

 RIGHT TO INFORMATION	 MAHATRANSCO Maharashtra State Electricity Transmission Co. Ltd MAHARASHTRA STATE ELECTRICITY TRANSMISSION CO.LTD. CIN NO. U40109MH2005SGC153646 Maharashtra State Load Dispatch Center Tele :91-022-27601762 (P) Office of The Executive Director 91-022-27601931 (O) Extn.1001 Maharashtra State Load Dispatch Center Email : edsldc@mahasldc.in Thane-Belapur Road, P.O. Airoli website : www.mahasldc.in - - Navi Mumbai Pin – 400 708.	
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Ref. No. ED/MSLDC/OP/GCC/ **001999**

Date: **20 AUG 2026**

To,
As per mailing list GCC Core Group Members.

Sub: - Minutes of the 20th Grid Coordination Committee (GCC) meeting held on 10.07.2026 at C.O. Prakashganga, Mumbai.

Ref.: 1. GCC invitation and Agenda Letter No. ED/MSLDC/OP/GCC/No.1669 dtd 06.07.2026
2. Additional Agenda Letter no. ED/MSLDC/OP/GCC/1695 dtd 09.07.2026

Dear Sir,

With reference to the above subject, the Minutes of the 20th Grid Co-ordination Committee (GCC) meeting held at C.O. Prakash Ganga, Mumbai on 10.07.2026 at 10:30 hrs in hybrid mode is enclosed herewith.

Thanking you.

Encl: As above.

With regards,



(Shashank Jewalikar)

Executive Director,

MSLDC

and

Member Convenor of GCC

Copy s.w.rs. to:

The Director (Operations), Corporate Office, MSETCL, Mumbai.

Copy to:

- The Chief Engineer (STU), Corporate Office, MSETCL, Mumbai.
- The Chief Engineer (ACI&P), Corporate Office, MSETCL, Mumbai.
- The Chief Engineer (SLDC), Airoli, Navi Mumbai.

Mailing List of GCC Core Group Members:

Sr. No.	Name of Organization	Name of Nominee/Designation	Committee Position	Contact No.	E-mail ID
1	MSETCL	Shri Satish Chavan, Director (Operations)	Chairperson	022- 26492162	dirop@mahatransco.in
2	MSEDCL	Shri. Yogesh Gadkari Director (Commercial)	Member	022- 26474211 / 26472131	directorcommsedcl@gmail.com
3	MSLDC	Shri. Shashank Jewalikar Executive Director (SLDC)	Member Convener	022- 27301931	edsldc@mahatransco.in edsldc@mahasldc.in
4	MSETCL	Smt. Shilpa Kumbhar (CE Tr. O&M)	Member	8411001431	ceom@mahatransco.in
5	MSPGCL	Shri. Pankaj Nagdeote CE (Works)	Member	022-6942200 69843434 Ext. 3419	cegw@mahagenco.in
6	WRPC	Shri. P. D. Lone, S.E. Commercial	Member	9867622823	comm1-wrpc@nic.in
7	MEDA	Shri Manoj Pise, General Manager	Member	9422319093	gmr@mahaurja.com

Minutes of the 20th Grid Co-ordination Committee meeting held on 10th June 2026 at 10:30 hrs. at C.O., Prakashganga, Mumbai.

The 20th Grid Coordination Committee (GCC) meeting of the Core Group was held on 10.07.2026 at 10:30 hrs at C.O. Prakash Ganga, Mumbai.

The meeting was conducted both physically and via video conferencing. A list of members /participants is enclosed as ANNEXURE - A.

The Executive Director of MSLDC and Member Convener of the GCC welcomed all the members and other participants to the 20th GCC Meeting.

With the permission of the Chair, discussions for the 20th GCC Core Committee began as follows:

Item no 1:-

Discussion on Draft RE Curtailment procedure and comments received from stake holders.

The RE curtailment procedure is discussed in 14th OCC held on 26.05.2026, now put up for Appraisal of GCC committee thereof.

Discussions in GCC:-

Chief Engineer (SLDC), informed that the RE Curtailment procedure is implemented in the State since 31-12-2021 based on approval from OCC & GCC. With the increasing penetration of RE injection, especially Solar and increasing Resource Surplus during Solar hours, there was a need of formulating conditions which would be used to trigger the decision of RE Curtailment. Also, based on the experience gained during implementing the existing Procedure, amendment was needed.

Hence, in accordance with the Regulation No. 28.2 of the MEGC, 200, a draft amended procedure was prepared & published on MSLDC Website on 11-03-2026 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. The grouped comments were discussed in 14th OCC meeting.

Further, the OCC has recommended to put the amended draft procedure for consideration and approval by GCC.

Recommendations of GCC:-

The recommendations of OCC for triggering curtailment based on heavy under-drawl scenario was discussed in detail. The representative of MSEDCL opined that, monitoring of under-drawl & frequency for 4 time blocks may cause penalty to the state, hence curtailment should be carried out without waiting for 4 time blocks. In this respect, the Executive Director, MSLDC opined that, the under-drawl & frequency are dynamic. Further, NLDC/RLDCs are also backing down RE Generation to control frequency, hence any curtailment initiation needs to be a coordinated real time action by the system operator. Hence flexibility should be provided to the grid operator. He further opined that, based on the proposed curtailment triggering mechanism, curtailment should be carried out in this season and the analysis may be carried out for further revision in the curtailment procedure.

The chairman of GCC noted the comments of MSEDCL and views of Executive Director, MSLDC. He further opined that the flexibility should necessarily be kept with MSLDC system operator and decision of curtailment may be taken without waiting for 4 time blocks depending upon real time system conditions and trend.

The representative of MSEDCL requested clarification regarding implementation of Auto Load Generation Balancing scheme at MSKVY sub-stations. MSLDC informed that, this requirement is as per MSKVY policy.

All the GCC members agreed the opinion of Chairman of GCC and Executive Director, MSLDC. Further, in accordance with regulation no. 28.2 of MEGC 2020, GCC has approved draft curtailment procedure for implementation in the state of Maharashtra and submission to Hon'ble Commission for information with following changes:

- Curtailment will be triggered based on Frequency & Deviations at State Periphery.
- MSLDC Control Room System Operator will assess the need of curtailment based on following guiding principles:
 - a) MSLDC System Operator will monitor the Grid Frequency, State Periphery deviations & trend of anticipated Under-Drawl.
 - b) If State U/D is persistently above 1000 MW for consecutive 2 time blocks and the intra-day forecast and trend indicates continuation, 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 #

- c) 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
	State U/D >500 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

- d) Flexibility shall be with the MSLDC Control System Operator to decide action of curtailment considering System conditions rather than sticking to quantum of Under-drawl and time period specified above.

All GCC members took note of the discussions

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 on Draft Zero schedule procedure were discussed in 14th OCC held on 26.05.2026. The OCC has put up the procedure for approval of GCC now. Some of the points where there was disagreement of stakeholders at OCC are also put for deliberation at GCC.

Discussions in GCC:-

MSLDC briefed the background of necessity and regulatory mandate of procedure and presented in detail the “Draft procedure for Instructing Zero Schedule of Generating Unit in the state of Maharashtra”.

The procedure was already discussed in detail and accepted by OCC, in 14th OCC meeting held on 26.05.2026. MSLDC presented the procedure and the points discussed at OCC.

Following decisions are made after deliberation at GCC: -

1) Clause 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

In OCC 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.

Decision in GCC:-

Reduction of generator DC shall be done in the DSM scheduling software as per MEGC grid code 2020, clause no 35.9 during the proposed maintenance activity period.

2) Spinning Reserve

MSPGCL suggests that SLDC should also consider the availability of adequate spinning reserves while assessing demand-supply balance and granting Zero Schedule concurrence, to ensure grid security, reliability, and avoidance of critical supply-demand situations.

MSLDC informed that, there is no ancillary regulation framework in place, hence MERC has directed to study this framework in state. The study is in progress.

“The GCC approved the procedure with these recommendations. The approved procedure is attached as **Annexure 1**”

All GCC members took note of the discussions

Item No.3

Discussion on Average real time data availability of RE plants & penalty:

The average real time data availability of RE plants and Penalty is put up for Appraisal of GCC committee thereof.

Discussions in GCC:-

Chief Engineer, MSLDC appraised the present status of visibility of RE plants. It is informed that the RE plant visibility is below prescribed level. Despite issuance of daily, weekly, and monthly notices, to RE Generator/QCA/Discom no significant improvement has been observed. This issue was discussed during the 11th Operation Co-ordination Committee (OCC) meeting held on 17.11.2025 at MSLDC Airoli. It is also requested to STU to make the arrangement of alternate communication link to RE generators however, the same is still pending. As per the applicable RE Forecasting & Scheduling (F&S) Procedure, RE generators are required to maintain 99.9% real-time visibility, failing which a penalty of ₹5,000 per day is applicable. Continued non-compliance for 15 days may attract further action, including stoppage of scheduling and/or disconnection, as per the applicable regulations and procedures

The Executive Director informed that RE generators have not paid the applicable penalties. It was further informed that, under the existing scheduling and payment mechanism, stoppage of scheduling is not operationally feasible as the RE generators are paid on actual basis.

The Executive Director also informed that the Grid Coordination Committee (GCC) had suggested sharing the details of RE generators having poor real-time visibility with the Distribution Licensees (DISCOMs) so that they follow up the concerned RE generators for improving data visibility.

Further, the MSLDC has requested to STU to extend the existing communication infrastructure to RE generators to facilitate reliable real-time data visibility.

Recommendation in GCC:-

The Grid Coordination Committee (GCC) recommended the following actions against defaulting RE generators:

Non-compliance notices shall be issued to RE generators that have failed to pay the applicable penalties.

RE generators whose real-time data visibility has remained unavailable for the past **six months** shall be issued a **one-month notice** to restore real-time data availability to MSLDC. In the event of continued non-compliance after the notice period, the process for **disconnection**, in accordance with the applicable regulations and procedures, shall be initiated.

All GCC members took note of the discussions.

Item No 4.- Agenda Points from MTC

Agenda Point No. 1:

Replacement of 1x50MVA, 220/33KV T/F with 1x100MVA, 220/33KV Power T/F at 220/33kV Five star MIDC Substation Kagal, under EHV O&M Division Kolhapur under Karad Zone.

Discussions in GCC:-

The CE, STU placed before the GCC a proposal and made the following submissions before the Committee (GCC):

Need of the Scheme

The 220 kV Five Star MIDC Substation was commissioned in 2007. It currently operates with three 50 MVA and one 100 MVA, 220/33 kV transformers, catering predominantly to industrial load (~95%) and a minor agricultural load (~5%).

Presently, 50 MVA Transformer-II and 100 MVA Transformer-IV are operated in parallel. During an outage of the 100 MVA Transformer-IV, the entire load cannot be transferred to the 50 MVA Transformer-II. This results in non-compliance with the N-1 contingency criterion.

Peak demand loading on the existing assets has increased significantly:

Transformer-I: Exceeds 75% of rated capacity.

Transformer-III: Reaches approximately 95% of rated capacity.

Therefore, to accommodate the rising demand in the Five Star MIDC area, manage outage constraints, and achieve N-1 contingency compliance, it is proposed to replace one existing 50 MVA transformer with a higher-capacity 100 MVA transformer.

Current Scenario:

Current Infrastructure: Three (3) x 50 MVA and One (1) x 100 MVA transformers:

Sr. No.	Details of T/Fs	Nature of load	Avg. Max. load of Peak 3 months in a year/ Peak load / Month of peak			% Loading /Avg. Max./ Peak 2025-26
			2023-24	2024-25	2025-26	
1	50 MVA 220/33 kV T/F1	Indust.- 95% Agri.- 05%	41.11/ 43.24/ Oct-23	39.60/40.26/ Aug-24	39.10/ 41.14/ May-25	78.20/ 82.28
2	50 MVA 220/33 kV T/F2		-	-	28.48/ 29.19/ Dec-25	56.96/ 58.38
3	50 MVA 220/33 kV T/F3		44.61/ 42.75/ Aug-23	45.46 /45.32 /Mar-25	47.87 /47.63 /Sep-25	95.74/ 95.26
4	100 MVA 220/33 kV T/F4		63.59/ 69.49/ Oct-23	67.22 /70.40 /Oct-24	60.32 /62.42 /Nov-25	60.32/ 62.42

Key Constraints:

N-1 Contingency: The TF2 and TF4 runs in parallel. The system lacks adequate transformation backup. If the 100 MVA transformer fails or is taken offline for maintenance, the available capacity cannot handle the transferred load on 50 MVA TF2.

System Reliability Risks: High baseline loading across the remaining units leaves the grid vulnerable to cascading failures under contingency conditions, threatening industrial power stability.

Urgency of the Scheme

- Industrial Power Security: The augmentation is urgently required to support expanding industrial demands in the Five Star MIDC zone.
- Operational Flexibility: Immediate execution is critical to establishing N-1 contingency compliance, minimizing grid stress, and preventing forced load shedding.
- Consumer Impact: The scheme is vital to guarantee an uninterrupted, reliable, and secure power supply to high-value industrial consumers.

Financial Implications & Timeline

Estimated Project Cost: ₹ 1,372.89 Lakh

Target Commissioning: FY 2027-28.

GCC Recommendations:-

The Committee observed that the substation's current transformation capacity is highly overloaded during peak periods and fundamentally fails to meet N-1 security standards. The proposed up-gradation is technically justified and critical for secure regional grid operation.

In order to meet present and future load requirements, address overloading issues, to comply N-1 contingency criteria and enhance overall system reliability and stability, the Committee, after detailed deliberations, ratified the scheme.

All GCC members took note of the discussions.

Agenda point no. 2:

Replacement of 2x100MVA, 220/132kV ICTs by 2x200MVA, 220/132kV ICTs at 220kV Tuljapur S/s under Chhatrapati Sambhaji Nagar Zone.

Discussions in GCC:-

The CE, STU placed before the GCC a proposal and made the following submissions before the Committee (GCC):

Need of the Scheme

- Renewable Energy Integration: The 220 kV Tuljapur Substation is strategically located in a high-potential Renewable Energy (RE) zone. Multiple solar and wind power developers have formally expressed interest in securing grid connectivity at this node.

- Severe Loading of ICT: The average peak loading on the existing Inter-Connecting Transformers (ICTs) during the last financial year (2025-26) attains 100% of their total rated capacity.
- Strategic Power Purchase Agreements (PPAs): M/s JSW Neo Energy Ltd. has executed PPAs with MSEDCL for significant wind power generation grid connectivity nearby, including 268 MW at 220 kV Harangul Substation and 132 MW at 220 kV Murud Substation.
- As Per communications dated December 2, 2025, from the Chief Engineer (STU), the capacity augmentation at Tuljapur Substation is designated as a "TOP PRIORITY" mandate to fulfil MSEDCL's renewable energy PPA evacuation requirements.
- Proposed Resolution: To relieve excessive asset loading, accommodate future scaling, and integrate upcoming clean energy generation, MSETCL proposed to enhance the transformation capacity by replacing the aging, lower-capacity 2x100 MVA ICTs with high-capacity 2x200 MVA ICTs.

Existing Infrastructure & Constraints

- **Current Scenario:** The operational loading history shows a steep escalation over the last three years alongside immediate capacity growth timelines:

S N	Details of ICTs	Date of commg.	Nature of load	Avg. Max. load of Peak 3 months/ Peak load in a year/ Month - (in MVA)			% Loading Avg Max/ Peak.
				2023-24	2024-25	2025-26	
1	100MVA, 220/132kV ICT-I	03.02. 2012	Ag/ Rural- 80%	59.03/ 59.80/ Mar-24	64.53/ 67.10/ Jul-24	100.23/ 104.90/ Jun-25	100.23/ 104.90
2	100MVA, 220/132kV ICT-II	03.02. 2012	Urban & MIDC- 20%	59.03/ 59.80/ Mar-24	64.53/ 67.10/ Jul-24	100.23/ 104.90/ Jun-25	100.23/ 104.90
3	100MVA, 220/132kV ICT-III	ICT-III Commissioned on 08.05.2026 (40MVA)					
4	100MVA, 220/132kV ICT-IV	Work in progress for additional ICT-IV.					

- An additional 100 MVA ICT-III was commissioned on **May 8, 2026**, and work on an additional 100 MVA ICT-IV is currently in progress. While this brings interim total capacity to 400 MVA, it remains inadequate for long-term RE loads.
- **Key Constraints:** Leaving the core aging units (ICT-I & ICT-II) at 100 MVA creates a persistent vulnerability under N-1 system failures. Augmenting these units will enhance the substation total capacity to **600 MVA**.

Urgency of Scheme

- **Grid Stability Risk:** With baseline loading already crossing 104.90% during peak months on the primary units, delaying the replacement leaves the local network exposed to high thermal stress and widespread voltage drops.

- **RE Evacuation Bottleneck:** Given the explicit mandate from the State Transmission Utility (STU) via email dated December 2, 2025, this project is critical to prevent a bottleneck in power evacuation for M/s JSW Neo Energy Ltd. and other solar/wind power developers

Financial Implication & Timelines

Total Estimated Project Cost: ₹4421.05 Lakh

Target commissioning Year: FY 2028-29

The ED, SLDC highlighted that adequate local MVar compensation shall be ensured in all augmentation schemes. He further suggested that a uniform guideline on MVar compensation be issued for all utilities. He also emphasized that every proposal submitted by the utilities should invariably include the following information:

Source capacity

- Proposed augmentation capacity
- Details of MVar compensation
- Utilization plan for the equipment proposed to be removed.
- Geographical network diagram.

The Chairperson, GCC further directed that the utilization of the removed ICTs shall be appropriately planned and adjusted. He also emphasized that adequate incoming line capacity shall be ensured while planning the proposed augmentation schemes.

Recommendations of GCC:-

The GCC observed that the peak recorded loading of 104.90 MVA on 100 MVA rated transformers (ICT I & II) confirms a state of persistent overloading that threatens equipment operational life.

The Committee noted that capacity of **600 MVA** after augmentation will satisfies the ultimate evacuation demand mapped out by the STU for the area's upcoming wind and solar projects.

