been already taken up by STU.

***OCC Members may like to Discuss***

## Suggestion Group – 10\_Communication through QCAs

### ❑ Suggestion:

The draft procedure designates QCA as the single point of contact for communication with the Load Despatch Centre. However, QCAs do not have operational control over generation assets and rely on plant operators for implementation of instructions. Assigning operational accountability to QCA without plant-level control may create compliance risk. In case of wind, control lies with OEMs however for solar the control lies with lead generators.

The clause should explicitly state that QCA role is limited to communication and coordination with generators, and actual implementation responsibility lies with the OEMs for Wind and Lead generator or plant operator for Solar. QCA will do level best to ensure the communication effectively.

### ❑ MSLDC Comment:

As per Regulations, QCA is a single point of contact for communication between SLDC & Generating Companies. The MERC RE F&S Procedure dated 15-01-2025 already mandates QCAs & Generating Companies to design & establish a communication protocol based on mutual understanding. The same has been specified in the curtailment procedure also.

Hence, QCAs should communicate with Generating Companies accordingly and ensure curtailment.

***OCC Members may like to Discuss***

## **Suggestion Group – 11\_Communication of Reasons & System conditions with instructions**

### **❑ Suggestion:**

Various Grid Parameters and actions to be taken by SLDC as specified in the APTEL Order such as:

Grid Frequency, State Drawl, Voltages, Thermal Generation operation at Technical Minimum, etc, should be communicated along with the Curtailment Instructions.

Tentative Restoration time should be intimated along with the Curtailment instructions.

### **❑ MSLDC Comment:**

MSLDC is sending curtailment instructions to QCAs through WhatsApp Group which are confirmed through e-mail. This communication is having reasons for curtailment.

Also, the actions to be taken by MSLDC prior to RE Curtailment are specified in the procedure which may be confirmed from the RE Curtailment report which will be uploaded on MSLDC Website within a week.

Tentative Restoration time along with curtailment instruction is already covered in the procedure.

***OCC Members may like to Discuss***



## Suggestion Group – 12\_Grивance redressal

### ❑ Suggestion:

Introduce a two-tier grievance system:

- (1) First-tier: MSLDC's own Grievance Officer must acknowledge and respond within 7 working days;
- (2) Second-tier: MERC adjudication for unresolved issues. Mandate that MSLDC maintain a timestamped curtailment log accessible to developers via the website (not just monthly reports). Allow developers to flag disputed curtailments in the OCC meeting agenda. For disputes ultimately decided in developer's favour, provide a defined compensation/schedule adjustment mechanism.

### ❑ MSLDC Comment:

Procedure already clarifies about non-compliance actions and jurisdiction as Hon'ble MERC in case of any pending grievances.

Further, Procedure has specified that all the curtailment instances will be put forth before the OCC for discussions. Thus, any issues can be flagged with MSLDC which can be discussed in the OCC meeting.

***OCC Members may like to Discuss***

Agenda No. \_\_

RE Curtailment dated 01-05-2026

## Overview of antecedent conditions

- ❑ On 01.05.2026, it was observed that State Demand started reducing from 06:00 hrs.
- ❑ Demand started reducing from 27353 MW and reached to 21376 MW at 09:15 hrs & State Under-Drawl reached to 937 MW with Grid frequency of 50.035 Hz.
- ❑ State demand was on lower side due to Maharashtra Day & Labour Day.
- ❑ WRLDC vide e-mail dated 01.05.2026 at 10:28 Hrs shared the mail issued by NLDC stating that

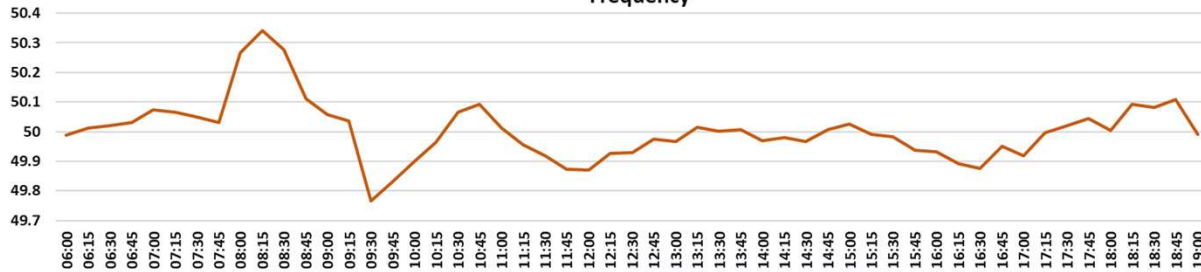
*“due to the combined effect of holidays on account of “Buddha Purnima” and “Labour Day”, there is a reduction of approximately 30 GW in demand at 09:36 hrs. compared to yesterday. In addition, wind generation is higher by about 2.5 GW and solar generation is also elevated due to clear weather conditions. Consequently, an overall surplus of nearly 34 GW is being experienced in the grid, which may further increase with rising renewable generation and continued low demand.”*

Further, WRLDC instructed telephonically to curtail Solar Generation to limit Under-drawl to the permissible limit.

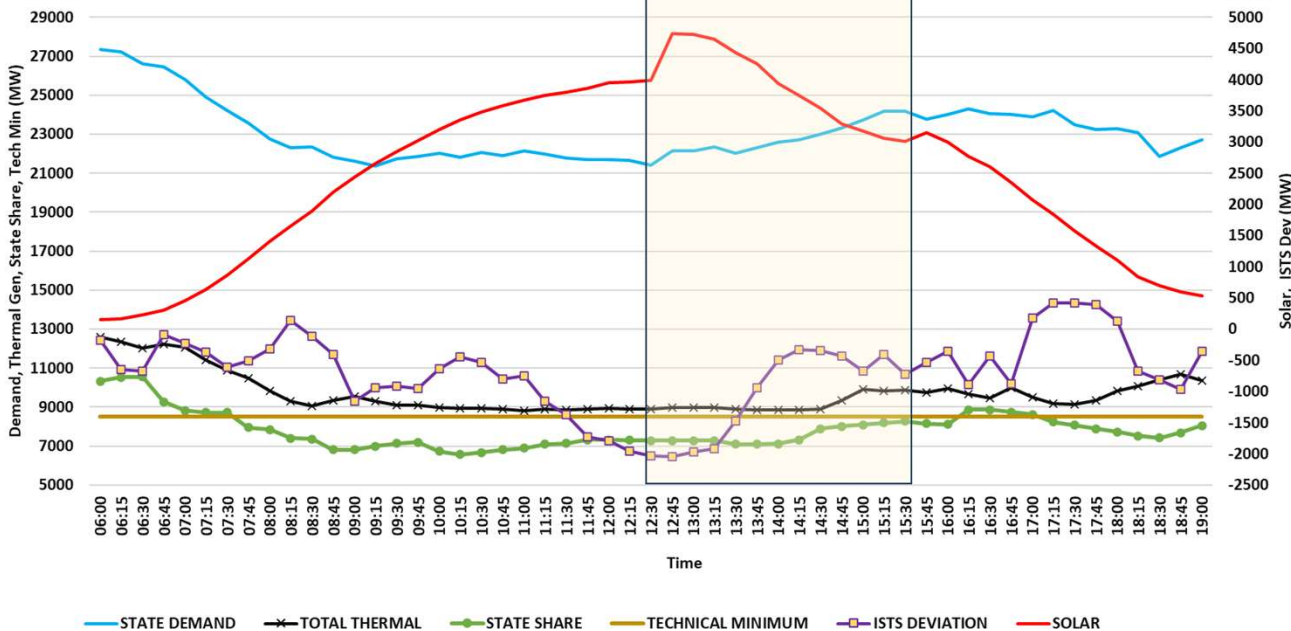
## Overview of antecedent conditions

Demand & Generation Scenario\_01-05-2026

Frequency



- Due to consistent under drawl above 1000 MW which reached to 2030 MW at 12:30 Hrs, to control State Under-Drawl, curtailment was issued at 12:30 Hrs to RE generators in Phase – 1.
- After re-assessment, curtailment for Phase – 2 was issued at 13:15 Hrs. The Curtailment was withdrawn in two stages viz. at 14:55 Hrs & 15:10 Hrs.