Considering the critical requirement of RE evacuation and PPA timelines, to meet present and future load requirements, address overloading issues, and enhance overall system reliability and stability, the Committee, after detailed deliberations, ratified the scheme.

All GCC members took note of the discussions.

Agenda Point No. 3:

Scheme of augmentation by replacement of 3x105MVA, 400/220/33kV ICT - 1 by 3x167MVA, 400/220/33kV ICT at 400kV R.S. Nagothane under Vashi Zone.

The CE, STU placed before the GCC a proposal and made the following submissions before the Committee (GCC):

Discussions in GCC:-

- **Industrial Hub Connectivity:** The 400/220/33 kV Nagothane Substation (commissioned in 1998) is a critical node connected directly to core generation sources and serves major high-volume Extra High Voltage (EHV) consumers, including M/s JSW, M/s Reliance, and M/s MSL, among others.
- **Surging Load Requirements:** The total baseline peak load managed by the substation has reached 952 MVA. Furthermore, additional formal load demands totaling 1,025 MVA have been requested by various upcoming and expanding EHV consumers in the region.
- **Contingency Risk & Grid Security:** With the addition of the newly demanded 1,025 MVA load, it will become mathematically and operationally impossible to maintain the mandatory 'N-1' contingency condition under the current configuration.
- **Proposed Solution:** To accommodate this massive industrial growth and preserve grid stability, MSETCL submitted a proposal to augment the substation's primary transformation capacity by replacing the aging, lower-rated bank of 3x105 MVA ICT-1 with a higher-capacity 3x167 MVA bank of ICTs.

Existing Infrastructure & Constraints

- **Existing Infrastructure:** The substation holds a total installed capacity of 1,630 MVA, comprising 2 nos. of 315 MVA (3x105 MVA) transformer banks and 2 nos. of 500 MVA (3x167 MVA) transformer banks. Of these, the 500 MVA ICT No. 4 was commissioned recently on **November 30, 2025**.
- **Load Distribution Profile:** The substation primarily handles heavy industrial/MIDC loads (~95%), with minor rural (~3%) and agricultural (~2%) distribution.
- **Capacity Track Record:** The peak loading data of the individual ICT's are structured as follows:

Details of ICTs	Date of Commg.	Nature of Load	2022-23 (MVA)	2023-24 (MVA)	2024-25 (MVA)	% Loading Peak/Avg Max
3x105 MVA, 400/220 kV ICT-1	27.03.1999	MIDC-95% Rural-3% Agri.-2%	242 (May-22)	245 (Jun-23)	259 (Apr-24)	82.22%
3x105 MVA, 400/220 kV ICT-2	19.12.2003	Same as above	254 (May-22)	257 (Oct-23)	271 (Apr-24)	86.03%
3x167 MVA, 400/220 kV ICT-3	10.08.2011	Same as above	381 (Mar-23)	376 (Jun-23)	394 (Apr-24)	78.80%
3x167 MVA, 400/220 kV ICT-4	30.11.2025	Same as above	Commissioned recently on 30.11.2025			

Key Constraints:

- ICT-1 was commissioned in March 1999 and is approaching nearly 27 years of continuous operation, making it prone to high operational stress under heavy industrial load.
- While the existing peak loading sits around 82–86% for the 315 MVA banks, the incoming 1,025 MVA industrial pipeline will exhaust all remaining headroom, causing cascading overloading risks across all four banks during an N-1 event.

Urgency of Scheme

- Industrial Commitments: Major corporate consumers (M/s JSW, M/S GAIL, M/s Reliance, etc.) are connected to this substation. Meeting the requested 1,025 MVA expansion is critical to prevent industrial growth bottlenecks in the Vashi Zone.
- N-1 Grid Contingency: If a major 500 MVA unit trips during peak operations post-expansion, the remaining system will face an immediate, unsustainable power deficit, risking regional transmission failures.

Financial Implication & Timelines

Estimated Scheme Cost: ₹4,423.63 Lakh

Implementation Timeline: FY 2028-29.

The **Chairperson, GCC**, directed that the existing ICT shall be optimally utilized and a detailed execution plan for the proposed scheme shall be prepared.

Recommendations of GCC:-

- The Committee noted that the current peak demand of 952 MVA coupled with the incoming 1,025 MVA bulk EHV consumer requests justifies an immediate step-up in transformation capacity.
- Replacing the oldest asset on-site (ICT-1, commissioned in 1999) aligns with reliability by systematic asset modernization principles while providing the required capacity enhancement.

In order to accommodate this massive industrial growth in the vicinity and preserve grid stability, to meet the present & future load requirement, to comply N-1 contingency criteria, to address the overloading problems, to ensure readiness of the transmission network, to maintain system reliability and stability the Committee, after detailed deliberations, ratified the scheme.

All GCC members took note of the discussions.

Agenda Point No. 4:

Scheme for establishment of 22KV level by augmentation of substation by providing additional 2 nos. of 220/22KV, 50MVA Power Transformer, 1 no. of 220KV PT Bay, 220KV Hybrid pass for Bus sectionalizer & installation of 2 nos. of 22KV LV Incomer GIS bays, 1 no. of 22KV Bus section GIS Bay, 2 nos. of 22KV PT GIS bay along with 12 nos. of 22KV GIS outgoing feeder bays including SCADA integration at 220KV Volkswagen substation under EHV (O&M) Division, Manchar.

Discussion in GCC:-

The CE, STU placed before the GCC a proposal and made the following submissions before the Committee (GCC):

Need of the Scheme

It was submitted that the 220 kV Volkswagen Substation was commissioned on 01.01.2010 as a dedicated switching substation to provide 220 kV supply to the EHV consumer M/s

Volkswagen India Ltd. The substation is presently operating as an unmanned switching station without any power transformers.

The representative informed that there is substantial industrial load growth in the surrounding Chakan MIDC area. MSEDCL has requested feasibility for creation of a 22 kV level, indicating an immediate load requirement of approximately 1200 A at the 22 kV level in the vicinity of the Volkswagen Substation. Considering the rapid industrial development and the establishment of new industries in Chakan MIDC, additional transformation capacity is essential to cater to the increasing power demand and ensure reliable supply.

Existing Infrastructure & Constraints:

The Chakan MIDC area is presently served through 400 kV Chakan, 220 kV Chakan Phase-II and 220 kV Bridgestone Substations. The existing infrastructure is experiencing high loading due to continuous industrial and urban growth.

The representative submitted the following key observations:

- 400 kV Chakan Substation is a critical source supplying the Chakan MIDC industrial area through 18 Nos. of 22 kV feeders. The loading on the existing power transformers has reached around 85% due to increasing industrial demand. Additional feeder requirements have also been received from MSEDCL, including supply to Bajaj Auto Ltd. To satisfy the N-1 planning criterion and future demand, one additional 50 MVA, 220/22 kV transformer has already been sanctioned and commissioned.
- 220 kV Chakan Phase-II Substation is presently operating with two 50 MVA, 220/22 kV transformers, carrying a maximum load of about 90 MVA (approximately 90% of installed capacity). The substation caters to Chakan MIDC, Talegaon MIDC Phase-II, several EHV consumers including oxygen production plants, and surrounding urban and rural areas. An additional 50 MVA transformer has been sanctioned, and tendering is under process.
- 220 kV Bridgestone Substation presently has only one 50 MVA, 220/33 kV transformer, which is carrying a load of about 49.17 MVA. Due to the absence of a second transformer, maintenance outages and emergency operations pose operational challenges. The Load Tap Changer (LTC) has operated multiple times recently, indicating heavy loading conditions. One additional 50 MVA transformer is currently under execution to improve system reliability and redundancy.

In view of the above, CE, STU added that the existing substations are approaching their operational limits and additional transformation capacity is required to meet future demand while maintaining system reliability and compliance with the N-1 criterion.

Urgency of the Scheme

The scheme is of high priority considering the rapid industrialization in Chakan MIDC and the continuously increasing load demand.

The proposed scheme will:

- Meet the immediate load requirement projected by MSEDCL.
- Reduce loading on nearby substations.
- Improve operational flexibility and system reliability.
- Provide redundancy in accordance with the N-1 planning criterion.
- Cater to future industrial growth in the Chakan MIDC area.
- Strengthen the overall transmission network and ensure reliable quality power supply to existing and prospective consumers.

Accordingly, the timely implementation of the scheme is necessary to avoid future system constraints and maintain reliable power supply.

Financial Implication & Implementation Timeline

- **Estimated Project Cost:** ₹ 3,469.69 Lakh.
- **Targeted Completion Year:** FY 2027–28.

Observations and Recommendations of GCC:-

The Committee observed that the proposal is technically justified considering the substantial industrial growth in Chakan MIDC, the increasing load demand, and the loading condition of nearby substations.

The Committee noted that creation of 22 kV level at the existing 220 kV Volkswagen Substation would significantly enhance transformation capacity, improve operational flexibility and provide a reliable power supply to the rapidly developing industrial area.

In order to meet present and future industrial load requirements, to cater the future industrial growth in the Chakan MIDC area, address overloading issues, operational flexibility and enhance overall system reliability and stability, the Committee, after detailed deliberations, ratified the scheme.

All GCC members took note of the discussions.

Agenda Point No. 5:

Enhancement of transformation capacity by replacement of 1x100MVA, 220/132kV ICT by 1x200MVA, 220/132kV ICT at 220kV Satara MIDC S/s under EHV O&M Division, Karad

Discussion in GCC:-

The CE, STU placed before the GCC a proposal and made the following submissions before the Committee (GCC):

Need of the Scheme

It was submitted that the 220 kV Satara MIDC Substation was commissioned in the year 1994 and is one of the major source substations catering to industrial, urban, and agricultural load in the Satara region. Due to the continuous increase in demand, the loading on the existing Inter Connecting Transformers (ICTs) has increased significantly, necessitating augmentation of the transformation capacity to ensure reliable system operation.

Existing Infrastructure & Constraints:

The substation is presently equipped with three 100 MVA, 220/132 kV ICTs commissioned during different years.

Sr. No.	Details of T/Fs	Nature of load	Date of comm.	Avg. Max. load of Peak 3 months in a year/ Peak load / Month of peak			% Loading / Avg. Max./ Peak 2025-26
				2023-24	2024-25	2025-26	
1	1 X 100 MVA, 220/132kV ICT-1	Industrial-42%	08.05.2007	80.34/ 81.45 / Apr-23	81.55/ 82.03 / Dec-24	84.92/ 86.26 / May-25	84.92/ 86.26

2	1 X 100 MVA, 220/132kV ICT-2	Urban-28% Agricultural-30%	27.03.2010	71.37/ 72.79 / Apr-23	75.69/ 76.96 / Dec-24	79.56/ 82.69 / May-25	79.56/ 82.69
3	1 X 100 MVA, 220/132kV ICT-3		02.05.2022	71.91/ 73.19 / Apr-23	78.40/ 81.89 / Dec-24	80.43/ 83.66 / May-25	80.43/ 83.66

The representative submitted that:

- The existing load composition comprises approximately 42% industrial, 28% urban, and 30% agricultural load.
- During the outage or tripping of any one of the existing 100 MVA ICTs, it is not possible to transfer the entire load to the remaining two ICTs, thereby failing to satisfy the N-1 reliability criterion.
- The loading on all three ICTs has shown a consistent upward trend over the last three years.
- During FY 2025-26, the maximum loading recorded on the ICTs reached:
 - **ICT-1:** 86.26 MVA (86.26% of installed capacity)
 - **ICT-2:** 82.69 MVA (82.69% of installed capacity)
 - **ICT-3:** 83.66 MVA (83.66% of installed capacity)
- The sustained high loading levels indicate limited spare transformation capacity to accommodate future load growth or contingency conditions.

The CE, STU highlighted that the existing transformation capacity is approaching its operational limits and is inadequate to meet future demand while ensuring compliance with the prescribed planning criteria.

Urgency of the Scheme

Representative highlighted that implementation of the scheme is necessary considering:

- High and continuously increasing loading on the existing ICTs.
- Non-compliance with the N-1 reliability criterion during outage of any one ICT.
- Requirement to maintain uninterrupted supply to industrial, urban, and agricultural consumers.
- Need to create adequate transformation capacity for future load growth and improve system security.

Further, replacement of the existing ICT with a higher-capacity transformer would substantially improve operational flexibility, reliability, and contingency handling capability at the substation.

Financial Implication & Timelines

Estimated Project Cost: ₹ 1665.55 Lakh.

Targeted Completion Year: FY 2027–28.

Observations and Recommendations of GCC:-

The Committee observed that the proposal is technically justified in view of the sustained high loading on the existing ICTs and the inability of the substation to satisfy the N-1 reliability criterion under contingency conditions.

The Committee further observed that replacement of the existing 100 MVA ICT with a 200 MVA ICT would enhance the transformation capacity, improve system reliability, provide adequate contingency support, and accommodate future load growth in the Satara region.

In order to meet present and future load requirements, address overloading issues, to ensure RE evacuation, ensure N-1 compliance, operational flexibility and enhance overall system reliability and stability, the Committee, after detailed deliberations, ratified the scheme.

All GCC members took note of the discussions.

Agenda Point No. 6:

Scheme for replacement of existing 0.2 ACSR conductor along with hardware by High Ampacity current carrying Conductor in r/o 132KV Ambazari - Karanja Ckt 1 & 2 (90 Ckm) and allied works at 220/132KV Ambazari S/s and 220/132KV Karanja S/s under EHV PC (O&M) Zone, MSETCL, Nagpur.

Discussion in GCC:-

The CE, STU placed before the GCC a proposal and made the following submissions before the Committee (GCC):

Need of the Scheme

It was submitted that the 220/132 kV Ambazari Substation, commissioned on 01.04.1970, and the 220/132 kV Karanja Substation, commissioned on 27.11.2019, are strategically important grid substations under EHV PC (O&M) Zone, Nagpur. The 132 kV Ambazari–Karanja double-circuit transmission line serves as the primary source of power supply to Karanja Substation and further supports the downstream transmission network extending up to 220 kV Amravati through the Karanja–Arvi–CTRLS–Talegaon–Tiwsa corridor.

The representative informed that the Karanja region has witnessed substantial renewable energy integration owing to its high solar potential. Presently, 100 MW solar generation from M/s CTRLS is operational, in addition to 40 MW connected at the 220 kV Karanja Substation and 25 MW connected at the 132 kV Talegaon Substation. Further, additional EHV consumer demand of 51 MW from M/s Solar Defense (30 MW) and M/s Ramsons Industries Ltd. (21 MW) is expected in the near future.

In view of the increasing renewable generation and growing load demand, enhancement of the current carrying capacity of the Ambazari–Karanja transmission corridor has become necessary to ensure reliable evacuation of power and secure operation of the transmission system.

Existing Infrastructure & Constraints:

Existing 132 kV Ambazari–Karanja double-circuit line is strung with 0.2 ACSR Panther conductors, which have limited current carrying capacity.

The representative submitted that:

- The Ambazari–Karanja corridor is experiencing increased loading due to evacuation of renewable energy from the Karanja region.
- The increased power flow has resulted in higher loading on downstream transmission lines including Karanja–CTRLS, Karanja–Arvi, Talegaon–CTRLS, Talegaon–Tiwsa and Arvi–Amravati.

- Ambazari Substation is the sole source supplying Karanja, Arvi, Talegaon and Tiwsa substations. Under contingency conditions, particularly during outages at the Amravati end, the Ambazari–Karanja circuits are prone to overloading, increasing the risk of transmission line tripping and interruption of supply.
- The existing current transformers, jumpers, wave traps and isolators are not suitable for the enhanced current carrying requirement and require replacement along with the conductor uprating.
- Further, this section of the corridor proposed for replacement of the existing conductors with High Performance Conductors (HPC) is excluded from the proposed upgradation of the vintage multi-circuit 220 kV Amravati–Karanja–Ambazari corridor, the implementation of which is expected to take approximately four to five years. Accordingly, replacement with HPC is proposed as an immediate and practical short-term measure to address the existing transmission constraint affecting grid connectivity of RE projects. The need for long-term upgradation of this section shall be reviewed after implementation of the overall corridor upgradation, based on the prevailing system requirements
- It was also informed that the State Transmission Utility (STU), vide Office Note No. CE(STU)/152 dated 02.02.2026, carried out the load flow analysis and recommended implementation of the proposed scheme.

Scope of Work

The proposed scheme comprises the following works:

- Replacement of the existing 0.2 ACSR Panther conductor, along with associated hardware, by High Ampacity Current Carrying Conductors on 132 kV Ambazari–Karanja Circuit-I & Circuit-II covering approximately route length of 50.3kms (i.e. **100.6 Ckm**).
- Conversion of existing 0.4 ACSR Zebra (Single) jumpers to 0.4 ACSR Zebra (Twin) jumpers at both Ambazari and Karanja Substations.
- Replacement of **06 Nos.** existing 132 kV Current Transformers (800–400/1A, 5C) with 132 kV Current Transformers (1600–800/1A, 5C).
- Replacement of **04 Nos.** existing Wave Traps.
- Replacement of existing Isolators with and without Earth Switches (EB) considering ageing and enhanced current carrying requirements on both circuits.
- Execution of all associated civil, electrical, protection, control and commissioning works required for successful implementation of the scheme.
-

Urgency of the Scheme

The CE, STU submitted that implementation of the scheme is essential considering the rapid increase in renewable energy generation and the anticipated growth in demand in the Karanja region.

Accordingly, the scheme is technically justified and requires expeditious implementation to maintain secure and reliable operation of the transmission network.

Financial Implication & Implementation Timeline

- **Estimated Project Cost:** ₹ 92.23 Crore.

Observations and Recommendations of GCC:-

In view of the above, and considering the need to enhance the current carrying capacity of the Ambazari–Karanja transmission corridor, address existing and anticipated transmission

constraints, facilitate reliable evacuation of power from RE projects in accordance with the grid connectivity already granted, and ensure timely availability of the transmission system matching the SCOD of the RE projects, the Committee, after detailed deliberations, ratified the scheme.

All GCC members took note of the discussions.