## Actions taken by MSLDC prior to imposing RE Curtailment

In order to control heavy under-drawl at high frequency, MSLDC took following actions:

- ☐ Reduced generation from all the intra-state conventional generators at Technical Minimum level. Hydro generation was not on bar.
- ☐ Instructed Distribution Licensees to stop purchasing power from Power Markets and reduce requisition from all Inter-State Thermal Generators.
- ☐ As the under drawl was high Ghatghar and Bhira units were taken in pumping mode. Ghatghar was operated in pumping mode between 10:40Hrs to 17:00Hrs and Bhira was operated between 11:00Hrs to 15:00Hrs.
- ☐ Curtailment was issued to RE generators in Phase – 1 & Phase – 2 for the period of 12:30 hrs to 15:30 hrs.
- ☐ RE Curtailment details are as below:

| Date       | Curtailment Quantum (MW) | Curtailment Quantum (MU) |
|------------|--------------------------|--------------------------|
| 01.05.2026 | 2112                     | 3.55                     |

## RE Curtailment details

| Solar PSS in Phase - 1 |                       |           |              |          |                         |
|------------------------|-----------------------|-----------|--------------|----------|-------------------------|
| SN                     | Name of PSS           | Trip Time | Restore Time | Duration | Gen. before tripping MW |
| 1                      | South Solapur 220kV   | 13:30     | 15:15        | 01:45    | 398                     |
| 2                      | Tuljapur 220kV        | 12:46     | 15:06        | 02:20    | 144                     |
| 3                      | JBM Solar 132kV       | 13:20     | 15:20        | 02:00    | 95                      |
| 4                      | Sakore 132kV          | 12:56     | 15:15        | 02:19    | 100                     |
| 5                      | Fermi Solar 132kV     | 13:20     | 15:20        | 02:00    | 69                      |
| 6                      | Jamde Solar 220kV     | 12:54     | 14:57        | 02:03    | 70                      |
| 7                      | Kombhalne Solar 132kV | 13:10     | 15:10        | 02:00    | 63                      |
| 8                      | Shirsuphal 220kV      | 13:31     | 15:30        | 01:59    | 34.15                   |
| 9                      | Five Star MIDC 220kV  | 12:46     | 15:15        | 02:29    | 49                      |
| 10                     | Mansar 132kV          | 12:50     | 14:45        | 01:55    | 3                       |
|                        | <b>TOTAL (MW)</b>     |           |              |          | <b>1025.15</b>          |

| Solar PSS in Phase - 2 |                       |           |              |          |                         |
|------------------------|-----------------------|-----------|--------------|----------|-------------------------|
| S N                    | Name of PSS           | Trip Time | Restore Time | Duration | Gen. before tripping MW |
| 1                      | Shivaji Nagar 220kV   | 13:55     | 15:00        | 01:05    | 335                     |
| 2                      | Avaada Wai 220kV      | 13:45     | 15:20        | 01:35    | 141                     |
| 3                      | Varkute Malwadi 220kV | 13:45     | 15:30        | 01:45    | 84                      |
| 4                      | Soygaon 132kV         | 13:25     | 15:20        | 01:55    | 102                     |
| 5                      | Ralegaon 132kV        | 14:27     | 15:29        | 01:02    | 98                      |
| 6                      | Mahtargaon 132kV      | 14:04     | 15:17        | 01:13    | 67                      |
| 7                      | Tighra 132kV          | 13:40     | 15:10        | 01:30    | 70                      |
| 8                      | Palaswadi 110kV       | 13:30     | 15:10        | 01:40    | 55                      |
| 9                      | Telgaon 132kV         | 13:30     | 15:16        | 01:46    | 44                      |
| 10                     | Georai 220kV          | 14:00     | 15:12        | 01:12    | 20                      |
| 11                     | Mandrup 132kV         | 13:35     | 15:25        | 01:50    | 32                      |
| 12                     | Naldurg 132kV         | 14:21     | 15:50        | 01:29    | 39                      |
|                        | <b>TOTAL (MW)</b>     |           |              |          | <b>1087.00</b>          |

### RE Curtailment at National Level:

As per the NLDC Daily Report, RE Generation was curtailed on 01.05.2026. The details are as below:

| Particulars                      | Max. Wind (MW) | Wind (MUs) | Max. Solar (MW) | Solar (MUs) |
|----------------------------------|----------------|------------|-----------------|-------------|
| Intra-State RE incl. Maharashtra | 1670           | 3.40       | 5798            | 18.57       |

The TRAS Down issued to ISTS connected RE Plants by NLDC are as below:

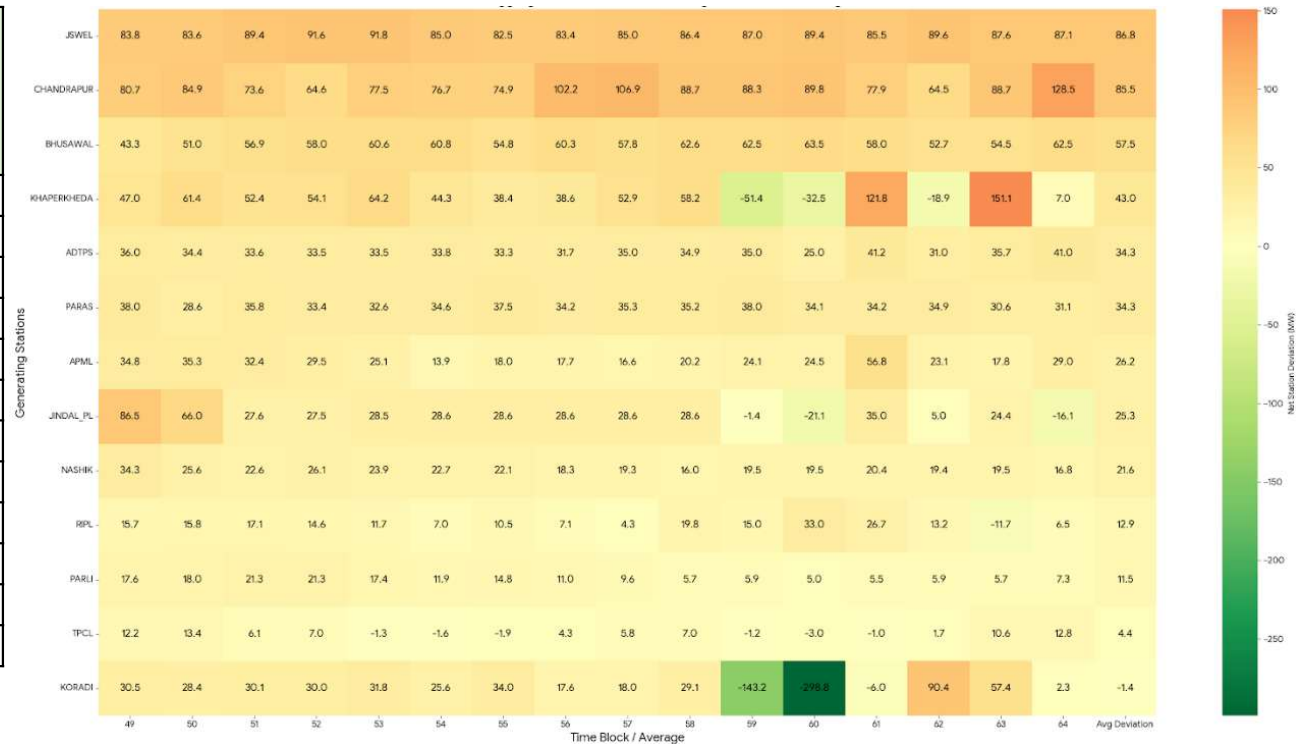
| Particulars    | Max. Wind (MW) | Wind (MUs) | Max. Solar (MW) | Solar (MUs) |
|----------------|----------------|------------|-----------------|-------------|
| NLDC TRAS down | 3792           | 16.94      | 21549           | 102.89      |

## Behavior of Intra-State Thermal Generation

❑ Intra-State Thermal Generators were scheduled at Technical Minimum level. However, Over-Injection to the tune of 414 MW was observed during the curtailment period of 12:30 to 15:30 Hrs which contributes to around 6 % against schedule.

❑ The Deviations of the Intra-State Thermal Generation is tabulated below:

| Time        | Schedule (MW) | Actual Generation (SCADA) (MW) | Deviation (MW) |
|-------------|---------------|--------------------------------|----------------|
| 12:30-12:45 | 8784          | 9283                           | 499            |
| 12:45-13:00 | 8815          | 9306                           | 491            |
| 13:00-13:15 | 8810          | 9307                           | 497            |
| 13:15-13:30 | 8771          | 9215                           | 443            |
| 13:30-13:45 | 8741          | 9189                           | 448            |
| 13:45-14:00 | 8741          | 9196                           | 455            |
| 14:00-14:15 | 8717          | 9192                           | 475            |
| 14:15-14:30 | 8727          | 9220                           | 492            |
| 14:30-14:45 | 9311          | 9490                           | 178            |
| 14:45-15:00 | 9964          | 9992                           | 28             |
| 15:00-15:15 | 9460          | 10016                          | 556            |
| 15:15-15:30 | 9519          | 9931                           | 412            |



## Observations of MSLDC

- ❑ All the Intra-State Thermal Units' over-injection contributed to the under-drawl.
- ❑ With increasing penetration of RE Generation, such scenario is likely to recur especially during Solar hours. Thus, it is necessary to reduce technical minimum level of Intra-State Thermal units to 40% as per the CEA (Flexible Operation of Coal based Thermal Power Generating Units) Regulations, 2023.
- ❑ MSEDCL surrendered its share from Central Sector allocation to minimum level during Solar hours.
- ❑ BEST has purchased around 250 MW power in RTM to meet its demand shortfall during Solar hours.