Agenda Point No. 7:

Scheme for replacement of old existing 0.4 ACSR Zebra conductor by equivalent High-Performance Conductor (HPC) along with suitable hardware and accessories for 220 kV Talegaon- PGCIL Ckt-I & II (DC line on MC towers: 3.087 CkM) along with strengthening of end bays at 220kV Talegaon Ambi substation under EHV O&M Division-II, Pune.

Discussion in GCC:-

The CE, STU placed before the GCC a proposal and made the following submissions before the Committee (GCC):

Need of the Scheme

It was submitted that the 400 kV Talegaon PGCIL Substation is a major source supplying the 220kV Pune Ring Main Transmission System through the 220 kV Talegaon Ambi–PGCIL double-circuit transmission line, commissioned during 2013–14. The existing line is strung with 0.4 ACSR Zebra conductor having a current carrying capacity of 747 A. Over the past several years, both circuits have been continuously carrying loads in the range of 600–650 A throughout the year, leaving very little margin for accommodating contingency conditions or future load growth.

Considering the increasing demand in the Pune metropolitan region, enhancement of the transmission capacity of this corridor has become essential to ensure reliable system operation and compliance with the N-1 reliability criterion.

Existing Infrastructure & Constraints :

220 kV Talegaon Ambi–PGCIL double-circuit line forms an important element of the Pune Ring Main Transmission System and carries substantial power from the 400 kV network to downstream substations.

The representative submitted that:

- The existing 0.4 ACSR Zebra conductor has a current carrying capacity of **747 A**, whereas both circuits are presently operating continuously at around **600–650 A**.
- During the outage or breakdown of any one circuit, the entire load cannot be transferred to the healthy circuit, resulting in non-compliance with the N-1 reliability criterion.
- Due to the existing loading conditions, operation of Load Trimming Scheme (LTS) and Demand Load Shedding (DLS) becomes necessary under contingency situations to maintain system security.
- Loading on the 220 kV Talegaon Ambi–PGCIL corridor is managed by operational measures such as hand-tripping of the 220 kV Urse–Sahara line, depending upon system conditions.

- Maintenance outages of other important 220 kV Pune Ring Main transmission lines cannot be availed freely due to the heavy loading on the Talegaon Ambi–PGCIL circuits. The availability of outages is dependent upon alternate transmission sources capable of supplying 220 kV Talegaon Ambi, Chinchwad, Sahara, and Bombay Dyeing substations.
- The State Transmission Utility (STU), vide Office Note No. 323 dated 17.03.2025, carried out load flow studies and recommended implementation of the proposed scheme.

Hence, the existing transmission corridor is operating close to its thermal limits and requires capacity augmentation to improve operational flexibility and system reliability.

Urgency of the Scheme

CE, STU submitted that implementation of the scheme is necessary considering the sustained high loading on the transmission corridor and the projected increase in demand. The scheme will meet N-1 Contingency criteria and improve operational flexibility and reliability of power supply to Talegaon Ambi, Chinchwad, Sahara, Bombay Dyeing and other downstream substations.

Further, Chief Engineer(STU) informed that the existing top two circuits are presently in service, whereas stringing of the bottom two circuits is not feasible due to extensive encroachments beneath the transmission line, resulting in inadequate statutory ground clearance. Accordingly, utilisation of the spare circuits is presently not possible. Therefore, replacement of the existing conductors with High Performance Conductors (HPC) remains the only technically viable solution to enhance the corridor capacity while maintaining N-1 reliability criteria and meeting the projected loading requirements.

Financial Implication & Implementation Timeline

- **Estimated Project Cost:** ₹ 13.34 Crore.
- **Target Commissioning:** FY 2027–28.

Observations and Recommendations of GCC:-

The Committee observed that the proposal is technically justified considering the sustained high loading on the 220 kV Talegaon Ambi–PGCIL transmission corridor, the operational constraints during contingency conditions, and the increasing demand in the Pune Ring Main network.

The Committee further observed that replacement of the existing 0.4 ACSR Zebra conductor with High-Performance Conductors, together with strengthening of the end bays would substantially enhance the transmission capacity of the corridor, improve operational flexibility, facilitate maintenance of other transmission assets, minimise the risk of overloading, and ensure reliable power supply under both normal and contingency operating conditions.

The Committee also noted that the proposal has been supported by the load flow analysis carried out by the State Transmission Utility (STU), establishing the technical necessity of the scheme.

In order to improve operational flexibility and reliability of power supply to Talegaon Ambi, Chinchwad, Sahara, Bombay Dyeing and other downstream substations, meet present and future load requirements, address overloading issues and to enhance overall system reliability and stability, the Committee, after detailed deliberations, ratified the scheme.

All GCC members took note of the discussions.

Agenda Point No. 8:

Replacement of existing 0.2 ACSR conductor & 200 sq.mm AAAC conductor by new HPC (High ampacity conductor) for 132 kV Magarpatta - Mundhwa line (Ckt-I & II) along with strengthening of bay at 220 kV Magarpatta Substation and 132 kV Mundhwa Substation under EHV O&M Division-I, Pune.

Discussion in GCC:-

The CE, STU placed before the GCC a proposal and made the following submissions before the Committee (GCC):

Need of the Scheme

It was submitted that the 132 kV Magarpatta–Mundhwa double-circuit line forms a critical element of the 132 kV Pune Ring Main Network and serves as the principal source of supply to the 132 kV Mundhwa Substation. Although an alternate source exists from 220 kV Phursungi Substation, due to the longer transmission distance and voltage profile limitations, reliable supply from Phursungi to Mundhwa is not feasible. Further, the Phursungi jumper has remained open since 23.12.2025.

The representative informed that the 132 kV Mundhwa Substation supplies major EHV consumers including M/s. Bharat Forge and M/s. Kalyani Carpenter (M/s. Sarloha), besides industrial, residential and commercial consumers. It also provides emergency back-feeding support to certain 22 kV feeders of the 132 kV GIS Rasta Peth Substation. Considering the strategic importance of this transmission corridor and the increasing demand in Pune city, enhancement of the current carrying capacity of the existing circuits has become essential.

Existing Infrastructure & Constraints

Existing double-circuit line between 220 kV Magarpatta and 132 kV Mundhwa Substations, commissioned on 01.05.2015, is strung with 0.2 ACSR conductors having a route length of approximately 3.417 km and a current carrying capacity of about 487 A at 45°C.

The representative submitted that:

- The combined loading on the two circuits has increased steadily over the years, reaching 812 A (395 A on Circuit-I and 417 A on Circuit-II) during June 2019 and 839 A (436 A on Circuit-I and 403 A on Circuit-II) during January 2026.
- In the event of outage or failure of one circuit, the remaining circuit is incapable of carrying the entire load, resulting in non-compliance with the N-1 reliability criterion.
- On 25.12.2020, failure of Circuit-I led to overloading and subsequent failure of Circuit-II, demonstrating the vulnerability of the existing system.
- Due to voltage profile constraints, the alternate source from Phursungi Substation cannot effectively substitute the Magarpatta source during contingency conditions.
- The 220 kV Magarpatta Substation, commissioned on 31.03.2009 with an installed transformation capacity of 550 MVA, is one of the key substations in the Pune Ring Main Network, supplying major EHV consumers including M/s. Serum Institute, M/s. Bharat Forge and M/s. Sarloha, besides providing emergency support to the 132 kV GIS Rasta Peth Substation.

Considering the increasing loading on transformers and anticipated demand arising from rapid urban development in Pune, the Magarpatta Substation has become a critical node in the transmission network.

Representative highlighted that existing conductor configuration has become inadequate to meet present and future loading requirements and requires immediate augmentation to enhance system reliability.

Scope of Work

The proposed scheme comprises the following works:

- Replacement of existing 0.2 ACSR conductor along with hardware by High Ampacity current carrying Conductor in r/o 132 kV Magarpatta - Mundhwa Ckt-I & II (6.8 Ckm) along with strengthening of bay at 220 kV Magarpatta Substation and 132 kV Mundhwa Substation under EHV O&M Division-I, Pune.
- Replacement of 06 Nos. of existing 132 kV CTs 800-400/1A, 5C by 132 kV, 1600-800/1A, 5C CTs at each substation.
- Replacement of 02 Nos. of existing Wave Trap by 1250 A, 0.5mH, 40kA Wave Trap at each substation.

Urgency of the Scheme

CE, STU highlighted that implementation of the scheme is essential considering the sustained increase in loading on the Magarpatta–Mundhwa transmission corridor and the operational risks associated with the existing conductor capacity.

The proposed scheme will:

- Enhance the current carrying capacity of both 132 kV circuits.
- Ensure compliance with the N-1 reliability criterion during contingency conditions.
- Improve reliability of supply to major EHV consumers including M/s. Bharat Forge and M/s. Kalyani Carpenter, as well as industrial, residential and commercial consumers.
- Strengthen emergency supply arrangements to downstream substations and feeders.
- Minimize the risk of line overloading, tripping and supply interruptions.
- Cater to future load growth in the rapidly developing Pune metropolitan area.

Accordingly, CE, STU highlighted that the scheme requires priority implementation to strengthen the reliability of the Pune Ring Main transmission network.

Financial Implication & Implementation Timeline

- **Estimated Project Cost:** ₹ 10.72 Crore.
- **Target Commissioning:** FY 2026–27.

The **Chairperson, GCC**, directed MSETCL that, for all HPC proposals, a minimum of 10% of the towers shall be physically inspected, and the inspection report shall form an integral part of the proposal submitted for consideration.

Observations & Recommendations of GCC:-

The Committee observed that the proposal is technically justified considering the critical nature of the Magarpatta–Mundhwa transmission corridor, the increasing loading on the existing circuits, and the inability of the present system to satisfy the N-1 reliability criterion under contingency conditions.

The Committee further observed that replacement of the existing conductors with High Performance Conductors, together with strengthening of the associated bays and replacement

of substation equipment, would significantly enhance the current carrying capacity of the transmission corridor, improve operational flexibility, strengthen supply reliability to critical EHV consumers and downstream substations, and support the increasing load demand in the Pune metropolitan area.

In order to meet present and future load requirements, to improve reliability of supply to EHV consumers, as well as industrial, residential and commercial consumers, address overloading issues, ensure N-1 compliance, operational flexibility and enhance overall system reliability and stability, the Committee, after detailed deliberations, ratified the scheme.

All GCC members took note of the discussions.

Agenda Point No. 9

Procurement & Installation of CCTV (Centralized Visual Advance Monitoring System (CVAMS)) at various EHV S/s (total 100 Nos.) in MSETCL along with establishment of centralized Control & Monitoring centre at Mumbai in MSETCL

Discussion in GCC:-

The CE, STU placed before the GCC a proposal and made the following submissions before the Committee (GCC):

Need of the Scheme

- CCTV Surveillance Systems have become an integral part of the security infrastructure at EHV substations by providing effective surveillance of switchyards, control room-cum-administrative buildings, firefighting systems, stores, and entry/exit gates.
- The system facilitates continuous monitoring of substation premises, enhances operational surveillance from the control room, and acts as an effective deterrent against theft, vandalism and other security-related incidents.
- MSETCL has formulated a comprehensive policy for installation of CCTV Surveillance Systems at EHV Substations and Major Stores, approved vide Board Resolution (B.R.) No. 130/05 dated 27.08.2018.
- The policy envisaged implementation of CCTV systems in a phased manner.
- Phase-I covered all 765 kV Substations, 400 kV Substations, HVDC Stations and Major Stores (31 locations), which was completed under B.R. No. 146/15 dated 16.03.2021 at an estimated cost of ₹30.52 crore. The scheme received MERC approval vide Order No. MERC/Capex/MSETCL/2021-22/150 dated 24.11.2021.
- Based on the satisfactory performance of Phase-I, the Board approved Phase-II vide B.R. No. 157/15 dated 17.10.2022 at an estimated cost of ₹83.61 crore, covering 101 critical 220 kV substations and one 400 kV Karjat Substation. The work has been completed successfully at all locations. The scheme was approved in the 7th MTC Meeting, 8th GCC Meeting, and by MERC vide Order No. MERC/Capex/MSETCL/2023-24/190 dated 13.03.2024.
- Based on the successful implementation of the earlier phases, Phase-III is now proposed for installation of CCTV-CVAMS at 100 additional EHV Substations (400 kV, 220 kV and 132 kV) along with establishment of a Centralized Control & Monitoring Centre at Mumbai for integrated monitoring of all covered substations.

- The proposed centralized monitoring system will facilitate real-time surveillance, improve security of critical assets, strengthen operational monitoring and enhance overall situational awareness across the transmission network.

Existing Infrastructure & Constraints

CE, STU submitted that CCTV surveillance systems have already been implemented successfully under Phase-I and Phase-II at identified critical substations and major stores. However, several strategically important 400 kV, 220 kV and 132 kV substations are yet to be covered under the centralized surveillance system. Further, there is presently no centralized monitoring facility for integrated surveillance of all substations. The proposed scheme aims to bridge this gap by extending CCTV coverage to the remaining identified substations and establishing a centralized monitoring centre for real-time supervision.

Urgency of the Scheme

CE, STU submitted that the proposed scheme is essential to upgrade the security requirements of critical transmission assets, facilitate continuous remote surveillance of substations, improve operational monitoring and provide a centralized platform for real-time monitoring of security events. The scheme will also reduce the risk of theft, vandalism and unauthorized access while improving response during emergency situations.

Financial Implications & Timeline

The estimated cost of the scheme: ₹101.35 crore.

Targeted commissioning year: FY 2028-29

Observations & Recommendations of GCC:-

The Committee observed that the proposed scheme is a continuation of the phased implementation of the CCTV Surveillance Policy approved by the Board of Directors. The successful implementation of Phase-I and Phase-II has demonstrated the effectiveness of the system in improving security and operational monitoring at EHV substations. The proposed Phase-III will extend these benefits to additional substations and establish a centralized monitoring facility, thereby enhancing security, operational efficiency and asset protection across the MSETCL transmission network.

In order to strengthen the security of critical transmission assets, facilitate continuous remote surveillance of substations, improve operational monitoring and provide a centralized platform for real-time monitoring of security events, the Committee, after detailed deliberations, ratified the scheme.

All GCC members took note of the discussions.

Agenda Point No. 10

Procurement of 03 sets of Emergency Restoration System (ERS) comprising of 10 towers each (Suspension Towers- 6 nos. and Angle Towers- 04 nos.) for MSETCL
Discussion in GCC:-

The CE, STU placed before the GCC a proposal and made the following submissions before the Committee (GCC):

Need of the Scheme

- The Ministry of Power (MoP), vide its guidelines dated 05.12.2014, stipulated that every transmission licensee shall maintain an Emergency Restoration System (ERS) for restoration of transmission lines in the event of tower failures, with the objective of minimizing transmission line outage duration.
- The MoP guidelines further prescribe the number of ERS sets to be maintained based on the transmission network length. For transmission utilities having more than 10,000 circuit kilometres of transmission lines, three ERS sets are required, with additional sets to be maintained proportionately for larger networks.
- MSETCL presently has two ERS sets, which are being utilized for restoration of transmission lines following tower collapse, temporary bypass arrangements during line diversion works, and tower height-raising works.
- The Board of Directors, vide B.R. No. 166/47 dated 19.01.2024, accorded approval for procurement of six ERS sets at an estimated cost of ₹176.30 crore, and the corresponding DPR was submitted to MERC for in-principle approval.
- After reviewing the utilization of the existing ERS sets, MERC approved procurement of three ERS sets at an estimated cost of ₹88.15 crore.
- Accordingly, the Corporate Procurement Agency (CPA) floated the tender and issued the Letter of Award (LoA) dated 30.01.2026 to M/s Transglobal and M/s Advait for supply of three ERS sets, with supply scheduled by 30.09.2026.
- The proposed procurement will ensure strategic availability of ERS across the seven zones of MSETCL, enabling quicker mobilization during emergencies, reducing restoration time and transportation costs, and improving overall reliability of the transmission network.

Existing Infrastructure

The Committee noted that MSETCL presently has 50k CKM of transmission lines and possesses **only two ERS sets**, which are required to cater to emergency restoration requirements across an extensive Extra High Voltage transmission network. The existing number of ERS sets is inadequate considering the geographical spread of the network and the Ministry of Power guidelines. Mobilization of ERS from distant locations increases restoration time and transportation costs during emergency situations. Procurement of additional ERS sets is therefore essential to strengthen emergency preparedness and ensure timely restoration of transmission lines.

Urgency of the Scheme

The Committee noted that the proposed scheme is essential to ensure rapid restoration of transmission lines affected due to tower failures arising from natural calamities, accidents or other emergencies. Availability of additional ERS sets across MSETCL zones will significantly reduce restoration time, improve grid reliability, minimize transmission outages and strengthen disaster preparedness in accordance with the Ministry of Power guidelines.

Financial Implications & Timeline

The estimated cost of the scheme is **₹64.19 crore**.

The target procurement completion: FY 2027-28

Observations & Recommendations of GCC:-

The Committee observed that the proposal is in line with the **Ministry of Power guidelines** regarding deployment of Emergency Restoration Systems and will enhance MSETCL's capability to restore transmission lines during emergency situations. The procurement of three

additional ERS sets will improve emergency response, reduce restoration time, optimize resource deployment across all zones and strengthen the overall resilience and reliability of the transmission network.

In order to follow MoP guidelines, ensure rapid restoration of transmission lines affected due to tower failures arising from natural calamities, accidents or other emergencies, reduce restoration time, improve grid reliability, minimize transmission outages and strengthen disaster preparedness, the Committee, after detailed deliberations, ratified the scheme.

All GCC members took note of the discussions.

Agenda Point No. 11

Scheme for Establishment of 220/33 kV Balewadi, Dist. Pune

Discussion in GCC:-

The CE, STU placed before the GCC a proposal and made the following submissions before the Committee (GCC):

Need of the Scheme

It was submitted that the Baner and Balewadi areas are presently supplied from the existing 132/22 kV NCL Substation having an installed transformation capacity of 150 MVA, which is presently loaded up to approximately 81%. The Baner, Balewadi and surrounding areas are witnessing rapid urbanization and commercial development, resulting in an annual load growth of more than 13%.