*Note: Primary observation are based on the real time SCADA data and it will be verified after receipt of meter data for the weekly DSM bills*



Agenda No.\_\_\_\_

Discussion on obtaining frequency  
response from RE plants

## Compliance requirements

- ❑ As per the CEA (Technical Standards for Connectivity to the Grid) Regulations, 2019, RE plants are mandated to provide following compliance:
  - Active Power Control
  - Reactive Power Control
  - Frequency control
  - Voltage rider through (LVRT/HVRT)
- ❑ There are around 32 Nos. of RE Plants having capacity 2846MW (Wind: 393MW, Solar-2453MW ) having Power Plant Controllers
- ❑ Various responses as per CEA Standards can be obtained by adopting settings & modes in the PPC
- ❑ MSLDC has carried out a study of data collected from REMC SCADA system for some of the RE plants to observe the behaviour of the plants
- ❑ It has been observed that almost all the plants are operating under Power Factor Control Mode and maintaining the Plant Power Factor within +/- 0.95
- ❑ However, as per the CEA Standards, 10 % Active Power change against primary Frequency response when frequency reaches to 50.3 Hz
- ❑ In last few instances, it has been observed that due to demand crash and surplus Generation availability at National level, the Grid frequency reaches to/above 50.3 Hz under such conditions, response from RE Plants is mandatory for Grid security

***OCC Members may like to Discuss***

Agenda No.\_\_\_\_

Power Quality Measurement of RE  
Plants at Pol

## Compliance requirements

As per clause B1(4) in part-II of CEA Technical Standards for Connectivity to the Grid Regulation, as reproduced below -

*“Measurement of harmonic content, DC injection and flicker shall be done **at least once in a year** in presence of the parties concerned and the indicative date for the same shall be mentioned in the connection agreement;*

*Provided that in addition to annual measurement, if distribution licensee or transmission licensee or the generating company, as the case may be, desires to measure harmonic content or DC-injection or flicker, it shall inform the other party in writing and the measurement shall be carried out within 5 working days“*

Further, The Working Group report – June-2023, constituted by CEA had been circulated vide letter MSLDC/Tech/OP/REMC/CEA/1018 dated 15-06-2023 towards Data Submission Procedure and Verification of Compliance to CEA Regulations on Technical Standards for Connectivity to the Grid, it is directed that,

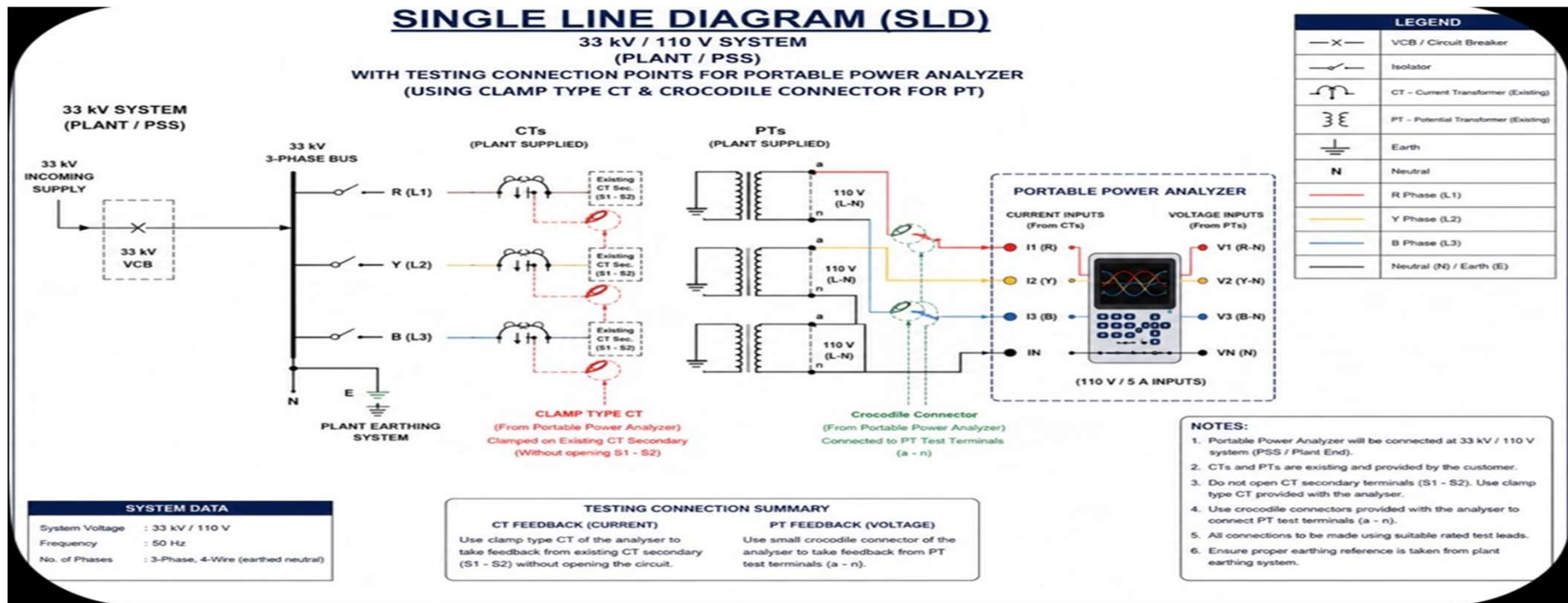
***“The RE generator shall carry out the Power Quality Test (Harmonics content , DC injection, Flicker) on yearly basis and Assessment report shall be submitted on an annual basis post commissioning of plant“***

**OCC Members may like to Discuss**

## Compliance requirements

Accordingly, this office has been circulated the letter vide reference Ref. CE/MSLDC/REMC-OP/CEA-comp/ 576 Date: 16.03.2026 Requested to submit the testing schedule date & action plan.

Now, the RE Generating Companies/Developer has approached MSETCL field authorities for granting permission to conduct the Power Quality Tests using portable measuring devices. The Schematic connection diagram is as below:



**OCC Members may like to Discuss**

## **Compliance requirements**

However, the field offices has requested to submit SOP/guidelines for conducting the said tests. In this regard, it is to state that no specific SOP/guidelines for conducting Power Quality Tests have been prescribed under the prevailing Regulations/reports. The issue was discussed with WRLDC. It was informed that PQM meters are installed at PoI and hence, no need of such device is required.

Hence, necessary guidelines are required in this matter.

***OCC Members may like to Discuss***

**THANK YOU**



|                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                       |                                                                                                                                         |                                                                                     |
|-----------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  <p>RIGHT TO<br/>INFORMATION</p>     | <div style="text-align: center;"> <br/> <b>MAHATRANSCO</b><br/> <small>Maharashtra State Electricity Transmission Co. Ltd.</small> </div> <p style="text-align: center;"><b>MAHARASHTRA STATE ELECTRICITY TRANSMISSION CO.LTD.</b><br/> CIN NO. U40109MH2005SGC153646</p> <p style="text-align: center;">Maharashtra State Load Dispatch Center</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;"> Tele :91-022-27601762 (P)<br/> 91-022-27601931 (O) Extn.1003<br/> Email : ceslde@mahaslde.in<br/> website : www.mahaslde.in </td> <td style="width: 50%;"> Office of The Chief Engineer<br/> Maharashtra State Load Dispatch Center<br/> Thane-Belapur Road, P.O. Airoli<br/> Navi Mumbai Pin – 400 708. </td> </tr> </table> | Tele :91-022-27601762 (P)<br>91-022-27601931 (O) Extn.1003<br>Email : ceslde@mahaslde.in<br>website : www.mahaslde.in | Office of The Chief Engineer<br>Maharashtra State Load Dispatch Center<br>Thane-Belapur Road, P.O. Airoli<br>Navi Mumbai Pin – 400 708. |  |
| Tele :91-022-27601762 (P)<br>91-022-27601931 (O) Extn.1003<br>Email : ceslde@mahaslde.in<br>website : www.mahaslde.in | Office of The Chief Engineer<br>Maharashtra State Load Dispatch Center<br>Thane-Belapur Road, P.O. Airoli<br>Navi Mumbai Pin – 400 708.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                       |                                                                                                                                         |                                                                                     |

Ref :-CE/MSLDC/OP/ **000924**

Date: **22 APR 2026**

**To**  
**All mailing list,**  
**(All generators and DISCOMs)**

**Sub: -** Invitation of comments/suggestions on draft Zero schedule procedure for intrastate thermal and gas based generating stations.

**Ref: -** Case No. 210 of 2025 of Tata Power Company Ltd.-Distribution seeking permission for “Zero Schedule” of the Unit 7 (APM Gas) when operated in Open Cycle

Dear Sir,

In pursuance of the Order issued in Case No. 210 of 2025, the Commission has directed MSLDC to prepare a procedure for zero-scheduling of intra-State gas-based generating stations, in consultation with stakeholders, and to finalize the same upon acceptance by OCC and GCC. Further, as per clause 28.2 (f) of MEGC regulations 2020, MSLDC has prepared a draft procedure for zero-scheduling of intra-State thermal and gas-based generating stations.

All stakeholders are requested to kindly provide their comments/suggestions on the enclosed draft procedure by 30.04.2026 at 17:00 Hrs in the specimen format enclosed herewith only. The comments/suggestions received after 30.04.2026 or not as per format enclosed shall not be considered. The comments or suggestions are to be submitted on email ID [scheduling@mahaslde.in](mailto:scheduling@mahaslde.in) only. The comments or suggestions received on any other email ID shall not be considered.

The comments received shall be compiled and placed before the OCC and GCC for deliberation and approval.

The draft procedure is enclosed herewith for your reference.

Enclosed-

- 1) Mailing list of generators and DISCOMs
- 2) Draft procedure for “Zero Schedule”
- 3) Specimen format for comment/suggestion.
- 4) Hon’ble MERC Order in case no-210 of 2025.



Girish Pantoji.  
Chief Engineer (Incharge),  
MSLDC, Airoli

C.s.w.r.to: -

- 1) The Executive Director, MSLDC



## **Mailing list**

### **Generators:-**

- 1) The Chief Engineer, generation works, MSPGCL.
- 2) The Chief Engineer, Regulatory Cell, MSPGCL.
- 3) Head of department-TPC-G
- 4) Head of department-ADTPS
- 5) Head of department-JSW
- 6) Head of department-APML
- 7) Head of department-SWPGL
- 8) Head of department-VIPL
- 9) Head of department-VMEPL
- 10) Head of department-JPL
- 11) Head of department-JSW
- 12) Head of department-RIPL

### **DISCOMs:-**

- 1) The Chief Engineer, power purchase, MSEDCL.
- 2) The Superintending Engineer, LM cell, MSEDCL.
- 3) Adani Electricity Mumbai Limited
- 4) AEML Seepz Limited
- 5) Brihanmumbai Electric Supply And Transport Undertaking
- 6) Eon Kharadi Infrastructure Private Limited Sez-2
- 7) Eon\_Kharadi\_Infrastructure\_Private\_Ltd\_Sez\_1
- 8) Gigaplex Estate Private Limited
- 9) Indian Railways\_Cr
- 10) JNPT
- 11) Krc Infrastructure And Projects Pvt Ltd
- 12) Laxmipati Balaji Supply Chain Management Limited
- 13) MADC
- 14) Maharashtra Industrial Township Limited-Shendra
- 15) Maharashtra Industrial Township Limited-Bidkin
- 16) Mindspace Business Parks Pvt Ltd
- 17) Nidar Utilities Panvel Llp
- 18) Sez Biotech Services Private Limited Hadapsar Sez
- 19) Sez Biotech Services Private Limited Manjari Site
- 20) TPCD

Draft Procedure for Instructing Zero Schedule of  
Generating Unit in the  
State of Maharashtra

In accordance with  
The Maharashtra Electricity Grid Code 28.2 (f)

Prepared by  
Maharashtra State Load Despatch Centre

## TABLE OF CONTENTS

|                                                                              |    |
|------------------------------------------------------------------------------|----|
| 1. Background.....                                                           | 3  |
| 2. Objectives.....                                                           | 3  |
| 3. Applicability.....                                                        | 3  |
| 4. Scope.....                                                                | 4  |
| 5. General Guidelines for 'Zero Schedule' for InSGS Connected to InSTS ..... | 4  |
| 6. Conditions for Zero Scheduling.....                                       | 5  |
| 7. Revival/Restoration of unit under Zero Schedule.....                      | 5  |
| 8. Concurrence to Zero Schedule by SLDC.....                                 | 6  |
| 9. Notice to Generator.....                                                  | 6  |
| 10. Operational Conditions during Zero Scheduling.....                       | 6  |
| 11. Restoration of unit under Zero Schedule .....                            | 7  |
| 12. Indemnity of SLDC.....                                                   | 8  |
| 13. Grievance redressal .....                                                | 8  |
| ANNEXURE-1.....                                                              | 9  |
| ANNEXURE 2.....                                                              | 10 |

## **1. Background**

In the prevailing power system operation framework, scheduling and despatch of generating stations is carried out by the State Load Despatch Centre (SLDC) to ensure secure, reliable and economical operation of the grid as per provisions of MEGC 2020.

It is often the case that forecasted demand by any distribution licensee is expected to be lower than the total contracted sources availability put together and hence to optimize their resources, a distribution licensee may propose a zero schedule for any contracted generating unit with the approval of MSLDC.

Hence to facilitate the zero schedule to generating units by distribution licensees in coordinated, transparent, and seamless approval considering grid constraints the procedure is extended to all other generators such as thermal, coal, lignite, gas etc. as per clause no-28.2 (f) of MEGC 2020 and directives as per MERC Order dt.31.12.2025 in case of. 210 of 2025

## **2. Objectives**

To define a transparent, consistent, and regulatory-compliant procedure for implementation, monitoring, review, and withdrawal of **Zero Schedule (ZS)** of generating units, ensuring:

- Grid security and operational reliability
- Least-cost power procurement
- Clarity on of roles and responsibilities

The objective is to lay down the procedure for withdrawal/ revival of the generating unit(s) of the generating station under Zero schedule in the state of Maharashtra in specific grid conditions as per the clause 35 of MEGC, 2020.

## **3. Applicability**

This procedure shall be applicable to:

- All Intra-State Generating Stations (InSGS),(Coal,lignite and gas) connected to Intra-State Transmission System (InSTS) operating under MOD stack.
- All Distribution Licensees (DISCOMs) contracting power from such generating stations.
- State Load Despatch Centre (SLDC) while exercising its statutory functions .

#### **4. Scope:**

This procedure covers:

- Conditions under which Zero Scheduling may be considered.
- Request mechanism by Distribution Licensee.
- Evaluation and concurrence process by SLDC.
- Methodology for identification of zero schedule units.
- Operational requirements during zero schedule.
- Revival of zero schedule units.
- Withdrawal of SLDC concurrence.
- Daily review and contingency actions.
- Financial responsibility and indemnity of SLDC.

#### **5. General Guidelines for ‘Zero Schedule’ for InSGS Connected to InSTS**

1. Distribution licensee may issue 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 considering solar and non-solar peak demand and honouring the technical minimum of all units on bar.
2. SLDC shall provide its concurrence to the proposed “Zero Schedule” by distribution licensee after reviewing the demand-supply position, transmission constraints and overall system condition.
3. If such review prevents the Zero Scheduling of the Unit with the highest variable charge in the MOD stack, the Unit with the next highest variable charge shall be considered by concerned DISCOM.
4. The Distribution licensee shall give at least 8 hours prior notice of the Zero Scheduling to the generator on bar to enable it to take steps for smooth removal of the Unit from the Grid.
5. No maintenance work shall be carried out when the generating unit will be under Zero Scheduling.
6. Provided that, if a generating station/unit requires any maintenance under Zero Scheduling, same shall be done in due consultation and consent of their respective buyer and approval from SLDC.
7. In case of multiple contracts of one generator with different DISCOMS/Buyer ,the unit can be withdrawn on Zero Schedule only after receipt of all DISCOMS/Buyer consent.
8. In the event that a distribution licensee intends to place a generating unit that is already under planned or forced outage on zero schedule; the concerned generator shall submit a Healthiness Certificate to MSLDC and distribution licensee. Only upon receipt of the Healthiness certificate from generator, the

MSLDC shall consider the request for Zero Scheduling of such Generating Unit subject to review before issuing concurrence.

## **6. Conditions for Zero Scheduling**

Zero Scheduling may be considered when:

- Anticipated generation availability exceeds anticipated demand of any distribution licensee.
- Distribution Licensee optimizes power procurement cost considering contracted sources.
- Any distribution licensee may request for requisitioning a zero-schedule corresponding to their PPA quantum in that unit. No distribution licensee may request zero schedule for the unit.
- In a case where a single distribution licensee has multiple PPAs with a generator, if the licensee requests for zero schedule in one of the PPAs, only that specific PPA will be treated under zero schedule. However, the unit(s) associated with that PPA will not be classified under zero schedule.
- In cases where a single distribution licensee has multiple PPAs with a generator, and the licensee requests for zero schedule all PPAs linked to a particular generating unit, only then will the entire unit be treated as being under zero schedule.