The representative further informed that MSEDCL has projected a load requirement of 67.61 MVA during the first phase and has communicated the updated load requirement vide Letter No. 2755 dated 22.08.2025. Considering the anticipated increase in demand, establishment of a new source substation has become necessary to provide reliable power supply and meet future load growth.

Existing Infrastructure & Constraints

Existing 132/22 kV NCL Substation is presently the major source supplying the Baner and Balewadi areas and is operating under high loading conditions.

The representative submitted that:

The existing NCL Substation is loaded up to approximately 81% of its installed transformation capacity.

Baner, Balewadi and adjoining areas are among the fastest growing urban pockets in Pune, with sustained annual load growth exceeding 13%.

The existing infrastructure has limited capacity to accommodate future demand while maintaining adequate reliability margins.

Continued dependence on the existing source is likely to result in increased loading on the existing transformers and distribution network.

Establishment of an additional EHV source is therefore essential to cater to the projected load demand, improve operational flexibility and maintain reliable power supply.

CE, STU added that creation of a new source substation would significantly strengthen the transmission network in the western Pune region and reduce dependency on the existing NCL Substation.

Scope of Work

- The proposed scheme comprises the following works:
- 2x50 MVA, 220/22 kV T/Fs along with HV/LV GIS bays.
- 220kV Transmission line – 5.026 km (O/H – 3.601 km + UG cable – 1.425km) by:-
- Construction of LILO on existing 220 kV Chinchwad – Parvati line near Loc No.22 & by converting existing 132 kV Rahatani – Varasgaon line into 220 kV M/C line from Loc no. 22 to 10C – 3.601 km.
- 220 kV DC UG cable from CTT near Loc. no. 10C to proposed 220 kV GIS Balewadi S/s – 1.425 km.
- 2 x 220 kV GIS line bays
- 12 x 22 kV GIS bays (7 – Proposed Bay + 5 Bays for future)

Urgency of the Scheme

CE, STU highlighted that the scheme is required on priority considering the rapid urban development and sustained increase in electricity demand in the Baner, Balewadi and Aundh areas. Reduce loading on the existing 132/22 kV NCL Substation. Improve reliability and operational flexibility of the power supply system. Strengthen the Pune Ring Main EHV transmission network. Create adequate transformation capacity to support continued urban and commercial development in the area.

Financial Implication & Implementation Timeline

- **Estimated Project Cost:** ₹ 175.46 Crore.
- **Target Commissioning:** FY 2027–28.

The Chairperson, GCC directed that the requirement submitted by the DISCOM shall be verified before planning bays. New bays shall be considered only against the confirmed requirement of the DISCOM. He further directed that the availability of space for future bays shall be indicated in the proposal; however, future bays shall not be included in the present scheme unless specifically requisitioned by the DISCOM.

The Chief Engineer, STU submitted that, in the case of GIS substations, provision for future GIS bay modules is generally required considering integration of different manufacturers modules and SCADA integration being faced during expansion in future.

ED, SLDC submitted that the requirement for both existing and future bays should be obtained from the concerned DISCOM and considered during the planning process.

Observations & Recommendations of GCC:-

The Committee observed that the proposal is technically justified considering the high loading of the existing 132/22 kV NCL Substation, the rapid urbanization of the Baner, Balewadi and Aundh areas, and the projected increase in electricity demand.

The Committee further observed that establishment of the proposed 220/33 kV Balewadi Substation, together with the associated transmission connectivity, would provide a reliable additional source of supply, relieve the existing NCL Substation, strengthen the Pune Ring Main EHV network, and adequately cater to the present as well as future load requirements of the area.

After detailed deliberations, and considering the criticality of the scheme for supporting urban load, strengthening of the Pune transmission network and ensuring reliable and uninterrupted power supply in the Baner, Balewadi and Aundh areas region, the Committee, after detailed deliberations, ratified the scheme.

All GCC members took note of the discussions.

Agenda Point No. 12

220/33 kV Loni Kalbhor (Ultra Modern Township) in r/o M/s River view city construction Ltd)

Discussion in GCC:-

The CE, STU placed before the GCC a proposal and made the following submissions before the Committee (GCC):

Need of the Scheme

It was submitted that the Loni Kalbhor, Theur, Phursungi, Urali-kanchan and surrounding areas are presently supplied from 220 kV Theur Substation and 132 kV Phursungi Substation, which are presently loaded to approximately 72% and 81.37%, respectively. The existing distribution network comprises long 22 kV feeders, namely HPPH (21 km), Theur (21 km) and Loni (27 km), resulting in operational challenges and reduced reliability.

The representative informed that M/s Riverview City Construction Ltd. has applied for 80 MVA of connected load for its proposed township at Loni Kalbhor. In addition, diversion of approximately 8.25 MVA from 220 kV Theur Substation and 13 MVA from 132 kV Phursungi Substation has been planned. Accordingly, the total projected load on the proposed Loni Kalbhor Substation is estimated to be approximately 101.25 MVA in a phased manner. The updated load requirement has been communicated by MSEDCL vide Letter No. 23036 dated 15.07.2025.

Existing Infrastructure & Constraints

Existing supply arrangement for the Loni Kalbhor area is dependent upon the Theur and Phursungi Substations, which are already carrying significant loading. The representative submitted that:

- The existing 22 kV feeders supplying the area are considerably long, leading to higher technical losses and operational constraints.
- The HPPH feeder passes through a river crossing, making patrolling and maintenance extremely difficult during the monsoon season and resulting in prolonged restoration time during breakdowns.
- Rapid urbanization and infrastructure development in the area have increased the frequency and complexity of fault detection and rectification.
- The existing source substations have limited spare capacity to cater to the projected increase in demand.
- The proposed township of M/s Riverview City Construction Ltd., together with the growing demand in the surrounding area, necessitates creation of a dedicated EHV source to ensure reliable and quality power supply.

CE, STU added that establishment of a new 220/22 kV source substation would significantly improve supply reliability, reduce dependence on the existing substations and strengthen the transmission network in the Loni Kalbhor area.

Scope of Work :

The proposed scheme comprises the following works:

- 2x50 MVA, 220/22 kV T/Fs along with HV/LV GIS bays.
- 220 kV D/C line from existing 220/132/22kV Theur S/S to 220/22kV Loni Kalbhor GIS S/S using corridor of existing 220 kV M/C Theur-Magarpatta line up to loc. no. 13 - 6.1 km.

- 2 x 220 kV GIS line bays at proposed 220/22 kV Loni Kalbhor S/s.
- 2 x 220 kV AIS end bays at 220kV Theur S/s.
- 12 x 22 kV GIS bays (9 -proposed + 3 Bays future)

Urgency of the Scheme:

CE, STU highlighted that implementation of the scheme is essential considering the rapid urban development in the Loni Kalbhor area and the significant increase in projected electricity demand.

The proposed scheme will relieve the loading on the existing 220 kV Theur and 132 kV Phursungi Substations and reduce dependence on long 22 kV feeders and improve operational reliability.

Financial Implication & Implementation Timeline:

- **Estimated Project Cost:** ₹ 127.00 Crore.

Observations & Recommendations of GCC:-

The Committee observed that establishment of the proposed 220/22 kV Loni Kalbhor GIS Substation, together with the associated transmission connectivity, would provide a reliable additional source of supply, improve operational flexibility, relieve the existing source substations, and strengthen the transmission network to cater to the present and future demand of the area.

In order to Cater to the projected load demand of the Loni Kalbhor area, to relieve the loading on the existing 220 kV Theur and 132 kV Phursungi Substations, to provide reliable and quality power supply to existing and future industrial, residential and commercial consumers and ensuring reliable and uninterrupted power supply in the PMR region, the Committee, after detailed deliberations, ratified the scheme.

All GCC members took note of the discussions.

Agenda Point No. 13

Revision in scope of work and cost of "Construction of 220kV M/C line from point near Urse s/s to Loc. No. 37 of 220kV Chinchwad-Urse line by using Monopole" (Package A/B/C)

Discussion in GCC:-

The CE, STU placed before the GCC a proposal and made the following submissions before the Committee (GCC):

Need of the Scheme

It was submitted that the scheme forms an integral part of strengthening the 220 kV Pune Ring Main Transmission Network by extending a reliable source from 400 kV Talegaon (PG) Substation to 220 kV Chinchwad-I and 220 kV Hinjewadi MIDC Phase-II Substations. The proposed network strengthening is intended to enhance transmission reliability, improve operational flexibility and cater to the continuously increasing industrial load in the Pune metropolitan region, particularly in the Hinjewadi IT and industrial corridor.

The representative further submitted that providing a direct source from 400 kV Talegaon (PG) to the Chinchwad-I and Hinjewadi-I substations would establish a robust transmission

arrangement, reduce dependency on the existing network and improve overall system security under both normal and contingency operating conditions.

Existing Infrastructure & Constraints

Existing transmission arrangement in the western Pune region is experiencing increasing loading due to rapid industrial and urban development.

The representative submitted that:

- The existing **220 kV Urse–Chinchwad-I transmission line** carries substantial power flow and is subjected to increasing loading conditions.
- The existing network has limited operational flexibility under contingency conditions and requires strengthening to satisfy future demand and improve system security.
- The Hinjewadi industrial corridor is witnessing continuous growth, resulting in increasing electricity demand from industrial and commercial consumers.
- Providing a second strong source from 400 kV Talegaon (PG) to both 220 kV Chinchwad-I and 220 kV Hinjewadi-I Substations would significantly improve supply reliability and reduce dependence on the existing transmission corridor.
- This Scheme was already approved through BR No. 69/17 dt. 31.12.2011. Further, this scheme was further revised and approved through MSETCL Board Resolution BR No. 183/23 Dated 22.06.2026. This Revision in the scope of work has been proposed to facilitate optimal transmission planning and ensure efficient utilisation of the transmission corridor through multi-circuit construction using monopole towers.

Scope of Work

The revised scheme comprises the following works:

- 220kV DC line (3rd & 4th Ckt) from 220kV Talegaon Ambi SS to point near 220kV Urse ss. (From Loc. A to Loc. B) – 10.206 km.
- 220kV MC line from point near 220kV Urse S/s to Loc. No. 37 of 220kV Chinchwad –Urse Line (from Loc. B to Loc. C') -11.558 km.
- Conversion of existing S/C Chinchwad – Sahara (Apta) Line to MC line for portion between Loc no. 37 of S/C Chinchwad-Urse line upto Chinchwad S/s (from Loc. C' to Loc. E)-11.752 km.
- Conversion of existing S/C Chinchwad- Kandalgaon (Hinjewadi-I) line into MC line for portion between 220kV Chinchwad S/s to 220kV Hinjewadi MIDC Phase-II S/s upto CTT tower (from Loc. E to Loc. F) -7.244 km.

Urgency of the Scheme

CE, STU highlighted that implementation of the revised scheme is essential considering the increasing demand in the Pune metropolitan region and the need to strengthen the Pune Ring Main Transmission Network.

The proposed scheme will:

- Strengthen the 220 kV Pune Ring Main transmission system.
- Provide a strong second source to 220 kV Chinchwad-I and 220 kV Hinjewadi MIDC Phase-II Substations.
- Improve system reliability and operational flexibility under normal and contingency conditions.
- Reduce loading on the existing 220 kV Urse–Chinchwad-I transmission line.
- Enhance the reliability of power supply to the rapidly growing industrial and IT corridor in the Hinjewadi region.
- Create adequate transmission capacity to accommodate future load growth.

Financial Implication & Implementation Timeline

- **Estimated Project Cost:** ₹ 291.95 Crore.

The Committee Members observed that the proposed scheme has been under implementation for nearly a decade and comprises Packages A, B, and C. It was noted that the overall scheme is yet to be completed due to various implementation-related challenges encountered over the years. In this context, the Committee sought an update on the present status of the individual packages and deliberated that the progress of each package should be reviewed in detail, with specific attention to the issues encountered during execution and the corresponding mitigation measures adopted. The Committee further observed that, since the original scheme was conceptualized nearly 10–12 years ago based on the demand projections prevailing at that time, the current load growth and network requirements may warrant planning of an additional source to strengthen the system and ensure long-term reliability.

The Chairperson, GCC stated that a comprehensive review of the original scheme shall be undertaken, covering its present status, physical progress, implementation strategy and the key factors contributing to the delay in completion. The Chairperson further observed that the feasibility of developing an additional source should be examined to alleviate loading on the existing network, improve operational flexibility and facilitate timely completion of the ongoing works. Accordingly, the STU was advised to place before the Committee a comprehensive transmission planning proposal for the PMRDA region, covering the status of ongoing schemes, work-in-progress, implementation constraints, proposed mitigation measures, planned CTU–STU interconnections and the future transmission schemes required to cater to the projected load growth in the region.

Observations & Recommendations of GCC:-

The Committee directed the STU to undertake a comprehensive review of the scheme and submit the findings for consideration in the next GCC meeting. The review shall include the historical progress of the originally approved scheme, the original execution plan, a detailed analysis of the factors that have affected its implementation, and a robust, time-bound execution strategy along with the technical justification for the proposed scheme. Further, the STU shall also present a comprehensive transmission development plan for the Pune region, covering the existing network, ongoing works, implementation constraints, proposed mitigation measures, planned CTU–STU interconnections, and future transmission schemes to address the projected load growth in the region.

All GCC members took note of the discussions.

Agenda Point No. 14

Upgradation of 220kV Pedambe-Mahad-Kandalgaon-Posco-Nagothane-ACCIL-Apta, 220kV Pedambe-Adlabs-Tambati-Apta

Discussion in GCC:-

The CE, STU placed before the GCC a proposal and made the following submissions before the Committee (GCC):

Need of the Scheme

It was submitted that the Raigad and Ratnagiri districts have emerged as strategically important load centres in Maharashtra owing to rapid industrialization, expansion of MIDC areas, port-led economic development influenced by the JNPT corridor and Dighi Port, establishment of data centres, major infrastructure projects, and increasing urbanization in the Panvel–Uran–Alibag–Mahad–Karjat–Khopoli–Apta–Tambati–Kharghar region.

The representative further informed that nearly 30 Pumped Storage Projects (PSPs) with an aggregate proposed capacity of about 9,490 MW are planned in the region, with likely grid connectivity at Karad, Apta and Kandalgaon. The existing transmission network is therefore required to be substantially strengthened to facilitate future power evacuation and cater to the projected load growth.

Existing Infrastructure & Constraints

Existing 220 kV Pedambe–Apta transmission line, commissioned in 1967, has been in operation for several decades and has exceeded its intended design life.

The representative submitted that:

The existing transmission assets have become aged, resulting in increased maintenance requirements and reduced operational reliability.

Although the network performs satisfactorily under normal operating conditions, it experiences stress and voltage deviations during peak loading conditions.

The present transmission corridor has limited capability to satisfy the N-1 reliability criterion under contingency conditions.

The anticipated integration of large-scale pumped storage projects, industrial developments, port-based infrastructure, data centres and urban expansion will significantly increase transmission requirements in the region.

Capacity augmentation through utilization of the existing transmission corridor is therefore necessary to provide a long-term solution for future system requirements.

CE, STU highlighted that upgradation of the existing transmission corridor is essential to improve transmission capacity, system reliability and voltage performance while meeting the long-term transmission planning requirements of the State.

Scope of Work

The proposed scheme comprises the following works:

- Construction of 400 kV MC Line with top two circuits strung by 0.5 Moose Twin conductor at 400 KV level & bottom two circuits strung by 0.4 ACSR Zebra conductor at 220 kV level.- 182.12 km.
- Dismantling of existing 220 kV DC line from 220 kV Pedhambe S/s to Apta S/s.- 182.12 km.

Urgency of the Scheme

CE, STU submitted that implementation of the proposed scheme is essential considering the substantial increase in future transmission requirements in the Raigad and Ratnagiri regions.

The proposed scheme will:

Enhance the transmission capacity of the existing corridor while optimally utilizing the available right-of-way.

Create adequate transmission infrastructure to cater to the projected load growth over the next 25 years.

Facilitate integration of proposed Pumped Storage Projects and other upcoming infrastructure developments.

Improve the voltage profile of the transmission network in Raigad, Ratnagiri and adjoining Pune region.

Reduce operational constraints, technical losses and transmission outages.

Improve system reliability and ensure secure and uninterrupted power supply under normal as well as contingency operating conditions.

Accordingly, the Committee observed that the scheme is strategically important for strengthening the western Maharashtra transmission network and supporting future economic and industrial development.

Financial Implication & Implementation Timeline

- **Estimated Project Cost:** ₹ 2,997.74 Crore.

The ED, SLDC, submitted that, considering the support of PSP during uncertainty of wind generation & complexity of RE power balancing, the scheme is essential and required for maintaining system reliability.

Observations & Recommendations of GCC:-

The Committee observed that the proposal is technically justified considering the ageing condition of the existing transmission corridor, the projected increase in regional demand, the large-scale integration of Pumped Storage Projects, and the anticipated industrial and infrastructure development in the Raigad and Ratnagiri districts.

The Committee further observed that upgradation of the existing transmission corridor to a 400kV and 220kV multi-circuit configuration would substantially enhance transmission capacity, improve voltage regulation and system reliability, optimize utilization of the existing right-of-way, facilitate future renewable and pumped storage integration, and provide a robust transmission backbone capable of meeting the region's long-term power requirements.

The Committee, after detailed deliberations, observed that the existing 220 kV corridor from 220 kV Apta to 220 kV Pedambe is critically constrained and comprises ageing transmission infrastructure which has been in service for more than five decades. The Committee noted that the existing corridor has become inadequate to cater to the increasing regional power transfer requirements. Further, the committee noted that the key demand drivers such as DATA Centre Projects in Mumbai & MMR region, Mumbai 3 (NAINA Project) will surge the demand in region.

The Committee further observed that the proposed upgradation and strengthening of the corridor is essential for ensuring long-term system reliability, operational security and modernization of the regional transmission network. The scheme would facilitate enhancement of power transfer capability, reduction in operational constraints, improvement in voltage profile and strengthening of the Intra state transmission network across Mumbai MMR, Thane, Raigad and Satara districts.