## **7. Request for Zero Schedule by Distribution Licensee**

The Distribution Licensee shall submit a written request to SLDC as per **Annexure-1** and **2** with a copy to the concerned generator :-

- 1) In case of coal based generators twelve (12) hours before the proposed zero schedule.
  - 2) In case of gas based generators five (5) hours before the proposed zero schedule.
- Period for which Zero Scheduling is proposed.
  - Name and capacity of generating unit(s).
  - Merit Order Dispatch (MOD) position with variable charges.
  - Demand-supply forecast i.e Resource adequacy plan during period of zero schedule proposed.
  - Confirmation that zero schedule does not adversely impact Resource Adequacy/contingency plan in case tripping of existing resources causes adverse impact on RA.
  - Details of alternative sources, if any

## **8. Concurrence to Zero Schedule by SLDC**

SLDC shall examine the request considering:

- State demand–supply position (Resource Adequacy submitted by concern distribution licensees as per Annex 2 for the period zero schedule of unit is proposed)
- Grid security and reliability
- Transmission system constraints
- Operational feasibility, ATC/TTC etc.
- If grid constraints prevent Zero Scheduling of such unit:
  - Unit with next highest variable charge may be proposed by concerned distribution licensee.
- Upon receipt of concurrence, the distribution licensee coordinates with the generator and punches the zero schedule through the designated module of the scheduling software.
- The MSLDC shall communicate concurrence/non-concurrence of zero schedule to the distribution licensee with copy to respective generator after receipt of zero schedule request by distribution licensee.
- SLDC's concurrence shall be:
  - Operational in nature
  - Non-commercial
  - Issued without any financial liability

## **9. Notice to Generator by Distribution licensee: -**

- After receipt of Concurrence from SLDC, the Distribution Licensee shall issue at least eight (8) hours prior notice to the coal based generator and 30 minutes for gas based generators.
- If notice for zero schedule from the distribution licensee is not issued before eight (8) hrs for coal based and 30 minutes for gas based generators of the scheduled withdrawal, it is at the discretion of generator to accept the withdrawal of unit or extension period for withdrawal.

## **10. Operational Conditions during Zero Scheduling**

- No maintenance shall be carried out during Zero Scheduling
- If maintenance is required:
  - Prior consent of buyer and approval of SLDC is mandatory

## **11. Restoration of unit under Zero Schedule**

### **11.1 By Distribution Licensee**

If a coal based unit is required to be scheduled during pre-declared Zero Schedule period, the buyer shall intimate the generator atleast 72 hours in advance for the unit(s) to come on a bar from cold start and atleast 8 hours in advance for hot start and atleast 24 hours in case of warm start condition after consent of SLDC.

However, if a gas based unit is required to be scheduled during pre-declared Zero Schedule period, the buyer shall intimate the generator atleast 30 minutes in advance for the unit(s) to come on a bar after consent of SLDC.

### **11.2 Withdrawal of concurrence to Zero Scheduling by SLDC**

SLDC may withdraw its concurrence to units under zero Schedule at any time if required with assessment of system conditions such as listed below, but not limited to:

- Any operational contingency
- System security needs
- Transmission outages/trippings/breakdowns.
- Sudden demand surge, High overdrawal beyond permissible limit, low frequency
- Renewable variability
- ATC/TTC violations etc.
- Reliability Assessment
- Continuous RA review by SLDC.

The SLDC shall communicate the withdrawal of consent with reasons to the concerned distribution licensee.

Withdrawal of concurrence to zero schedule by SLDC means the distribution licensee must direct the concerned generator to bring the unit on bar immediately honouring its Technical minimum level (MTL).

Such withdrawal /modification of concurrence shall not attract any financial or legal liability on SLDC. The instructions issued from SLDC time to time during such withdrawal of concurrence shall be binding on respective discom and generating company.

In case of withdrawal of concurrence of zero schedule of any unit by SLDC the respective distribution licensee shall be liable to absorb the power irrespective of unit's position in MOD stack.

The withdrawal of consent will effectively close the zero schedule request and the unit shall be taken on bar. After restoration of normalcy (as listed above) due to which the SLDC has withdrawn the consent for zero schedule; the unit will not automatically go under zero schedule. If a distribution licensee wishes to put such unit in zero schedule after restoration of normalcy; a new application would be needed following the procedure.



## **12. Indemnity of SLDC**

All actions taken by SLDC under this procedure:

- Are in discharge of its statutory duties.
- Are purely operational and non-commercial.
- Shall not make SLDC liable for:
  - Financial losses
  - Commercial disputes
  - PPA-related claims

## **13. Grievance Redressal:**

13.1. MSLDC shall refer the Complaints regarding unfair practices, delays, discrimination, lack of information, supply of wrong information or any other matters to the OCC /GCC /Commission for redressal.

13.2. Any Difficulty /disputes between distribution licensees, generators, control centres or Users shall be resolved by in OCC/GCC forum as the case may be.

13.3 In case of any Difficulty /disputes, the decision of GCC shall be final and shall be binding on all users.

**Annexure-1:** Format for Requisition for Zero schedule by  
Distribution licensee: -

| Sr no. | Particulars                                                                                                                     | To be filled by concerned Distribution licensee |
|--------|---------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|
| 1      | Name of generating unit/PPA                                                                                                     |                                                 |
| 2      | Number of generating unit                                                                                                       |                                                 |
| 3      | Capacity of generating unit/PPA                                                                                                 |                                                 |
| 4      | Period for which Zero Scheduling is proposed (From _____To_____)                                                                |                                                 |
| 5      | Merit Order Dispatch (MOD) position                                                                                             |                                                 |
| 6      | Confirmation that zero schedule does not adversely impact Resource Adequacy                                                     |                                                 |
| 7      | Contingency plan in case tripping of existing resources                                                                         |                                                 |
| 8      | Demand-supply forecast i.e Resource adequacy plan during period of zero schedule proposed (Excel sheet to be attached annex 2 ) |                                                 |

Authorised signatory of  
Distribution licensee

**Annexure 2-** Demand–supply forecast i.e Resource adequacy  
plan during period of zero schedule proposed  
**As per attached excel sheet**

**Annexure\_2\_ Demand–supply forecast i.e Resource adequacy  
plan during period of zero schedule proposed**

### Day Ahead forecast by State in respect of Demand, Availability and Shortages

Details for State: Maharashtra

For Date: \_\_\_\_\_

[illegible]

[illegible]

**Discussion on Comments on Draft Procedure for  
Instructing Zero Schedule of Generating Unit in the State  
of Maharashtra**

**26.05.2026**

## **Chapter 2. Objectives**

### **Comment-1 (MSPGCL)**

- 1) MSPGCL agrees with the three basis aspects / objectives mentioned in the Draft under the "Objectives". MSPGCL suggests that the procedure should also mention that the order-of-priorities for these objectives will be same as per the sequence given in the Draft.
- 2) The Draft procedure should follow the Guidelines in the MEGC, 2020. Also, there is no clarity as to why the Draft procedure is being prepared at this stage when such guidelines are already provided under the MEGC, 2020. It is a welcome step, assuming that the draft procedure is being prepared for detailing the procedure for gas-based thermal stations and for the actions to be taken by SLDC while issuing concurrence / withdrawal of concurrence to "zero schedule" requests, based on analysis of demand / supply situation as well as grid stability / security issues. Insistence by SLDC on detailed scrutiny about the "Demand / supply projection analysis" will be more helpful in ensuring avoidance of grid stability & Security issues. .

### **➤ Comment by MSLDC**

- 1)The order of priorities is as mentioned in chapter 2.
- 2)The guidelines for “Zero Schedule” for InSGS connected to InSTS, as specified in the principal regulation MEGC 2020, remain unchanged. However, based on the operational experience gained from the DSM regime and considering certain operational difficulties, specific modifications have been incorporated into the Zero Schedule procedure as per provisions 28.2 (f) of MEGC 2020.

## **Chapter 3. Applicability**

### **Comment-2 (MSPGCL)**

The MERC case No. 210 of 2025 was specifically in the context of "Open cycle" operations of gas-based units and in the proceedings for this matter, the issues and difficulties regarding "take or pay" penalties are discussed in details. Thus, MSPGCL opposes the applicability of the Draft procedure for gas-based stations in "Combined cycle" mode operations and suggests to exclude "Combined cycle" operations of Gas based thermal stations from applicability of the Draft procedure. MSPGCL also submits that for "open cycle" operations of gas-based stations, the current ECR (i.e. MoD rate) is above Rs.8/kWh, which is substantially higher and thus, extending applicability of "Zero schedule" procedure to gas based units in Open cycle operations is logical.

### **➡ Comment by MSLDC**

This procedure is applicable for the gas based generators whose schedules are issued through MOD principles. In case the gas based generator is operating under “open cycle”, concerned DISCOM may give the zero schedule. Gas based station operating under combined cycle mode is constrained generation and need to be discussed.



### **Comment-3 (MSPGCL)**

The Draft procedure is focused on assessment of "Anticipated generation availability exceeds anticipated demand of any distribution licensee" as primary condition for issuing "Zero schedule" instruction. Definitely, this is very essential. However, in all the discussions related to such assessment through various related aspects like solar/ non-solar peak demand, technical minimum of all units on Bar, Resource Adequacy etc., there is no mention of "Spinning reserve" requirements at the time of issuing "Zero schedule" instructions. Availability of adequate "Spinning reserve" is essential for Grid security and reliability.

Thus, MSPGCL suggests that for the supply surplus assessment, SLDC should also take into account the "spinning reserve" requirement at that time, before giving concurrence to "Zero schedule" request from the Discoms. This will ensure that the grid does not face a situation where "zero scheduling" for a certain capacity puts demand-supply balance at critical level .

### **Comment by MSLDC**

The suggestion is noted and OCC members may comment

## **Chapter 7. Request for Zero Schedule by Distribution Licensee**

### **Comment-4 (MSPGCL)**

Considering the different "unit restoration time" requirements under different plant conditions (e.g. 8 hours for hot start, 24 hours for warm start, 72 hours for cold start in case of coal-based stations), the period for "Zero scheduling" should be fixed in steps i.e. minimum 8 hours, then 24 hours, then 72 hours or more. This will ensure that the generator gets adequate time for the restoration activities as per the Turbine- Boiler precondition requirements in Hot start-Warm start-Cold start situations.

### **Comment by MSLDC**

Zero scheduling period is decided by DISCOMs as per their demand and resources hence it can not be fixed in steps.

## **Chapter 8. Concurrence to Zero Schedule by SLDC**

### **Comment-5 (MSPGCL)**

It is agreed that the concurrence should have no commercial / financial implications on SDLC. The provision of "Zero schedule" shutdown, allows complete backing down of generating unit on purely for commercial optimization and shifts demand variation risk to generator.

Thus, necessary compensation to generators to mitigate the adverse operational & financial impact of such "Zero schedule" outages & restoration must to be ensured. Especially in case of generating units supplying power under Section 62 PPA, such clarity under relevant Regulations as well as in the procedures laid by the concerned implementation authorities as per the Regulations is very essential. In absence of such clarity in the regulations/rules /procedures, the generators will be compelled to adopt approach of litigations, which leads to unnecessary confrontations and delay in recovery of justified cost implications.

### **Comment by MSLDC**

Compensation mechanism is not in the scope of current procedure.

## **Chapter 10. Operational Conditions during Zero Scheduling**

### **Comment-6 (MSPGCL)**

Clarity on the Declared Capacity to be considered during the "Zero schedule" outage period. The MEGC,2020 provided following in this regard "Declared Capacity of generation unit under Zero Schedule shall be considered as higher of Average Declared Capacity for immediate one week prior to Zero Schedule instructions or Maximum Declared Capacity (for minimum 3 hours period) for last 24 hours before commencement of Zero Scheduling.".

### **Comment by MSLDC**

Declared Capacity considered during Zero Scheduling shall be as per the clause no-35.8 mentioned in MEGC 2020

## **Chapter 10. Operational Conditions during Zero Scheduling**

### **Comment-7 (MSPGCL)**

The procedure should also cover the mechanism for necessary compensation to generating units to mitigate the adverse operational & financial impact of such "Zero schedule" outages & restoration

### **Comment by MSLDC**

Compensation mechanism is not in the scope of current procedure.

## **Chapter 10. Operational Conditions during Zero Scheduling**

### **Comment-8 (MSPGCL)**

The routine maintenance activities, which are not affecting generation capability of the unit, needs to be allowed during “Zero schedule” outage period when these activities are planned within the time period between withdrawal time and restoration instruction.

### **Comment by MSLDC**

The suggestion to permit any maintenance activities that do not affect restoration capability of the generating unit may be considered, subject to prior intimation to the buyer and concurrence of SLDC, ensuring that such activities do not impact restoration timelines, or operational readiness of the unit.

If the zero schedule consent is withdrawn by SLDC/DISCOM, it shall be the responsibility of the generator to be capable of synchronizing unit with the grid as per defined timelines.

## **Chapter 11. Restoration of unit under Zero Schedule**

### **Comment-9 (MSPGCL)**

Restoration intimation for operation of gas based units in “open cycle” mode after withdrawal of “Zero schedule” instruction, needs to be given at least 1 hour in advance.

It is suggested that provision of continuous scheduling even for the "open cycle" mode operation unit needs to be made with "Technical minimum" schedule if continuous schedule at declared capacity is not possible due to demand variations. The details for “technical minimum” limit for each gas-based unit in "open cycle" mode operation can be sought from the concerned generators.

### **Comment by MSLDC**

MSPGCL requested that restoration intimation for operation of gas based unit in "open cycle" mode after withdrawal of "Zero schedule" instruction, needs to be given at least 1 hour in advance, OCC members may comment.

## **Chapter 12. Indemnity of SLDC**

*All actions taken by SLDC under this procedure:*

- 1. Are in discharge of its statutory duties.*
- 2. Are purely operational and non-commercial.*
- 3. Shall not make SLDC liable for: Financial losses, Commercial disputes, PPA-related claims.*

### **Comment-10 (MSPGCL)**

While SLDC shall not bear any financial or commercial liability, affected generators have to be compensated through regulatory mechanisms for financial impact arising from such instructions.

### **Comment by MSLDC**

Compensation mechanism is not in the scope of current procedure.



## **Chapter 13. Grievance Redressal:**

Clause 13.3 *In case of any Difficulty /disputes, the decision of GCC shall be final and shall be binding on all users.*

### **Comment-11 (MSPGCL)**

The proposed Procedure is sub-ordinate to the MEGC,2020 and the MEGC,2020 Clause 97.1 provides that "*In the event of any dispute regarding the interpretation of any provision of the MEGC,2020 or rules and procedures notified under the provisions of this MEGC,2020, same may be referred to the GCC. If the dispute is not resolved, the GCC may refer to the Commission with its suggestions/recommendations.*".

Thus, Draft Procedure may be corrected accordingly.

### **Comment by MSLDC**

Any complaints/disputes made by Discom / Generators should refer to SLDC first if there is no resolution at SLDC level then same shall be put up in OCC and subsequently in GCC if required for resolution. The clause 13.3 shall be modified accordingly.

➤ **Comment-12 (MSEDCL)**

Clause 36 of MEGC 2020 explicitly directs SLDC to prepare guidelines for RSD "within one month of notification." The absence of any such specific direction in Clause 35 for Zero Schedule is significant and deliberate.

➤ **Comment by MSLDC**

The procedure is prepared as per directives of MERC in Case No. 210 of 2025, and it is extended to thermal generators to take care of day to day problems observed by MSLDC in issuing and withdrawal of zero scheduling. The procedure streamlines the process and fixes the responsibility of each user. RSD procedure is already prepared by MSLDC and upgradation of same is under process.

► **Comment-13 (MSEDCL)**

Issuing a separate procedure that re-states and re-interprets provisions already notified by the Hon'ble Commission through MEGC 2020 is not warranted, and to the extent any provision of the draft procedure deviates from or adds to Clause 35, it would be without the authority of MEGC 2020.

► **Comment by MSLDC**

The guidelines for “Zero Schedule” for InSGS connected to InSTS, as specified in the principal regulation MEGC 2020, remain unchanged. However, based on the operational experience gained from the DSM regime and considering certain operational difficulties, specific clarity is provided through the draft zero Schedule procedure.

➤ **Comment-14 (MSEDCL)**

The draft procedure states it is also issued pursuant to MERC Order dt. 31.12.2025 in Case No. 210 of 2025. It is requested that the specific operative directions in the said Order that mandate or authorise SLDC to prepare this procedure be explicitly quoted in the draft, so stakeholders can verify the scope of authority conferred and whether any provisions of the draft procedure exceed what the Commission has directed.

➤ **Comment by MSLDC**

The procedure is prepared as per directives of MERC in Case No. 210 of 2025 which is basically for gas based stations However, based on the operational experience gained from the DSM regime and considering certain operational difficulties, specific modifications have been incorporated into the Zero Schedule procedure and extended to thermal generators as per MEGC 2020 clause no. 28.2(f)

*In case of multiple contracts of one generator with different DISCOMS/Buyer, the unit can be withdrawn on Zero Schedule only after receipt of all DISCOMS/Buyer consent.*

► **Comment-15 (MSEDCL)**

SLDC must first put in place a requisition surrender mechanism in the DSM software analogous to the ISGS framework, whereby a DISCOM with intact RA can surrender its PPA quantum to the grid pool. In the absence of such a mechanism, imposing TM absorption liability on a DISCOM whose RA is unaffected is operationally unjustifiable and disproportionate.