The Committee also noted that the proposed modernization would enable optimum utilization of the existing transmission corridor and Right of Way (RoW), while also creating provision for future interconnections, network sectionalisation, load growth, and integration of additional substations and emerging loads such as industrial development, DATA Centre load growth, urbanization, electric vehicle (EV) infrastructure and future network expansion requirements of NAINA project.

Accordingly, in order to strengthen and modernize the existing transmission infrastructure, cater to future industrial, agricultural, urbanization, and EV load growth, mitigate existing operational constraints and load restrictions, improve inter-regional power transfer capability and ensure long-term reliability and operational security of the grid, the Committee, after detailed deliberations, ratified the scheme.

The Committee further noted that , although the estimated project cost is more than ₹200 Crore, the scheme has been recommended by MTC to be implemented under Section 62 of the Electricity Act, 2003 in accordance with the provisions of the MERC (Multi Year Tariff) Regulations, 2024. The Committee noted that the project primarily involves strengthening, modernization, reconfiguration and upgradation of the existing operational transmission corridor forming part of the integrated State Transmission System of MSETCL, wherein practical delineation and segregation of ownership, operation, maintenance responsibilities and interface arrangements under a separate TBCB/SPV framework may not be feasible. Hence, considering the integrated nature of the existing corridor, system criticality, operational complexity and the requirement for coordinated execution in a time-bound manner, implementation through the cost-plus route as recommended by MTC is technically and operationally justified.

All GCC members took note of the discussions.

Agenda Point No. 15

Upgradation of existing 132 kV Amravati - Karanja DCDC line by 132 kV MC line on 220 kV MC Tower and 220 kV Amravati - Karanja - Ambazari SCDC line by 220 kV DCMC along with associated End Bays (Vintage line corridor)

Discussion in GCC:-

The CE, STU placed before the GCC a proposal and made the following submissions before the Committee (GCC):

Need of the Scheme

It was submitted that there is presently no alternate strong and reliable 220 kV and 132 kV transmission corridor between **Amravati, Karanja and Ambazari**, which supplies Karanja, Tiwsa, Talegaon, Arvi, Bazargaon and adjoining load centres. Consequently, the region experiences poor voltage profile, limited contingency support and increased risk of system instability during peak demand or outage conditions.

The representative further informed that the present demand in the Karanja, Tiwsa, Talegaon, Arvi and Bazargaon region is approximately **460 MW** and is expected to increase significantly due to industrial development, MIDC expansion, urbanisation, EV charging infrastructure and integration of renewable energy. The proposed scheme is therefore necessary to create a robust transmission corridor capable of meeting future demand while ensuring compliance with Grid Code requirements.

Existing Infrastructure & Constraints

Existing 132 kV and 220 kV transmission lines forming the Amravati–Karanja–Ambazari corridor were commissioned during the period **1968 to 1973** and have been in service for several decades.

The representative submitted that:

- The existing transmission corridor has limited power transfer capability and does not provide adequate redundancy under contingency conditions.
- Load flow studies carried out by the State Transmission Utility (STU) indicate overloading of the existing 132 kV and 220 kV lines due to existing and upcoming renewable energy generation in the region.

- The STU has recommended enhancement of the transmission corridor through replacement with higher-capacity conductors and creation of additional circuits.
- The proposed conversion from single-circuit and double-circuit configurations to multi-circuit configurations will substantially increase transmission capacity and provide an additional high-capacity evacuation path for renewable generation as well as load supply.
- Utilization of the existing vintage transmission corridor eliminates the requirement for fresh Right-of-Way acquisition, minimizes environmental and social impacts, and enables faster and more economical implementation.

Representative of MSETCL added that existing corridor has become inadequate to meet present and future transmission requirements and requires comprehensive strengthening.

Scope of Work

The proposed scheme comprises the following works:

- 1) Upgradation of existing 220kV Amravati – Karanja – Ambazari SCSC Line to 220kV DCMC line (Total corridor 132.769 km) which include :
 - a) 220kV Amravati – 220kV Karanja (River Loc. No. 270) – 43 km.
 - b) 220kV Karanja – 220kV Amravati (River Loc. No. 270) Line – 37.869 km.
 - c) 220kV Karanja – 220kV Ambazari Line – 51.9 km.
- 2) Upgradation of existing 132kV Amravati – Karanja SCSC Line to 132kV MC line on 220kV MC Tower (Total corridor 80.816 km) which include :
 - a) 220kV Amravati – 220kV Karanja (River Loc. No. 273) – 42.5 km.
 - b) 220kV Karanja – 220kV Amravati (River Loc. No. 273) Line – 38.316 km.
- 3) Construction of 2 x 220kV and 2 x 132kV GIS Bays at 220kV Karanja s/s.
- 4) Construction of 1 x 220kV Bays at 220kV Ambazari s/s.
- 5) Construction of 1 x 220kV and 2 x 132kV Bays at 220kV Amravati s/s.

Urgency of the Scheme

CE, STU highlighted that implementation of the scheme is essential considering the increasing demand, renewable energy integration and the ageing nature of the existing transmission corridor. Further the scheme will ensure adequate capacity to meet the projected load growth over the next 25 years and strengthen the regional transmission backbone and improve redundancy under contingency conditions. The scheme will improve the voltage profile and overall grid stability in the Amravati–Karanja–Ambazari region. Facilitate evacuation of renewable energy and cater to future industrial, urban, agricultural and EV-related demand.

Financial Implication & Implementation Timeline

- **Estimated Project Cost:** ₹ 995.52 Crore.

The Chairperson, GCC observed that, considering the vintage nature of the existing 132 kV network, establishment of a 220 kV interconnection should be examined to enhance system reliability and operational flexibility. The feasibility of adopting ACSS conductors for the

proposed corridor upgradation shall also be assessed, considering the technical and operational benefits.

The Committee further observed that the proposal envisages four 220 kV Amravati–Karanja interconnecting circuits, along with a provision for two additional 220 kV interconnecting circuits to meet future network requirements. In this regard, the Committee emphasized the need to review the optimum utilization of the two proposed corridor upgradations.

Further, the Committee suggested that a detailed assessment of the existing transmission infrastructure be carried out to ascertain its physical condition, extent of deterioration and residual service life, while also considering the future load growth and capacity requirements. Based on this assessment, the feasibility of upgrading one corridor and strengthening the other may be examined, with the priority for upgradation being decided based on system requirements, technical necessity, and overall network optimization.

Observations & Recommendations of GCC:-

The Committee, after detailed deliberations, directed the STU to revisit the proposed scheme by carrying out a detailed technical assessment of the existing 132 kV vintage corridors, including the feasibility of upgrading them to a multi-circuit configuration with the upper two circuits operating at the 220 kV level. The applicability of ACSS conductors, wherever technically justified, shall also be examined. The review shall evaluate the optimum utilization of the existing corridors to avoid duplication of transmission infrastructure on the same route and ensure efficient network development. Further, the STU shall submit a detailed analysis, including the prioritization of the proposed corridor upgradations along with the revised scheme, for consideration in the next GCC meeting.

All GCC members took note of the discussions.

Agenda Point No. 16

Establishment of 132/33 kV S/s at Chinchvihire Dist. Ahilyanagar.

Discussion in GCC:-

The CE, STU placed before the GCC a proposal and made the following submissions before the Committee (GCC):

Need of the Scheme

It was submitted that the proposed substation has been envisaged to cater to the growing electricity demand in the Chinchvihire area and adjoining regions. The scheme will reduce the length of existing 33 kV feeders, thereby improving voltage regulation, reducing technical losses and enhancing the overall reliability of power supply.

The representative further informed that the proposed substation is expected to cater to a total load of 88.15 MVA, comprising the existing diverted load and future load growth. The load requirement has been communicated by MSEDCL vide Letter No. 23232 dated 16.07.2025.

Existing Infrastructure & Constraints

Existing 132 kV Rahuri Substation is presently catering to a substantial load and requires relief to accommodate future demand.

The representative submitted that:

- The existing load on the Rahuri Substation is approximately 196.80 MVA.
- Diversion of approximately 78.15 MVA of existing load, together with an additional 10 MVA of projected demand, is proposed to the new Chinchvihire Substation, resulting in a total projected load of 88.15 MVA.

- The existing long 33 kV feeders contribute to higher technical losses and poor voltage profile at the consumer end.
- Establishment of the proposed substation will reduce feeder lengths, improve voltage regulation and enhance the quality and reliability of power supply.
- The scheme is also expected to achieve an estimated reduction in transmission system losses of approximately 6.5 MW.

CE, STU added that additional EHV source at Chinchvihire is essential to relieve the existing Rahuri Substation and support future load growth in the area.

Scope of Work

The proposed scheme comprises the following works:

- 2 x 50 MVA, 220/33 kV Power Transformers with HV & LV bays.
- Construction of LILO on one circuit of 220kV Babhaleshwar – Sonewadi (Ahmednagar) D/C line for proposed 220/33kV Chinchvihare s/s – 2.899 km
- 2 x 220 kV line bays
- 1 x 220 kV Bus Sectionalizer bay
- 1 x 220 kV Transfer Bus Coupler bay
- 2 x 220 kV PT bays
- 6 x 33 kV outlets
- 1 x 33 kV Bus Sectionalizer bay
- 2 x 33 kV PT bays
- 2 x 200kVA, 33/0.4 kV Station Transformer bays

Urgency of the Scheme

CE, STU highlighted that implementation of the scheme is essential to meet the increasing electricity demand in the Chinchvihire area and to improve the operational performance of the existing transmission network. The proposed scheme will, cater to the present and future load demand of approximately 88.15 MVA in the Chinchvihire area and relieve approximately 88.15 MVA of load from the existing overloaded 132 kV Rahuri Substation. Further this will reduce the length of 33 kV feeders, resulting in improved voltage profile and achieve an estimated saving of approximately 6.5 MW in transmission system losses. Provide reliable, stable and uninterrupted power supply to existing and future consumers in the area.

Financial Implication & Implementation Timeline

- **Estimated Project Cost:** ₹ 98.30 Crore.

The Chairperson, GCC, emphasized that the adequacy of the incoming line capacity shall be ensured before implementation of the proposed scheme.

Observations & Recommendations of GCC:-

The Committee observed that the proposal is technically justified considering the increasing load demand in the Chinchvihire area, the requirement to relieve the existing 132 kV Rahuri Substation, and the need to improve voltage profile and reduce technical losses.

The Committee further observed that establishment of the proposed 220/33 kV Chinchvihire Substation, together with the associated transmission connectivity, would strengthen the regional transmission network, improve operational flexibility, provide reliable and uninterrupted power supply to the industries and consumers, and adequately cater to future demand in the area.

In order to meet the present and future load requirements in Chinchvihire area, to address overloading issues at vicinity S/s, to strengthen the transmission network in the

Ahilyanagar region and enhance overall system reliability and stability, the Committee, after detailed deliberations, ratified the scheme.
All GCC members took note of the discussions.

Agenda Point No. 17

Upgradation of TPC 220 kV Trombay S/s by creation of 400 kV level. (TPC-T)

Discussion in GCC:-

The CE, STU representative placed before the GCC a proposal and made the following submissions before the Committee (GCC):

Need of the Scheme

It was submitted that the proposed scheme has been envisaged in line with the recommendations of the High-Level Committee (HLC) constituted to enquire into the MMR Grid Disturbance of 12 October 2020. The HLC had emphasized the urgent need for development of a 400 kV transmission network within Mumbai to strengthen the internal transmission system and facilitate evacuation of power from bulk injection points.

It was further submitted that the proposed scheme forms an integral part of the State Transmission Utility (STU) Maharashtra Energy Transition Plan (2024–25 to 2033–34) under the proposed new transmission corridor for Mumbai.

The Mumbai Metropolitan Region (MMR) recorded a peak demand of approximately 4,642 MW in 2026, which is projected to increase to around 6,500 MW by 2031, representing nearly 40% growth. South Mumbai is expected to witness sustained annual load growth of approximately 9%, driven by major redevelopment projects including BDD Chawl Redevelopment, Kamathipura Redevelopment, Backbay Reclamation and developments around Nariman Point. Accordingly, strengthening of the transmission network through creation of a 400 kV level at Trombay has become essential to reliably meet the future demand.

Existing Infrastructure & Constraints

It was submitted that, except for the existing 400 kV Vikroli bulk power injection scheme, Central and South Mumbai presently has very limited 400 kV transmission infrastructure within the city.

- The High-Level Committee had specifically recommended establishment of a robust 400 kV transmission network within Mumbai on a time-bound basis to improve grid security.
- The scheme was discussed in the 5th MTC Meeting held on 01 November 2022 and subsequently in the 15th MTC Meeting held on 27 October 2026.
- During earlier deliberations, the Committee had sought confirmation regarding the availability of adequate space at Trombay Substation and directed STU and TPC-T to jointly undertake a correlated system study considering the proposed new corridor plan.
- TPC-T confirmed that adequate space is available within the existing Trombay Receiving Substation for accommodating the proposed 400 kV infrastructure.
- STU and TPC-T have jointly carried out the required system studies, which support the proposed scheme.
- The proposed scheme will enable optimal utilization of bulk power injection capacity into Mumbai, reduce overloading of the existing transmission network during contingency conditions, strengthen the internal Mumbai transmission system and

provide operational relief to the existing KVTPL Interconnecting Transformers (ICTs).

- The proposed works involve augmentation and upgradation of the existing TPC-T Trombay Substation within the existing licensed premises without requiring establishment of a new substation.

Scope of Work

The proposed scheme comprises the following works:

- Add. Construction of 400 kV D/c O/H between TPC-T Vikroli plot to Trombay S/s by utilization of existing Transmission Corridor.
- 02 No's of 400 kV Bays at Tata Power Vikroli & 02 No's of 400kV bays at TPC-T Vikroli RSS.
- 10 No's of 400 kV Bays & 17 No's of 220kV bays at Trombay Station,
- 03 x 500 MVA, 400/220/33kV ICTs & 2 x 125 MVAR, 400kV Variable shunt reactor with NGR.
- PAC for proposed scheme.
- TPC-T representative submitted that Adequate space is available at Trombay
-

Urgency of the Scheme

It was highlighted that implementation of the proposed scheme is essential to strengthen the Mumbai transmission network and address the rapidly increasing demand in the Mumbai Metropolitan Region. The proposed scheme will:

- Establish a robust 400 kV transmission network within Mumbai in line with the recommendations of the High-Level Committee.
- Strengthen the internal Mumbai transmission system for evacuation of power from bulk injection points.
- Improve transmission reliability and contingency handling capability.
- Reduce overloading of the existing transmission network during outages of critical transmission elements.
- Provide operational relief to the existing KVTPL ICTs.
- Support the projected increase in Mumbai demand over the coming years and ensure reliable power supply to South Mumbai and adjoining areas.

Financial Implication & Implementation Timeline

- **Estimated Project Cost:** ₹ 2,680 Crore.
- **Target Commissioning Year:** FY 2029–30.

The **ED, SLDC** opined that 400kV source line shall be ensured before considering proposal for upgradation as in present scenario only marginal relief to ICTs at Tata Power Vikroli Substation can be achieved. The creation of 400kV level at Trombay will be justified with establishment of 1500MW Dolvi- Trombay HVDV link. It was suggested that a dedicated GCC Planning Meeting for the PMR and MMR regions be convened. It was further emphasized that transmission planning for the next 10 years, including the downstream network, should be incorporated into the Integrated Resource Plan (IRP). It was highlighted that the current scheme would increase dependency on Padghe. The planning study should consider interconnection through Dolvi and other interconnections in the horizon.

The **Chairperson, GCC** has directed to verify approval of 400 kV Switching S/S at TPC-T Vikroli and 400kV Kharghar–Vikroli LILO at TPC-T Vikroli scheme. It was also directed that the Single Line Diagram (SLD) should clearly distinguish the existing, approved, and proposed transmission network/ interconnections to provide clarity regarding the scheme. The Chairperson, GCC further directed that the proposal be revisited in light of the observations

and suggestions made by the Committee members. The revised proposal shall be examined and presented in a phased manner, supported by the necessary technical feasibility studies and a comprehensive assessment addressing the issues raised during the deliberations, to facilitate an informed evaluation by the Committee.

Observations & Recommendations of GCC:-

The Committee directed the STU to revisit the proposed scheme at the MTC level in light of the observations made during the deliberations. The proposal shall be supported by a comprehensive technical feasibility assessment, a phase-wise implementation approach, and a detailed analysis report, and shall be placed before the GCC for further consideration in the ensuing meeting.

All GCC members took note of the discussions.

Agenda Point No. 18

EHV Infrastructure development for M/s Bharat Petroleum Corporation Limited (BPCL) to cater load demand @ 90 MVA under Non-DDF scheme.

Discussion in GCC:-

The CE, STU placed before the GCC a proposal and made the following submissions before the Committee (GCC):

Need of the Scheme

The representative submitted that BPCL is implementing the Petroleum Residue Fluid Catalytic Cracking Unit (PRFCCU) project at its Mumbai Refinery, for which an electrical load demand of approximately 90 MVA has been projected. To ensure reliable and adequate power supply to the proposed refinery expansion, creation of dedicated EHV infrastructure has been proposed.

It was further submitted that the proposal had earlier been discussed in the 15th Maharashtra Transmission Committee Meeting held on 27 October 2025, wherein the Committee advised TPC-Transmission (TPC-T) to examine the feasibility of extending supply to BPCL under the provisions of the Standard of Performance (SOP) Regulations, 2021 through a Non-DDF arrangement.

Subsequently, BPCL submitted its Grid Connectivity Application to the State Transmission Utility (STU) under the Non-DDF scheme on 08 May 2026. Based on the directions issued by the STU on 02 June 2026, TPC-T submitted the feasibility report on 09 June 2026 and furnished the required supporting documents, including infrastructure layout plans and load requirement details, on 30 June 2026.

Existing Infrastructure & Constraints

Representative submitted that proposed refinery expansion requires development of new EHV infrastructure to meet the projected demand and ensure reliable power supply.