► **Comment by MSLDC**

This procedure is only for conditions for withdrawal of unit under zero schedule and its revival. Presently there is no such regulatory provision in regards to the surrendering of power and sharing the same with other utilities

## Conditions for Zero Scheduling

*In case of multiple contracts of one generator with different DISCOMS/Buyer ,the unit can be withdrawn on Zero Schedule only after receipt of **all** DISCOMS/Buyer consent.*

*In a case where a single distribution licensee has multiple PPAs with a generator, if the licensee requests for zero schedule in one of the PPAs, only that specific PPA will be treated under zero schedule. However, the unit(s) associated with that PPA will not be classified under zero schedule.*

### ► **Comment-16 (MSEDCL)**

In case of multiple contracts of one generator with different DISCOMS/Buyer ,the unit can be withdrawn on Zero Schedule after receipt of **any single** DISCOMS/Buyer consent.

### ► **Comment by MSLDC**

If single buyer consent received, the generators cannot be withdraw on zero schedule as that generator has obligation to supply power to other PPA holders, hence the coordination is required among all buyers.

## Draft Procedure Renders Selective Unit-Level Zero Schedule Impossible in Standard Multi-PPA Single-DISCOM Scenarios

### ■ Comment-17 (MSEDCL)

As per proposed draft procedure, in “Single Generator-Single Discom-Multiple PPA” scenario, the distribution licensee is left with only two choices — zero schedule nothing, or zero schedule the entire station. The selective unit-level zero schedule — which is precisely what MEGC 2020 Clause 35 intended when it used the word "some" in "some of its contracted sources" — is rendered completely impossible in this standard scenario.

It is therefore submitted that Clause 6, Para’s 3, 4 and 5 of the draft procedure are not merely beyond the scope of MEGC 2020 — they actively defeat the economic despatch objective that is the very foundation of Clause 35. The appropriate approach, consistent with MEGC 2020, is to treat zero schedule as a unit-level instrument as the Commission originally intended, should be followed.

In a case where a single distribution licensee has multiple PPAs with a generator, if the licensee requests for zero schedule in one of the PPAs, only that specific PPA will be treated under zero schedule. ~~However~~, Also the unit(s) associated with that PPA will ~~not~~ be classified under zero schedule.

### ■ Comment by MSLDC

Clause 6(3) shall be removed from the procedure.

Clause 6(4),6(5) of draft procedure

- *In a case where a single distribution licensee has multiple PPAs with a generator, if the licensee requests for zero schedule in one of the PPAs, only that specific PPA will be treated under zero schedule. However, the unit(s) associated with that PPA will not be classified under zero schedule. Alternatively if single distribution licensee if applied for unit under zero schedule with multiple PPA of same discom, then all the declared power under each PPA of that unit shall be zero.*

## **Request for Zero Schedule by Distribution Licensee**

### **➤ Comment-18 (MSEDCL)**

1. zero schedule request from discom to SLDC should be treated as notice to the generator,
2. Strict timeline of 60 minutes for finalising concurrence on zero schedule requests by SLDC should be part of procedure.
3. SLDC in consultation with stakeholders, review the feasibility of reducing the zero schedule notice period below 8 hours.

### **➤ Comment by MSLDC**

1. Separate notice to generator shall be given by respective DISCOM after receipt of concurrence from SLDC.
2. SLDC has to examine transmission constraints and Resource Adequacy and other constraints in real time along with day to day real time activity and hence four (4) hrs required.
3. 8 Hrs earlier notice to generator as per MEGC clause 35.6, however Generator may comment



## **Period for which Zero Scheduling is proposed**

### **➤ Comment-19 (MSEDCL)**

Confirmation that zero schedules does not adversely impact Resource Adequacy/contingency plan in case tripping of existing resources causes adverse impact on RA.

It is submitted that Distribution Licensees (Discoms) are currently undertaking their own demand forecasting and submitting Resource Adequacy (RA) plans for a 72-hour horizon based on prevailing generation availability, along with applicable margins.

In this regard, it is requested that the State Load Despatch Centre (SLDC) may also independently carry out demand forecasting and Resource Adequacy studies, without solely relying on inputs provided by Discoms. This would enable improved visibility, enhanced validation, and more informed decision-making for overall grid reliability and system security.

### **➤ Comment by MSLDC**

RA made before 72 hrs is tentative to assess zero schedule of unit, hence proposal for zero schedule by the DISCOM should be sent to SLDC by considering the day ahead or real time RA.

## **Clause 8-Operational feasibility, ATC/TTC etc**

### **Comment-20 (MSEDCL)**

- a robust process for verification of operational feasibility, including (ATC), (TTC), and other system constraints, be implemented with immediate effect for finalizing concurrence to zero schedule requests.
- where concurrence is denied on account of such constraints, resulting in the Discom being compelled to keep costlier generation on bar, the same should be promptly published with cause details on the official website of the SLDC for record and transparency purposes.
- SLDC may regularly publish all prevailing operational constraints on its official website, clearly indicating the nature of the constraint, the time period from which such constraint has been in existence, and its current status, including cases where the issue remains unresolved.
- SLDC, with the approval of the Hon'ble Commission, may consider introducing an appropriate penalty mechanism to recover the additional cost burden arising from such constraints from the defaulting entity. It is also requested that such costs should not be allowed as a pass-through in ARR, thereby ensuring accountability in system operations and safeguarding the interests of end-use consumers.

### ■ **Comment by MSLDC**

In case of non concurrence of zero schedule by SLDC, operational constraints will be informed to the DISCOM.

Compensation mechanism is not in the scope of current procedure.

## **Notice to generator by distribution licensee**

### **Comment-21 (MSEDCL)**

- It is submitted that the Distribution Licensee shall comply with the timelines specified under the Maharashtra Electricity Grid Code for issuing zero schedule instructions to generators.
- However, it is requested that the procedure may also provide for appropriate intervention by the SLDC in situations involving grid constraints. In such cases, SLDC may direct the generator to withdraw the unit under zero schedule with immediate effect, in the interest of grid security and optimal system operation.

### ➤ **Comment by MSLDC**

The clause 11.2 of procedure covers the appropriate intervention by the SLDC in situations involving grid constraints

## **Withdrawal of concurrence to Zero Scheduling by SLDC**

### **Comment-22 (MSEDCL)**

- In cases where concurrence for zero scheduling is withdrawn by the State Load Despatch Centre (SLDC), the same is communicated to both the Distribution Licensee (Discom) and the generator.
- Once normal system conditions are restored, on account of which such concurrence was earlier withdrawn, the SLDC may also communicate the restoration of operational feasibility to the Discom in a timely manner.
- If the SLDC withdraw its concurrence to units under zero Schedule at any time if required with assessment of system conditions viz. Any operational contingency, System security needs, Transmission outages/trippings/breakdowns, Sudden demand surge, High overdrawal beyond permissible limit, low frequency, Renewable variability, ATC/TTC violations etc., for which contracted Discom is not responsible, the contracted Discom shall be compensated for fixed charges, variable chargers, any other charges as levied by the generator to the contracted buyer / Discom and SLDC shall recover the said charges from the state entities responsible including transmission licensees and RE generators. Further these charges as levied to the responsible entities shall not be passed through in their tariff petitions.

### ■ **Comment by MSLDC**

Compensation mechanism is not in the scope of current procedure.

## **CHAPTER no. 5, Clause 4**

*The Distribution licensee shall give at least 8 hours prior notice of the Zero Scheduling to the generator on bar to enable it to take steps for smooth removal of the Unit from the Grid.*

### **Comment-23 (TPCL)**

- Clarification is required regarding the prior notice period of 08 hours, as the subsequent clauses (Clause 9 and Clause 11.1) specify different timelines, namely 08 hours for thermal stations and 30 minutes for gas-based stations. Separate comments on the applicable timelines have been provided against the respective clauses for clarity and consistency. Once normal system conditions are restored, on account of which such concurrence was earlier withdrawn, the SLDC may also communicate the restoration of operational feasibility to the Discom in a timely manner.

### ■ **Comment by MSLDC**

In chapter no.5, Clause 4; 30 minutes for gas-based stations point was missed and same will be incorporated in the procedure.

## **CHAPTER no. 5, Clause 8**

*In the event that a distribution licensee intends to place a generating unit that is already under planned or forced outage on zero schedule; the concerned generator shall submit a Healthiness Certificate to MSLDC and distribution licensee. Only upon receipt of the Healthiness certificate from generator, the Page 5 of 10 . MSLDC shall consider the request for Zero Scheduling of such Generating Unit subject to review before issuing concurrence.*

### **Comment-24 (TPCL)**

- Clarification is requested regarding the format and mode for submission of the healthiness certificate by the Generator—whether the certificate is to be submitted via email or through any other prescribed format or platform.