The representative submitted that:

- BPCL has proposed a load requirement of approximately 90 MVA for its PRFCCU project.
- TPC-T has carried out the required feasibility assessment and submitted the same to the STU.

Urgency of the Scheme

Representative highlighted that implementation of the proposed scheme is essential to facilitate the timely execution of the BPCL PRFCCU project and to meet the increasing power demand in the area.

The STU informed that establishment of the common 110 kV transmission infrastructure shall be development under the Non-DDF and consumer-specific infrastructure, namely the provision of 3×60 MVA power transformers along with the associated bays, which forms part of the EHV consumer's dedicated electrical system will be executed by the EHV consumer at its own cost in accordance with the applicable provisions.

Implementation Timeline

- Target Commissioning Year: FY 2029–30.

Observations & Recommendations of GCC:-

The Committee observed that framework is justified in terms of Section 62 of the Electricity Act, 2003, as the same is necessary to ensure time-bound availability of the transmission system for providing Grid Connectivity and reliable power supply to BPCL against the sanctioned load of 90 MVA

Accordingly, after deliberations, the Committee recommended approval of the Non-DDF scheme limited to the establishment of the 110 kV bus, 110 kV transmission line with associated line bays, and the requisite metering arrangement.

All GCC members took note of the discussions.

Agenda Point No. 19

Upgradation of 110 kV Kolshet-BMC-BO-BO-1 line conductor for higher capacity

Discussion in GCC:-

The CE, STU representative placed before the GCC a proposal and made the following submissions before the Committee (GCC):

Need of the Scheme

- The existing 110 kV Kolshet–BMC–BO–BO line is a three-terminal transmission line with a conductor current carrying capacity of 750 A (Bison conductor).
- TPC has proposed the upgradation of the 110 kV Salsette–Kolshet corridor to 220 kV as part of the New Kailash Nagar RSS project.
- During the execution of the above upgradation, the 110 kV Kolshet–BMC–BO–BO line will cater to the load of Salsette, Kolshet and BMC.
- Under this operating scenario, the existing conductor capacity of 750 A may result in thermal constraints on the line.
- Accordingly, enhancement of the conductor capacity to 900 A is proposed to facilitate reliable evacuation of power, eliminate thermal constraints and ensure uninterrupted power supply during the execution of the Salsette–Kolshet upgradation works.

Existing Infrastructure & Constraints

Existing 110 kV Kolshet–BMC–BO–BO transmission line is a three-terminal line strung with Bison conductor having a current carrying capacity of 750 A. With the proposed upgradation of the 110 kV Salsette–Kolshet corridor to the 220 kV level, the line will temporarily carry additional power flow to supply Salsette, Kolshet and BMC loads. The existing conductor capacity is therefore likely to impose thermal limitations under the anticipated loading conditions.

Urgency of the Scheme

It was submitted that, proposed upgradation is required to facilitate reliable operation of the transmission network during the execution of the 220 kV Salsette–Kolshet corridor upgradation. The scheme will eliminate potential thermal constraints, enhance the transmission capacity of the corridor and ensure reliable power supply to the connected load centers during the transition period.

Financial Implications & Timeline

- Estimated cost: **₹14.00 crore.**
- Target commissioning: **FY 2026-27.**

Observations & Recommendations in GCC:-

The Committee observed that the proposed conductor upgradation is necessitated due to the planned upgradation of the Salsette–Kolshet corridor and the consequent increase in power flow through the existing 110 kV Kolshet–BMC–BO–BO line. The proposed scheme will enhance the thermal capacity of the line, improve operational flexibility and ensure reliable power supply during the execution period of the associated transmission works.

In order to enhance the thermal capacity of the line, improve operational flexibility and ensure reliable power supply after detailed deliberation, the Committee, after detailed deliberations, ratified the scheme.

All GCC members took note of the discussions.

Agenda Point No. 20

Installation of 110 kV Transfer Bus & 110 kV Transfer breaker bay at TPC-T Davdi S/s

Discussion in GCC:-

The CE, STU placed before the GCC a proposal and made the following submissions before the Committee (GCC):

Need of the Scheme

- The 110 kV Davdi Substation serves as a critical interconnection point between the Khopoli and Bhira generating stations.
- The substation facilitates power transfer through the 110 kV Khopoli–Davdi and 110 kV Bhira–Davdi transmission lines and also has two outgoing 110 kV feeders supplying Lavasa.

- At present, the substation does not have a transfer bus or transfer breaker facility.
- In the absence of a transfer bus arrangement, maintenance or testing of any 110 kV line breaker or current transformer (CT) necessitates complete shutdown of the respective transmission line, resulting in interruption of power flow.
- The existing arrangement reduces operational flexibility, affects system reliability during planned maintenance and contingency conditions, and limits the availability of alternate switching arrangements.
- Therefore, installation of a 110 kV transfer bus and transfer breaker bay has been proposed to enhance operational flexibility, improve system reliability and facilitate uninterrupted power transfer during maintenance activities.

Existing Infrastructure & Constraints

Existing 110 kV Davdi Substation is an important node interconnecting the Khopoli and Bhira generating stations and supplying power through two outgoing 110 kV feeders to Lavasa. However, the substation is presently not equipped with a transfer bus or transfer breaker facility. Consequently, any maintenance or testing of 110 kV breakers or associated equipment requires complete outage of the corresponding transmission line, thereby reducing system availability and operational flexibility.

Urgency of the Scheme

Representative highlighted that the proposed scheme is essential to improve maintainability and operational flexibility of the 110 kV Davdi Substation. The provision of a transfer bus arrangement will enable maintenance of line breakers and associated equipment without complete line outages, thereby improving system reliability, minimizing supply interruptions and enhancing network security during contingency conditions.

Financial Implications & Timeline

- Estimated cost of the scheme: ₹4.50 crore.
- Target commissioning: FY 2026-27.
-

Observations & Recommendations of GCC:-

The Committee observed that the absence of a transfer bus and transfer breaker facility at the 110kV Davdi Substation restricts operational flexibility and necessitates complete line outages during maintenance of breakers and associated equipment. The proposed scheme will improve system reliability, facilitate maintenance without prolonged interruptions and enhance the operational security of the transmission network.

In order to improve maintainability and operational flexibility of the 110 kV Davdi Substation, improving system reliability, minimizing supply interruptions and enhancing network security during contingency conditions, the Committee, after detailed deliberations, ratified the scheme.

All GCC members took note of the discussions.

Agenda Point No. 21

Installation of Neutral Grounding Transformer (NGT) for 250 MVA ICT-1 at TPC-T Salsette & 80 MVA DT-6 at Trombay RSS.

Discussion in GCC:-

The CE, STU placed before the GCC a proposal and made the following submissions before the Committee (GCC):

Need of the Scheme

- At Salsette Receiving Station, the **250 MVA, 220/22 kV ICT-1** is presently operating without a Neutral Grounding Transformer (NGT).
- The absence of an NGT limits effective neutral grounding, affects operational redundancy, and restricts utilization of the 22 kV bus fed from ICT-1.
- Installation of the NGT is required to:
 - Improve system reliability during earth fault conditions.
 - Enhance protection of transformers and associated equipment by limiting fault current and overvoltage.
 - Improve operational safety by ensuring effective neutral grounding.
 - Enable faster fault detection and isolation, thereby minimizing supply interruptions.
 - Make the 22 kV bus supplied from ICT-1 available, thereby improving system redundancy.
- At Trombay Receiving Station, the existing NGT associated with **80 MVA DT-6** has been in service for approximately **35 years**.
- The existing NGT has deteriorated due to ageing and prolonged environmental exposure and is experiencing oil leakage from multiple locations caused by severe rusting of the tank and structural members.
- Continued operation of the deteriorated NGT may adversely affect neutral grounding performance, increase the risk of equipment failure and compromise operational safety.
- Accordingly, installation of a new NGT for ICT-1 at Salsette and replacement of the aged NGT associated with DT-6 at Trombay have been proposed.

Existing Infrastructure & Constraints

Representative submitted that the 250 MVA ICT-1 at Salsette Receiving Station does not have a Neutral Grounding Transformer, resulting in operational limitations and reduced system redundancy on the 22 kV side. The existing NGT associated with DT-6 at Trombay Receiving Station has exceeded its useful service life and has developed oil leakages due to severe deterioration and corrosion. The existing condition poses reliability, maintenance and safety concerns and necessitates replacement.

Urgency of the Scheme

Representative highlighted that the proposed scheme is essential to ensure reliable neutral grounding, improve system protection and operational safety, and enhance redundancy at Salsette Receiving Station. Replacement of the aged NGT at Trombay is also necessary to avoid equipment failure, mitigate safety risks arising from oil leakage and ageing, and maintain reliable operation of the receiving station.

Financial Implications & Timeline

- Estimated cost : **₹4.00 crore**.
- Target commissioning: **FY 2026-27**.

The Chairperson, GCC directed the STU to verify and confirm the technical requirement for the proposed 22 kV, 250 MVA ICT-I arrangement at Salsette Receiving Station, including the necessity of the Neutral Grounding Transformer (NGT) and the operational limitations arising from the absence of an NGT and the deteriorated condition of the existing NGT associated with DT-6 at Trombay Receiving Station. The STU was further directed to submit a comprehensive technical proposal, supported by the necessary system studies, operational justification, reliability assessment and implementation details, for consideration in the ensuing GCC meeting.

Observations & Recommendations of GCC:-

The Committee directed the STU to submit a comprehensive technical proposal, incorporating the technical justification, system studies and other relevant implementation details, for consideration by the GCC in the ensuing meeting.

All GCC members took note of the discussions.

Agenda Point No. 22

Installation of 33kV GIS (1 x 15 Outlets) at Chandivali EHV S/s

Discussion in GCC:-

The CE, STU representative placed before the GCC a proposal and made the following submissions before the Committee (GCC):

Need of the Scheme

- The Maharashtra Electricity Regulatory Commission (MERC), vide its Order dated 25.04.2023, approved the establishment of 220/33 kV Chandivali EHV Substation with 2 × 125 MVA power transformers.
- While approving the Detailed Project Report (DPR), MERC observed that although AEML-T had proposed two 15-panel 33 kV GIS boards, only one GIS board was approved considering the availability of spare bays, with provision to construct the second GIS board in future based on actual requirement.
- Subsequently, STU, vide letter dated 04.12.2024, requested allocation of 8 Nos. of 33 kV outgoing feeders from the Chandivali EHV Substation.
- AEML-T accorded its consent for allocation of the said 8 Nos. of 33 kV outlets to STU vide letter dated 24.12.2024.
- The 220/33 kV Chandivali EHV Substation was commissioned on 12.03.2026, and the available 33 kV outlets were allocated.
- Thereafter, STU, vide letter dated 14.01.2026, requested allocation of an additional 8 Nos. of Phase-II 33 kV outlets from the Chandivali EHV Substation.
- AEML-T conveyed its consent for allocation of the additional Phase-II 33 kV outlets vide letter dated 10.03.2026.
- In view of the above, installation of the second 33 kV GIS board has been proposed to provide the additional outgoing feeders required by the Distribution Licensee.
- The proposed scheme will facilitate availability of adequate 33 kV feeder capacity to meet the increasing load demand in the Chandivali area, improve system reliability, optimize utilization of the existing transformation capacity and support future downstream distribution network expansion.

Existing Infrastructure & Constraints

AEML-T representative submitted that the 220/33 kV Chandivali EHV Substation was commissioned with 2×125 MVA power transformers. However, only one 15-panel 33 kV GIS board was installed in accordance with the MERC approval. The available outgoing feeder bays have since been substantially allocated to meet the Distribution Licensee's requirements. Consequently, there is no adequate provision for additional 33 kV feeder outlets required for future load growth and downstream network expansion. Hence, installation of the second 33 kV GIS board has become necessary.

Urgency of the Scheme

The Committee noted that the proposed augmentation is essential to create additional 33 kV feeder outlets for meeting the growing demand in the Chandivali area. The scheme will enable timely release of feeders to the Distribution Licensee, improve operational flexibility, optimize utilization of the existing transformation capacity and facilitate future expansion of the distribution network without affecting system reliability.

Financial Implications & Timeline

- Estimated cost of the scheme: **₹25.40 crore.**
- Target commissioning: **FY 2027-28.**

Observations & Recommendations of GCC:-

The Committee acknowledge the requirement of the scheme.

In order to fulfill the Discom's requirement, improve operational flexibility and ensure reliable power supply after detailed deliberation, the Committee, after detailed deliberations, ratified the scheme

Additional Deliberations and Directions of the Committee:

The following directions were issued during the meeting:

- 1. Review of MTC Agenda:** The ED, SLDC suggested that the Project Monitoring agenda discussed in the MTC should also be reviewed by the GCC. It was further requested that the agenda items pertaining to all sub-committees be placed before the GCC in its subsequent meetings for comprehensive review. The **Chairperson, GCC** informed the Committee that the next GCC meeting shall be convened within one month.
- 2. Mandatory Details for Transformer/ICT Augmentation Proposals:** It was directed that all proposals involving augmentation of transformer/ICT capacity shall mandatorily include:
 - Adequacy of source line capacity;
 - Justification for the proposed augmentation capacity;
 - Plan for utilization of the existing transformer/ICT proposed to be replaced;
 - Requirement and adequacy of MVAr compensation; and
 - Geographical network diagram depicting the proposed scheme.
- 3. Requirements for New Substation Proposals:** All proposals for new substations shall include:
 - Assessment of source line capacity adequacy;
 - Analysis of network contingencies;
 - Geographical network diagram; and

- Overall system justification based on network studies.
- 4. **Planning Criteria for Rural Substations:** For new substations in rural areas where load growth is expected to occur in phases:
 - **132/110/100 kV Substations:** Initial configuration shall preferably be 2×25 MVA transformers, with preference given to utilizing spare 25 MVA transformers available from capacity augmentation works.
 - **220/132 kV Substations:** Initial configuration shall preferably be 2×100 MVA ICTs, with preference given to utilizing spare 100 MVA ICTs made available due to augmentation works.
 - Similar planning shall be undertaken for effective utilization of **315 MVA ICTs** released following capacity augmentation.
- 5. **HPC Reconductoring Schemes:** For HPC reconductoring proposals, feasibility surveys covering at least **10% of the tower locations** shall be carried out and the findings shall be placed before the Committee. The proposal shall also include a detailed execution methodology and load management plan to facilitate timely implementation.
- 6. **Bay Planning for DISCOM Load:** For new substations catering to DISCOM load:
 - The requirement of **33 kV/22 kV bays** shall be based on the confirmed requirement furnished by the concerned DISCOM.
 - Only the required number of bays shall be proposed initially, while providing adequate space for future bay additions.
 - In case of **GIS substations in the PMR/MMR region**, future bay requirements shall be confirmed with the concerned DISCOM in advance to avoid future GIS bay integration constraints.

With these discussions the meeting concluded with vote of thanks.



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

(1st Amendment)

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

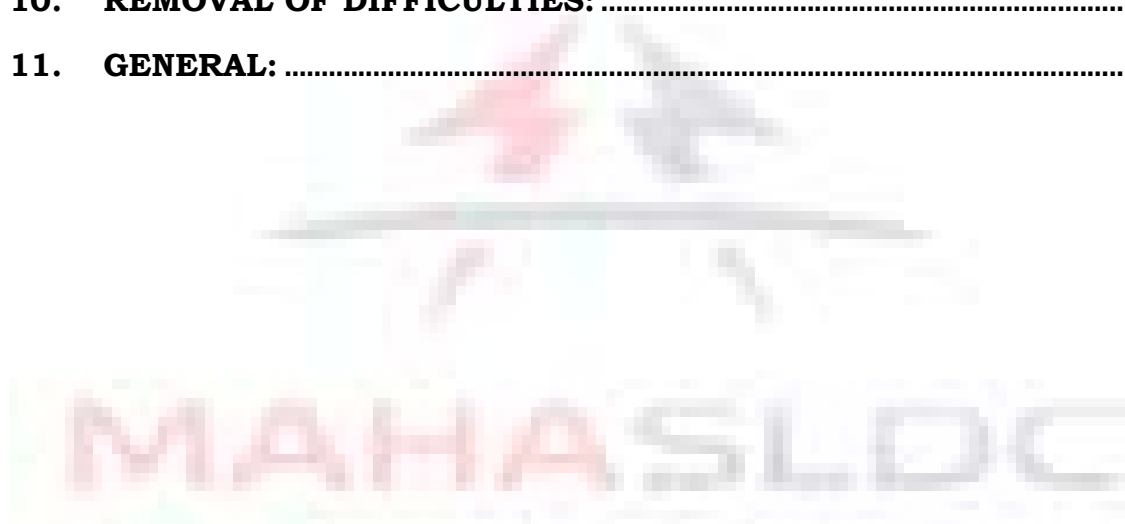
Prepared by

Maharashtra State Load Despatch Centre

(20-07-2026)

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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,

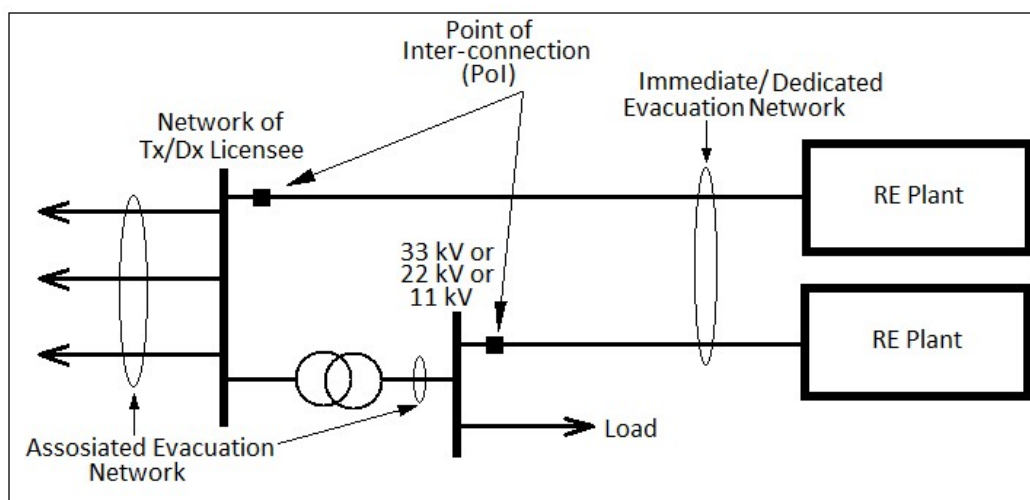
Congestion, Voltage Management and any System security measures.