### ➤ **Comment by MSLDC**

Healthiness certificate shall be incorporated in the procedure and the same should be submitted by generator via email or any other data sharing portal.

## **CHAPTER no. 6, Clause 3**

*Any distribution licensee may request for requisitioning a zero-schedule corresponding to their PPA quantum in that unit. No distribution licensee may request zero schedule for the unit.*

### **► Comment-25 (TPCL)**

For Trombay units, the PPA allocation is 51%: 49% between two distribution licensees (TPCD and BEST). In such a scenario, maintaining the technical minimum load of 55% becomes infeasible if one distribution licensee schedules zero of its entitlement. Hence, this clause must explicitly ensure that the technical minimum load is maintained, irrespective of individual zero-schedule requirements by any distribution licensee.

### **► Comment by MSLDC**

Clause 6(3) shall be removed from the procedure.

Zero scheduling of TPCG generators shall be as per the clause 5(7) of draft procedure only.



## **CHAPTER no. 7, Clause 1,2**

### **► Comment-26 (TPCL)**

#### **1)Zero Schedule – Thermal Stations (Imported Coal Based):**

Trombay units are operated on 100% imported coal, for which fuel planning and procurement are undertaken at least 6 months in advance.

If zero-schedule instructions are issued for more than 10 days, then intimation must be given in advance atleast 45 days ahead of zero schedule. Otherwise, with a 12-hour notice period for longer duration, coal stock accumulation may occur, leading to significant operational and financial impact due to inventory build-up and space constraint.

#### **2) Zero Schedule – Gas Based Stations:**

Gas for the stations is procured from GAIL, which allocates quantities on the previous day evening.

If a gas-based unit receives zero-schedule instructions 30 minutes prior, the already allocated Daily Nominated Quantity (DNQ) may remain unutilized, potentially attracting penalties under the Take-or-Pay clause.

Zero schedule for long duration will also impact contractual obligation for non utilization of GAS which required 75 days prior intimation to GAIL.

These commercial and regulatory implications should be duly considered before issuing zero-schedule instructions for gas-based units.

3) Further, In present MEGC code, schedule can be given after 03 times blocks, in these scenario, generator will be in the position to comply from 04th block onwards and with the Defined Ramp rate. Hence, same should be considered in the procedure.

### **► Comment by MSLDC**

1)Zero schedule of unit is reviewed daily basis considering the grid constarints,RA etc hence 10 days continuous zero schedule of units can not be ascertained.

2)Noted , regarding point no.3 - OCC members may comment.



# New clause to be added-by TPCL

- 1) APC drawl in case of unit outage under zero schedule is to be born by Distribution licensee
- 2) Capping of the maximum duration of the Zero schedule- The clause does not specify any maximum capping period for which a unit can be kept under zero schedule. Therefore, a maximum permissible duration (capping) for zero scheduling must be clearly defined to safeguard the Generator's operational and financial interests.
- 3) Restoration of Coal based Unit must embed realistic thermal start-up lead times, reinforcing that ZS is not "instant reversible" for coal. From Unit Synchronization to Full Schedule, TSE allowance, BWC/Silica margins etc are important. Hence restoration schedule must come as per consideration of above factors.

## **Comment by MSLDC**

- 1) The comment is not part of the procedure.
- 2) Zero scheduling period is decided by DISCOMs as per their demand and available resources, hence it can not be capped.
- 3) Schedules are issued considering the declared ramp rate only.

## **Chapter 6 Conditions of Zero Scheduling**

### **► Comment-27 (BEST)**

Discoms are purchasing power through power exchange for optimizing the power procurement cost. Discoms average power purchase quantum for previous week from power exchange may also be considered for zero scheduling. Discom should submit an undertaking for meeting the availability by purchase through power exchanges or through any other short-term sources up to 10 to 15% of the total quantum of power purchase.

### **► Comment by MSLDC**

Resource adequacy should be ensured by concerned DISCOM while applying for zero schedule further SLDC will verify for concurrence purpose.

## **Chapter 6 Concurrence to Zero Schedule by SLDC**

### **➤ Comment-28 (BEST)**

MSLDC shall communicate concurrence / non-concurrence within 24 Hours from receipt of Zero scheduling request with reasons.

### **➤ Comment by MSLDC**

Timelines in procedure are framed by considering the timelines mentioned in MEGC 2020.

## **Chapter 13 : Grievance Redressal**

*13.1. MSLDC shall refer the Complaints regarding unfair practices, delays, discrimination, lack of information, supply of wrong information or any other matters to the OCC /GCC /Commission for redressal.*

### **► Comment-29 (BEST)**

In the above clause, the word “MSLDC” should be replaced with “MSLDC/Discoms/Generators”

### **► Comment by MSLDC**

Any complaints/disputes made by Discom / Generators should refer to SLDC first if there is no resolution at SLDC level then same shall be put up in OCC and subsequently in GCC if required for resolution.

■ **Comment-30 (BEST)**

BEST is having PPA with TPC Unit 7 having contracted capacity of 180 MW (BEST share 91.11 MW). TPC Unit 7 is having 7A Gas turbine (GT) 120 MW and 7A Steam turbine (ST) 60 MW (Total 180 MW). TPC Unit 7 is available with APM gas as well RLNG Gas. Normally TPC Unit-7 operates with APM gas. If APM gas not available then U7 is available with RLNG. The average variable cost of APM gas is about Rs.5.50/- per kwh and RLNG gas is Rs.12 to 20/- per kwh. The cost of RLNG for the month of April-2026 is Rs.18.658/- per kwh in Closed cycle (Both U7A & 7B available) and Rs.26.119/- per kwh in Open cycle (Only U7A available).

The cost of RLNG is very high. Due to this BEST has given Zero schedule to Unit-7 on RLNG operation to optimise the power purchase cost. Considering this scenario BEST is requesting to continue ZERO scheduling to TPC U-7 on RLNG operation. As regards to other TPCG generating units contracted by BEST, concurrence was never issued for Zero scheduling. BEST requests to allow other costly TPCG generators during low demand periods as and when required.

■ **Comment by MSLDC**

As per procedure the concurrence shall be issued by SLDC considering the system constraints to other TPC generators

## Chapter 5 Clause 4

*The Distribution licensee shall give at least 8 hours prior notice of the Zero Scheduling to the generator on bar to enable it to take steps for smooth removal of the Unit from the Grid*

### ► **Comment-31 (JSW)**

The distribution licensee shall provide at least 12–14 hours' prior notice to the generator, enabling it to take necessary actions in line with prudent operational practices for safe shutdown of the unit. Additionally, residual imported coal remaining in the bunker may undergo spontaneous heating or combustion if the unit remains idle for an extended period. Therefore, adequate time must be allowed to safely empty the bunkers.

### ► **Comment by MSLDC**

Notice period mentioned in the procedure is as per the clause 35 of MEGC 2020

## **Chapter 11.2 Withdrawal of concurrence to Zero Scheduling by SLDC**

### **➤ Comment-32 (JSW)**

In January 2026, the unit was brought into service in compliance with SLDC instructions. However, MSEDCL did not concur with the SLDC's decision and continued to indicate a zero schedule for JSW in its daily requisition emails, despite the unit being in operation. In such instances where the discom does not adhere to the withdrawal of concurrence by SLDC, an appropriate dispute resolution mechanism needs to be defined to ensure that the generator is not subjected to any commercial liability or adverse financial impact.

### **➤ Comment by MSLDC**

This procedure is framed to take care the above issue.

### **Additional comment**

Following clause is to be added in chapter 11; to take care of the ramp up and down during scheduling of RSD instructions keeping the DC preserved for ramp up/down duration as per MEGC 2020 and reproduced below:

Provision as per MEGC 2020, regulation 36.7.

*“The proposed RSD shall be minimum for the period of 72 hours and may be extended as per the system condition. The ramping up and ramping down at the specified rates should be allowed for bringing back the unit on bar and the DC for this period shall be preserved. However, generator would make all efforts to minimize the lit-up time.”*

#### **➤ Comment-33 (JSW)**

We agree with the proposed inclusion of the clause in Chapter 11. The provision appropriately addresses ramping requirements during RSD operation while ensuring that the declared capacity (DC) is preserved during the ramp-up and ramp-down period, in line with MEGC 2020. The stipulated minimum RSD duration of 72 hours, with flexibility for extension based on system conditions, is also acceptable. Further, allowing ramping at specified rates for taking the unit off bar and restoring it to service is operationally appropriate. We also note and agree that the generator shall make all reasonable efforts to minimize the lit-up time.

#### **➤ Comment by MSLDC**

This procedure is only for zero scheduling of units by DISCOMs, separate RSD procedure is already in place.



*Thank you...*