- Backing down of Intra-State Hydro Generation subject to transmission constraints, congestion, Voltage Management, System Security measures and requirements from Irrigation department.
- 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 RE Developer and Generating Companies to construct, operate & maintain dedicated evacuation infrastructure.

- (d) It shall be the responsibility of the concerned RE 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. Thus, curtailment can be issued on rotational basis.
- 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 approximately. 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, RE 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. As and when curtailment is carried out by MSLDC, a Curtailment Report will be prepared and uploaded on MSLDC website. This report will have details of PSS at which curtailment was carried out, curtailment period along with curtailed quantum, actions taken by MSLDC before initiating curtailment, etc will be specified. This report shall be based on the available operational data and should not be used for any commercial purpose.

- 5.2.8. MSLDC shall report the instances of Curtailment to OCC.
- 5.2.9. MSLDC shall conduct a Quarterly or Bi-annual Curtailment review meetings with QCAs. QCAs being single point contact can discuss the issues with individual Generating Companies prior to such meetings. QCAs shall submit the any issues raised by the Generating companies to MSLDC. The agenda shall be circulated at least 15 days prior to the date of meeting. Only operational issues will be discussed during this meeting. MSLDC may invite any Generating Company for the said meeting.

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 Generating Companies 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 Generating Companies/Plant Operating agencies on behalf of generators, feedback from Generating Companies/Plant Operating agencies on behalf of Generating Companies 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 a 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 Generating Companies.

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, RE 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/STU/SLDC.
- 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. 4.3.3 (c) specified above, the respective Field Offices of the transmission licensees or STU 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. Such identification of requirement should be carried out periodically.

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 by the respective Transmission Licensee/STU. STU

shall finalize the LTS/SPS/GTS along with scope of works & responsibilities in co-ordination with concerned transmission licensee and RE Generating Companies/RE Developers. Once such LTS/SPS/GTS are installed, the details shall be informed to STU & MSLDC by the respective Transmission Licensee.

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, Generation capacity addition, etc, by Transmission Licensee/STU/SLDC and modifications in existing LTS/SPS/GTS, if required, shall be carried out with the approval of STU. Once the LTS/SPS/GTS is updated, the same should be communicated to STU & MSLDC by the respective Transmission Licensee.

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 inform the requirement of the LTS/SPS/GTS to and STU shall finalize the LTS/SPS/GTS along with scope of works & responsibilities in co-ordination with concerned transmission licensee and RE Generating Companies/RE Developers.

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.

- 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 in 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 from MSLDC or Nodal officer/substation.
- 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 and the same shall be forwarded by the QCA to individual Generating Companies/Plant Operators/RE Developers as per the mutually agreed communication protocol.
 - 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 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.

- Tentative Date & Time Block at which curtailment shall be withdrawn. (*Restoration should be carried out only after receipt of instructions from MSLDC*)
- 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 & Nodal Officer/Substations 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:**

- Curtailment will be triggered based on Frequency & Deviations at State Periphery.
- MSLDC Control Room System Operator will assess the need of curtailment based on following guiding principles:
 - a) MSLDC System Operator will monitor the Grid Frequency, State Periphery deviations & trend of anticipated Under-Drawl.
 - b) If State U/D is persistently above 1000 MW for consecutive 2-time blocks and the intra-day forecast and trend indicates continuation, 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 #

- c) 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
	State U/D >500 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

- d) Flexibility shall be with the MSLDC Control System Operator to decide action of curtailment considering System conditions rather than sticking to quantum of Under-drawl and time period specified above.
- 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, wherever available, 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, wherever available, 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' issued by MSLDC.
- QCAs shall inform the details of curtailments to the respective Generating Companies, Plant Operators & RE Developers connected to respective PSS for implementation of the

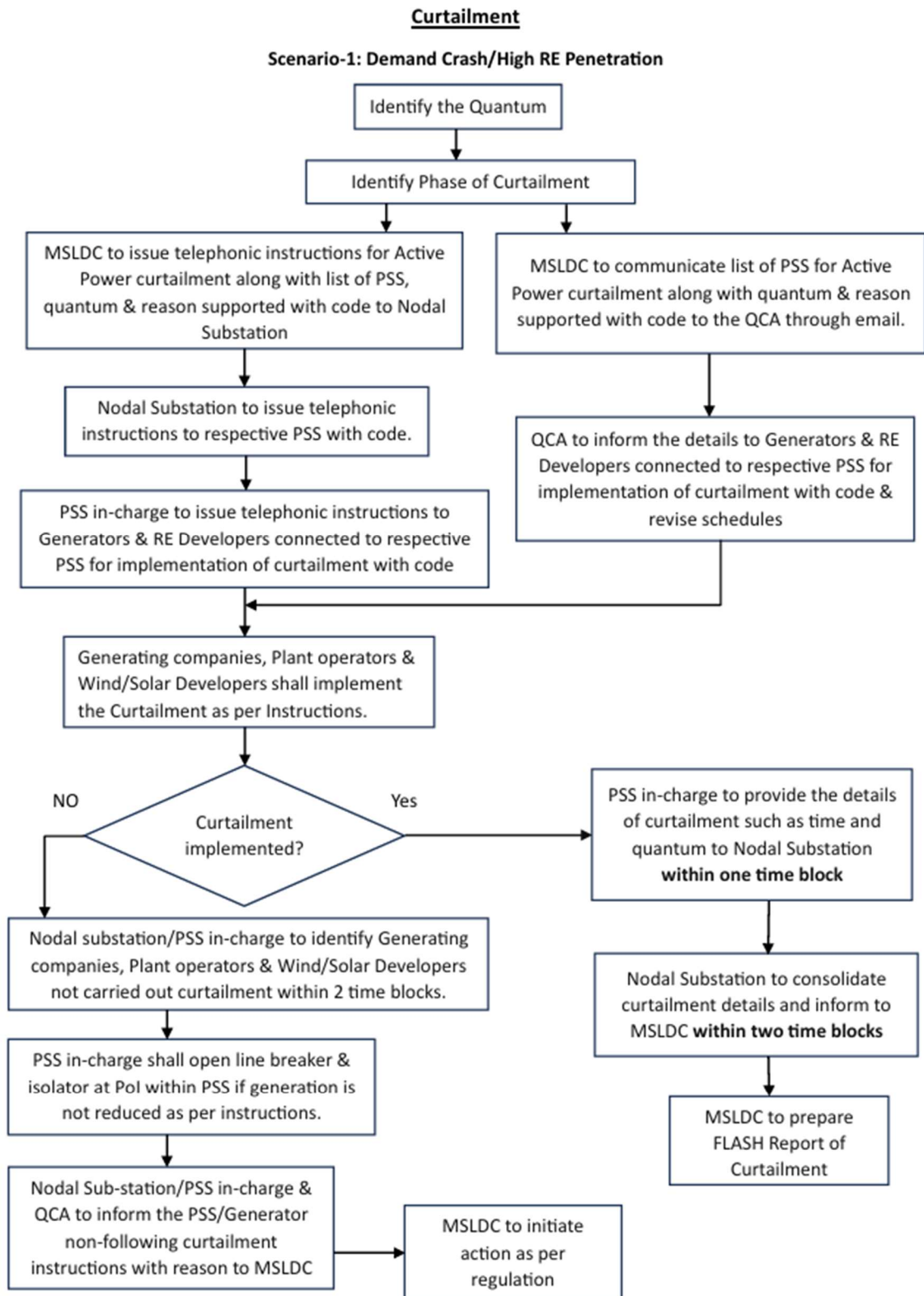
curtailment with 'Code' as per the inter se developed communication protocol.

- 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.

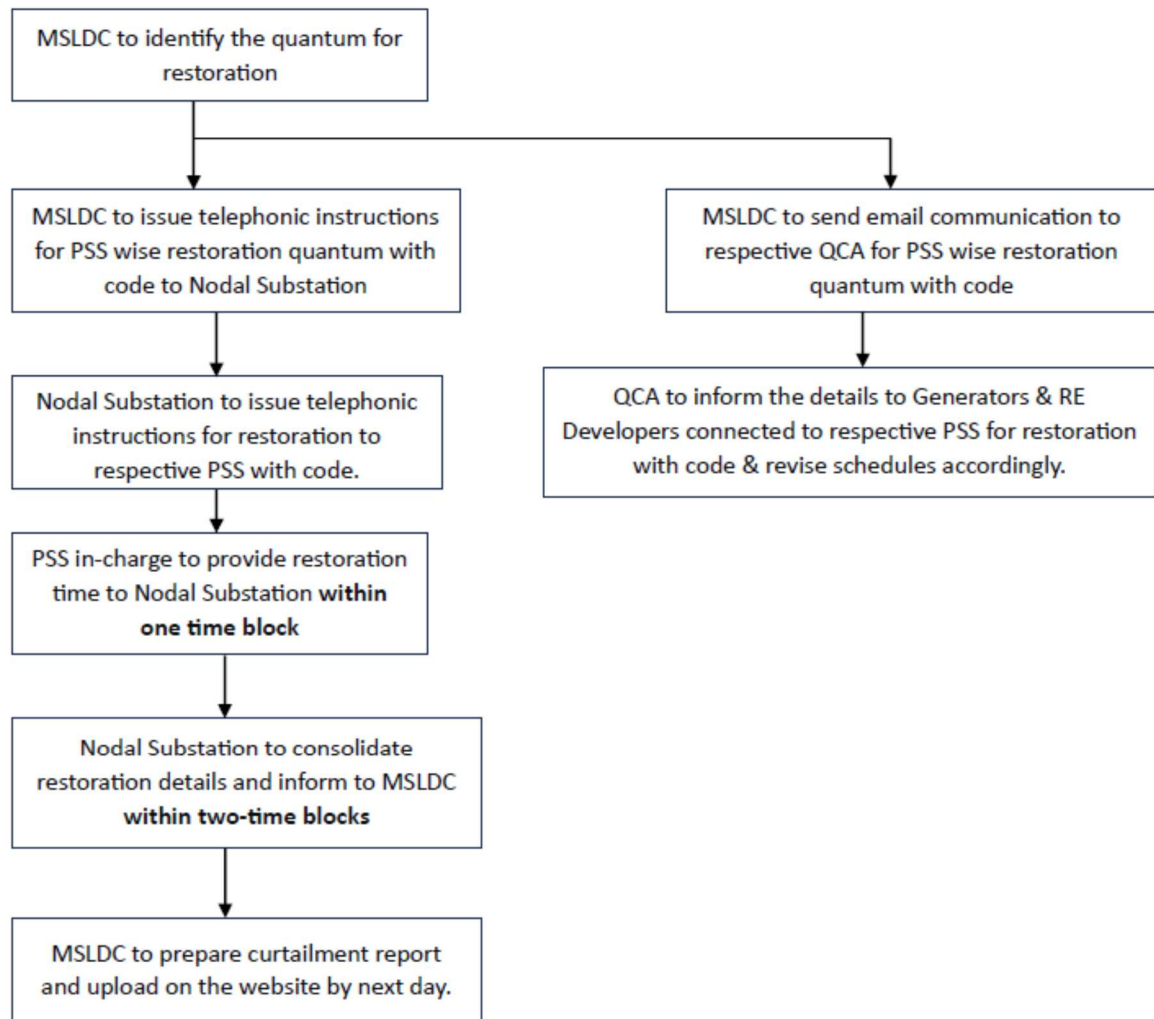
Provided that the PSS In-charge shall intimate telephonically to the respective Generating Company/Plant Operator/RE Developer before opening of the line breaker & isolator.

- 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 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**.
- 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.



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 RE 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, wherever available, 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, wherever available, 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 the 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.

Provided that the PSS In-charge shall intimate telephonically to the respective Generating Company/Plant Operator/RE Developer before opening of the line breaker & isolator.

- 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

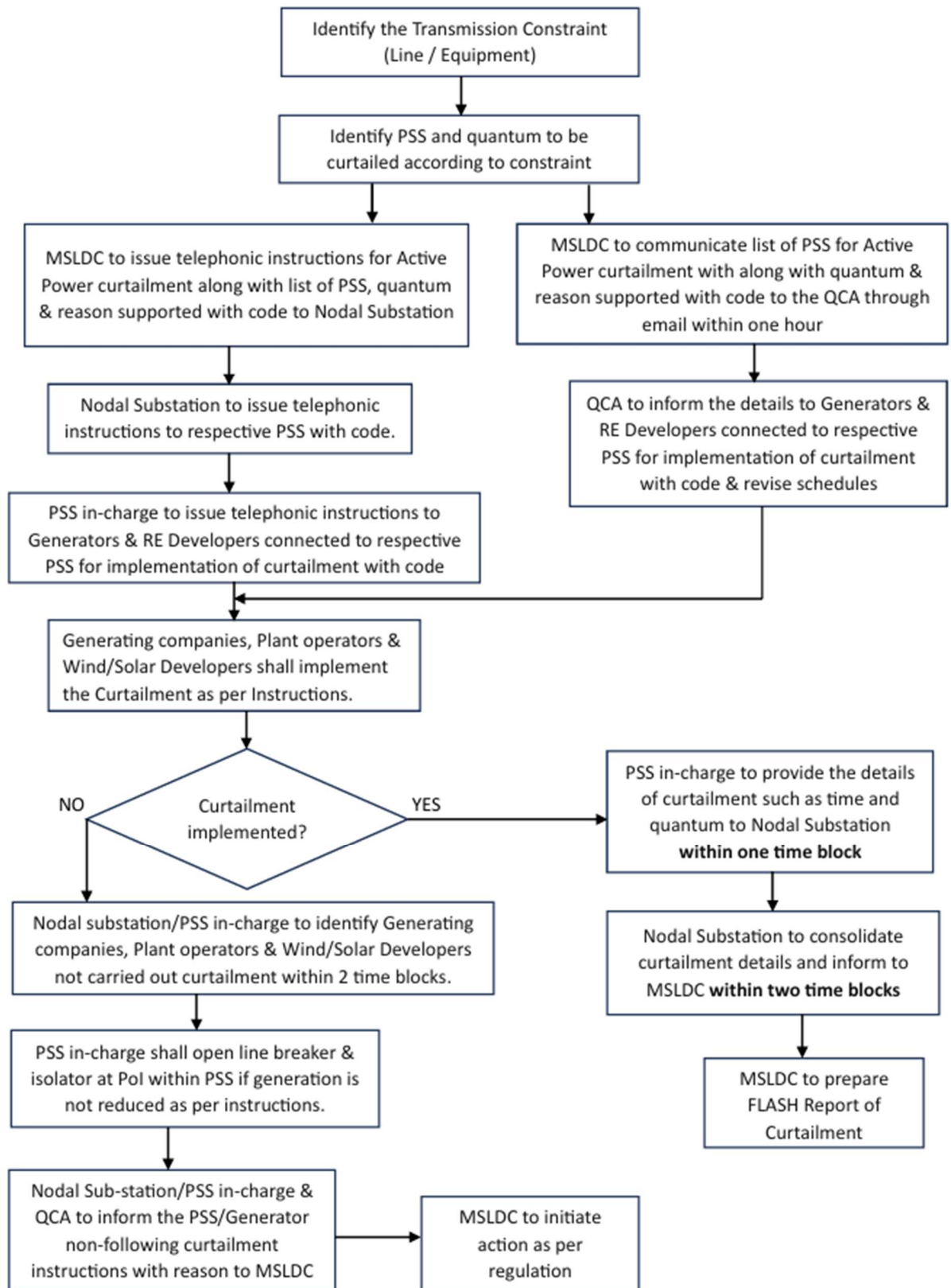
to respective PSS. Details shall be in the format as per **ANNEUXRE - 2**.

- 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**.

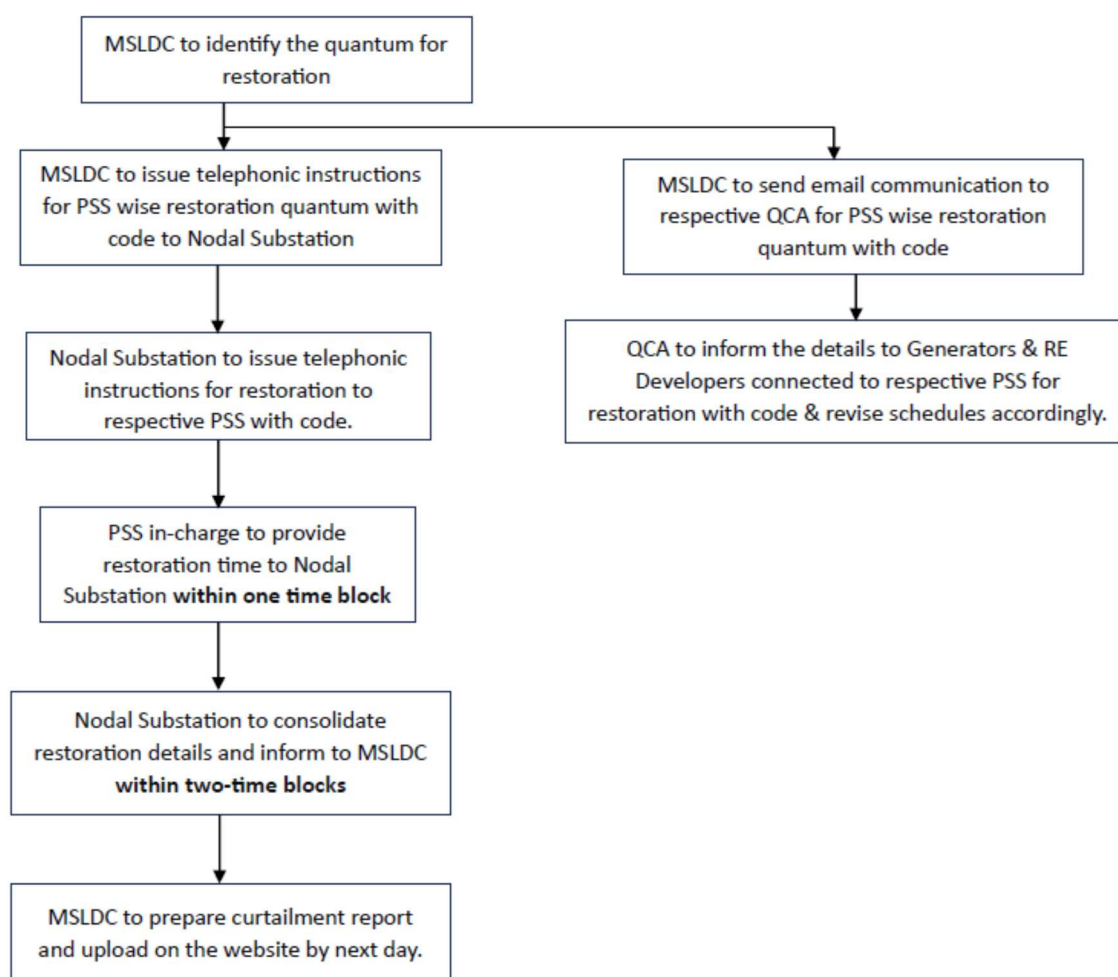


Curtailment

Scenario-2: Transmission Constraint



Restoration



- In relation to the clause no. 4.3.3 (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

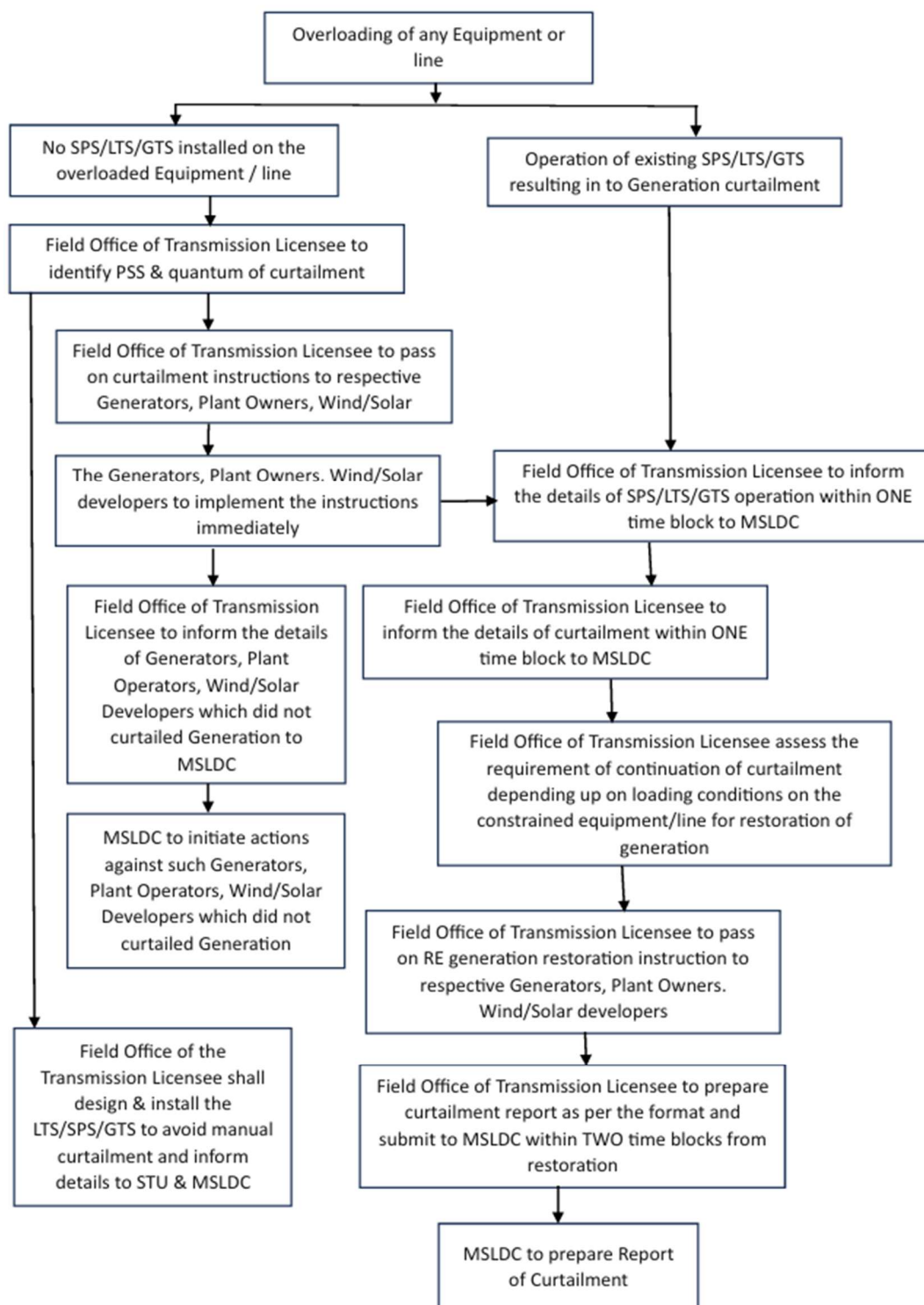
Date & Time of Curtailment

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 Substations 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. 4.3.3 (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 4th time block including time block in which instructions have been issued.

However, the necessary steps for implementation of the curtailment 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 4th 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^{1/2} 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^{1/2} hrs is started. Thus, the schedule submitted by the QCA shall be implemented from the 4th time block of next slot of 1^{1/2} 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 4th time block of the next 1^{1/2} 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 5th time block & up to the 4th time block of next 1^{1/2} hrs slot, existing schedules shall be made 'ZERO'. So that after 4th time block of the next 1^{1/2} hrs slot, the revised schedules submitted by the QCA shall be implemented.

From 5th 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 5th time block & up to the 4th time block of next 1^{1/2} hrs slot, schedules shall be replaced by actual generation. So that after 4th time block of the next 1^{1/2} 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 5th time block & up to the 4th time block of next 1^{1/2} hrs slot. After 4th time block of the next 1^{1/2} 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 4th time block of the next 1^{1/2} 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:

Slot No.	Timing	Time Block	Effective from Time Block
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 37th time block. The revised schedule shall be implemented from 40th time block. The next revision is permitted in slot of 'R-8' from 43rd time block.

7.4.3. Now there is a need of curtailment from 38th time block. Thus, MSLDC shall communicate the instructions of curtailment to the QCA in the 38th time block and the said instruction shall be implemented w.e.f. 41st time block. In such case, the action for implementation of curtailment shall be initiated from the 38th 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 43rd 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 be made 'ZERO'.
- 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 46th 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.

Schedule/Time Block	42	43	44	45
Existing Schedule	80	85	80	87
Revised Schedule	50	55	50	57

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

Schedule/Time Block	42	43	44	45
Existing Schedule	80	85	80	87
Revised Schedule	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 Available Capacity (AvC), revised schedules shall be as tabulated below.

Schedule/Time Block	42	43	44	45
AvC	100	100	100	100
Existing Schedule	80	85	80	87
Revised Schedule	40	45	40	47

7.4.8. In regards to Clause No. 7.4.7, if QCA fails to submit revised forecasts, the existing schedules shall be reduced by the quantum of curtailment instructed from 42nd 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 4th 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 4th 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 hon'ble 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.

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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 - BAMBhori Ckt	33KV 20MW Sunsare 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 2) 33kV FDIPL 1 3) 33kV FDIPL 2 4) 33kV ESSL 1 5) 33kV ESSL 2 6) 33kV Parampujya Solar 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 Stage2-To Trim 30MW additional Generation. of M/s Maruti Wind SS at Remote 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		
			220/132KV 100MVA ICT-2 LV		
15		132kV JSW	132KV Tuljapur	Stage 1-To Trim 20MW Generation of M/s JSW Stage 2-To Trim additional 30MW Generation of M/s JSW 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	To avoid TF overloading
17		Pune	220kV South solapur s/s	132kV south solapur- Bale	132kV Bale line
18	132kV Waghdari s/s		132kv Waghdari- Naldurga	1) stage 1- 33kV solar feeder at chetak s/s(26.5 MW) 2) stage 2 - 132kV Tata power 2(58MW) 3) 33kV swami samarth 2 (15MW) 4) stage 2 33kV solar feeder at chetak s/s(23.5MW) 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) 2) 33kV LREHL-1(25MW)	To avoid line overloading
20	132kV Waghdari s/s		132kV Akkalkot ckt 2	1) 132kV Tata power 1(62MW) 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) 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) 2) stage 2 - 33KV Enrich feeder 2(25MW) 3) stage 2 132kV Gokul mauli (15MW) 4) 132kv Jayhind (30MW)	To avoid line overloading

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 2) 33kV Enrich solar 1 3) 33kV Enrich solar 2 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) 2) at 132kV Waghdari s/s (62MW) 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) 2) at 132kV Waghdari s/s (62MW) 3) LREHL 1(25MW)	To avoid line overloading
27		132kV Akkalkot	132kV Karajgi line	1) 132kV Tata power 1(62MW) 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 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 backdown of 6.98MW	To avoid TF overloading
			220/33 kV 25 MVA TF2	33KV Swami Samarth Solar Feeder 02 backdown of 6.98MW	To avoid TF overloading
			132kV Ambazari – Karanja CKT I & II	33kV Avaada Solar Feeder at 132kV Talegaon Substation 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	

Annexure - 1

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

Sr. No.	voltage Level (kV)	Name of PSS	Taluka	District	Zone	Area	Solar/ Wind /Hybrid	SOLAR (MW)	Wind (MW)	Name of S/stn or Plant Incharge	In-charge Mob.	Email address	S/stn or Plant Control Room Mob 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 ie 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/ Developer	Date of instructions Passed to Gen/ Developer	Time of instruction passed to Gen/ Dev	Name of Representative of Gen/ Developer who has taken instructions	Reason for non- implementation of MSLDC instructions (given by Gen / Dev)	Remakrs form Nodal Substation / QCA
1							
2							
3							
4							

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

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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:

1. Grid security and operational reliability
2. Least-cost power procurement
3. 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:

1. All Intra-State Generating Stations (InSGS), (Coal, lignite and gas) connected to Intra-State Transmission System (InSTS) operating under MOD stack.
2. All Distribution Licensees (DISCOMs) contracting power from such generating stations.
3. State Load Despatch Centre (SLDC) while exercising its statutory functions .

4. Scope:

This procedure covers:

1. Withdrawal and revival of generating unit under Zero schedule.
2. Conditions under which Zero Scheduling may be considered.
3. Request mechanism by Distribution Licensee.
4. Evaluation and concurrence process by SLDC.
5. Methodology for identification of zero schedule units.
6. Operational requirements during zero schedule.
7. Revival of zero schedule units.
8. Withdrawal of SLDC concurrence.
9. Daily review and contingency actions.
10. 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 to thermal generators and 1 hour prior notice to gas based generators for Zero Scheduling of on bar generators, 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 as per **Annexure-3**. 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:

1. Anticipated generation availability exceeds anticipated demand of any distribution licensee.
2. Distribution Licensee optimizes power procurement cost considering contracted sources.

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.
- I. Period for which Zero Scheduling is proposed.
 - II. Name and capacity of generating unit(s).
 - III. Merit Order Dispatch (MOD) position with variable charges.
 - IV. Demand-supply forecast i.e Resource adequacy plan during period of zero schedule proposed.
 - V. Confirmation that zero schedule does not adversely impact Resource Adequacy/contingency plan in case tripping of existing resources causes adverse impact on RA.
 - VI. Details of alternative sources, if any

8. Concurrence to Zero Schedule by SLDC

SLDC shall examine the request considering:

1. State demand-supply position (Resource Adequacy submitted by concern distribution licensees as per **Annexure 2** for the period zero schedule of unit is proposed)
2. Grid security and reliability
3. Transmission system constraints
4. Operational feasibility, ATC/TTC etc.
5. If grid constraints prevent Zero Scheduling of such unit:
 - Unit with next highest variable charge may be proposed by concerned distribution licensee.

6. Upon receipt of concurrence, the distribution licensee coordinates with the generator and punches the zero schedule through the designated module of the scheduling software.
7. 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.
8. SLDC's concurrence shall be:
 - Operational in nature
 - Non-commercial
 - Issued without any financial liability

9. Notice to Generator by Distribution licensee: -

1. After receipt of Concurrence from SLDC, the Distribution Licensee shall issue at least eight (8) hours prior notice to the coal based generator and 1 hour for gas based generators.
2. If notice for zero schedule from the distribution licensee is not issued before eight (8) hrs for coal based and 1 hour 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

1. No maintenance shall be carried out during Zero Scheduling
2. 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 at least 72 hours in advance for the unit(s) to come on a bar from cold start and at least 8 hours in advance for hot start and at least 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 at least 1 hour 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:

1. Any operational contingency

2. System security needs
3. Transmission outages/trippings/breakdowns.
4. Sudden demand surge, High overdrawal beyond permissible limit, low frequency
5. Renewable variability
6. ATC/TTC violations etc.
7. Reliability Assessment
8. 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:

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

13. Grievance Redressal:

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-1:
Format for application 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- Format for i.e Resource adequacy plan during period of zero schedule proposed (Demand–supply forecast)

Resource adequacy plan during period of zero schedule proposed (Demand–supply forecast)

Details for
utility:

(Name of the utility)

For Date:

dd-mm-yy

Time		Forecasted Generation/Availability												Gap between Demand & Availability (G) = (A)-(F) Surplus(-) / Deficit (+)	Proposed Procurement		Gap after day ahead procurement from market (J) = (G)-(H+I) Surplus(-) / Deficit (+)	Relief through planned restrictions/ rostering/ power cuts (K)	Gap after shedding proposed (L) = (J)-(K) Surplus(-) / Deficit (+)
		Forecasted Demand (A)	From its own sources (excluding Renewable)				From Renewable Sources				From ISGS & Other LTA & MTOA (D)	From Bilateral Transaction (Advance+ FCFS) (E)	Total Availability (F) = (B+C+D+E)		Under Bilateral Transaction (Day Ahead+ Exigency) (H)	Through Power Exchange (I)			
			Thermal (Coal + Lignite)	Gas	Hydro	Others	Total (B)	Solar	Wind	Other RES (biomass etc.)									
Block	Period	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW
1	00:00 - 00:15					0.00				0			0.00	0			0		0
2	00:15 - 00:30					0.00				0			0.00	0			0		0
3	00:30 - 00:45					0.00				0			0.00	0			0		0
4	00:45 - 01:00					0.00				0			0.00	0			0		0
5	01:00 - 01:15					0.00				0			0.00	0			0		0
6	01:15 - 01:30					0.00				0			0.00	0			0		0
7	01:30 - 01:45					0.00				0			0.00	0			0		0
8	01:45 - 02:00					0.00				0			0.00	0			0		0
9	02:00 - 02:15					0.00				0			0.00	0			0		0
10	02:15 - 02:30					0.00				0			0.00	0			0		0
11	02:30 - 02:45					0.00				0			0.00	0			0		0
12	02:45 - 03:00					0.00				0			0.00	0			0		0
13	03:00 - 03:15					0.00				0			0.00	0			0		0
14	03:15 - 03:30					0.00				0			0.00	0			0		0
15	03:30 - 03:45					0.00				0			0.00	0			0		0
16	03:45 - 04:00					0.00				0			0.00	0			0		0
17	04:00 - 04:15					0.00				0			0.00	0			0		0
18	04:15 - 04:30					0.00				0			0.00	0			0		0
19	04:30 - 04:45					0.00				0			0.00	0			0		0
20	04:45 - 05:00					0.00				0			0.00	0			0		0
21	05:00 - 05:15					0.00				0			0.00	0			0		0
22	05:15 - 05:30					0.00				0			0.00	0			0		0
23	05:30 - 05:45					0.00				0			0.00	0			0		0
24	05:45 - 06:00					0.00				0			0.00	0			0		0
25	06:00 - 06:15					0.00				0			0.00	0			0		0
26	06:15 - 06:30					0.00				0			0.00	0			0		0
27	06:30 - 06:45					0.00				0			0.00	0			0		0
28	06:45 - 07:00					0.00				0			0.00	0			0		0
29	07:00 - 07:15					0.00				0			0.00	0			0		0
30	07:15 - 07:30					0.00				0			0.00	0			0		0
31	07:30 - 07:45					0.00				0			0.00	0			0		0
32	07:45 - 08:00					0.00				0			0.00	0			0		0
33	08:00 - 08:15					0.00				0			0.00	0			0		0
34	08:15 - 08:30					0.00				0			0.00	0			0		0
35	08:30 - 08:45					0.00				0			0.00	0			0		0
36	08:45 - 09:00					0.00				0			0.00	0			0		0
37	09:00 - 09:15					0.00				0			0.00	0			0		0
38	09:15 - 09:30					0.00				0			0.00	0			0		0
39	09:30 - 09:45					0.00				0			0.00	0			0		0
40	09:45 - 10:00					0.00				0			0.00	0			0		0
41	10:00 - 10:15					0.00				0			0.00	0			0		0
42	10:15 - 10:30					0.00				0			0.00	0			0		0
43	10:30 - 10:45					0.00				0			0.00	0			0		0
44	10:45 - 11:00					0.00				0			0.00	0			0		0

Annexure-3

Format for declaration of Healthiness of generating unit

(To be submitted by plant head of generator in case of generator already offbar)

Sr No.	Information	Description
1	Name of generating station	
2	Unit number	
3	Date and time of trip/withdrawal of generator	
4	Reason for tripping /withdrawal	
5	Details of work carried out	
6	Date and time for readiness for onbar operation	

Declaration

It is declared that the above-mentioned work has been carried out and the unit is in healthy condition and ready for synchronization with the grid as and when required by SLDC/DISCOM.

Seal of organization

Authorized signatory

Name:-

Designation:-

Date:-

Place:-