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)
91-022-27601931 (O) Extn.1001
Email : edsldc@mahasldc.in
website : www.mahasldc.in

Office of The Executive Director
Maharashtra State Load Dispatch Center
Thane-Belapur Road, P.O. Airoli
Navi Mumbai Pin – 400 708.

Ref. No. ED/MSLDC/OP/GCC/ 001883 Date: 04 AUG 2026

**To,**
**As per mailing list GCC Core Group Members.**

**Sub:** - Minutes of the 19th Grid Coordination Committee (GCC) meeting held on 28.04.2026 at C.O. Prakashganga, Mumbai.

**Ref.:** 1. GCC invitation and Agenda Letter No. ED/MSLDC/OP/GCC/No.971dtd 24.04.2026
**2. Additional** Agenda Letter no. ED/MSLDC/OP/GCC/1002 dtd 27.04.2026.

---

Dear Sir,

With reference to the above subject, the Minutes of the 19th Grid Co-ordination Committee (GCC) meeting held at C.O. Prakash Ganga, Mumbai on 28.04.2026 at 15:00 hrs in hybrid mode is enclosed herewith.

Thanking you.

With regards,

Encl: As above.

(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 (Special Projects), 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 | Shashank Jewalikar Executive Director (SLDC) | Member Convener | 022-27601765 | edsldc@mahasldc.in |
| 4 | MSETCL | Anil Bharsakle CE (O&M) (I/C) | Member | 8554995004 | 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 | comml-wrpc@nic.in |
| 7 | MEDA | Shri Manoj Pise, General Manager | Member | 9422319093 | gmrd@mahaurja.com |

# *Minutes of the 19th Grid Co-ordination Committee meeting held on 28th April 2026 at 15:00 hrs. at C.O., Prakashganga, Mumbai.*

The 19th Grid Coordination Committee (GCC) meeting of the Core Group was held on 28.04.2026 at 15:00 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 19th GCC Meeting.

With the permission of the Chair, discussions for the 19th GCC Core Committee began as follows:

**Item no 1.:-**

**Confirmation of the Minutes of the 17th GCC Meeting held on 30.01.2026**.

The Member Convenor of GCC informed that the minutes of the 17th GCC meeting held on 30.01.2026 were circulated to all the members vide Letter No. ED/MSLDC/TECH/OP/GCC/904 Dated. 21.04.2026. However, no comments are received from members and hence, the same may be considered as ratified.

***GCC confirmed the Minutes of the 17th GCC Meeting held on 30.01.2026.***

**Item No.2: Agenda from PCC**

The review of MEGC regulation-2020 was discussed during the 14th GCC meeting held on dtd 28.07.2025 at SLDC, Kalwa and GCC committee has directed that 'Protection code' shall be discussed & reviewed in PCC meeting and after in-principal approval from PCC, the approved protection code shall be put up to GCC. The Protection code was discussed during 9th PCC meeting held on dtd 12.01.2026 through Hybrid Mode. The in principal approved modification/changes suggested by committee is attached herewith as Annexure I.

- Appraisal for GCC committee thereof.

**Discussion in GCC:-**

The agenda item was presented by the Chief Engineer (Automation, Communication, Innovation & Protection) and Chairperson, Protection Coordination Committee (PCC). The Proposed Changes in the MEGC Draft (as approved by the 9th PCC Meeting) were placed before the Committee for detailed deliberation.

The Committee discussed the proposal in detail, and the following observations were recorded:

1. The proposed amendments to the Protection Code of MEGC-2020 were deliberated in line with the provisions of IEGC-2023 [Chapter -4: Protection code], with emphasis on

establishing a uniform protection protocol, protection settings, protection audit framework, and event reporting mechanism.

2. It was discussed that the Protection Protocol shall be developed, implemented, and periodically reviewed by the Protection Coordination Committee (PCC) in coordination with WRPC and other stakeholders, taking into account operational experience and applicable CEA Standards.

3. The Committee deliberated on strengthening the protection requirements for EHV substations, including implementation of mandatory protection schemes as per the Protection Manual, coordinated protection settings, and annual review of relay settings based on system studies and fault level assessments.

4. It was discussed that all users shall obtain approval for protection setting revisions, submit updated protection settings, and intimate any changes in protection systems to the PCC within the prescribed timelines.

5. The requirement for conducting annual internal protection audits and periodic third-party protection audits of EHV substations was discussed. The Committee emphasized timely submission of audit reports, rectification action plans, and annual audit schedules to the PCC/SLDC.

6. The Committee deliberated on strengthening the event reporting framework, including timely submission of flash reports, disturbance records, event logs, detailed event reports, relay indications, Single Line Diagrams (SLDs), restoration sequence, protection audit details, and other supporting information within the stipulated timelines.

7. It was discussed that recording instruments such as Disturbance Recorders (DR), Event Loggers (EL), and Data Acquisition Systems (DAS) shall be maintained in healthy working condition with proper GPS time synchronization, and their healthiness shall be periodically verified by the SLDC.

8. The members discussed the periodic reporting and review of unintended operations and failures of protection systems, along with monitoring of protection performance indices, namely Dependability, Security, and Reliability, by the PCC/SLDC.

9. The provisions relating to System Protection Schemes (SPS), including annual system studies, mock testing, performance assessment, reporting requirements, and corrective actions following SPS operations or failures, were deliberated.

10. The proposed timelines for submission of flash reports, disturbance records, detailed event reports, draft analysis reports, and their review by the Protection Coordination Committee were examined and agreed for incorporation into the revised MEGC draft.

**After detailed deliberations, the Committee agreed to incorporate the proposed modifications into the revised MEGC draft and recommended that the draft be processed further for approval through the appropriate regulatory framework.**

**Attachment: Proposed modifications/changes in MEGC – 2020 regulation.**

***All GCC members took note of the discussions***

## Item No. 3: Agenda from MTC

### Agenda Point No. 1:

Scheme for work of replacement of existing ACSR conductor by equivalent High Performance Conductor for following lines-

1) 132kV Ambad- Jalna S/C line (36Ckm),
2) 132kV Ghansawangi – Tirthpuri S/C line (10.5Ckm),
3) 132kV Jalna Old – Utwad S/C line (33.29Ckm),
4) 132kV Mantha – Dusarbid SC line (26Ckm),
5) 132kV Nagewadi – Jalna Old S/C line (9.06 Ckm),
6) 220kV Jalna - Nagewadi S/C Line (5.17Ckm),
7) 220kV TP Sourya-Thaptitanda line (4Ckm),
8) 132kV Ghansawangi- Partur S/C line (38.20Ckm) &
9) 132kV Tirthpuri – Ambad S/C line ( 29Ckm)

along with strengthening of associated end bays for RE power evacuation under EHV O&M Division, Jalna under Chhatrapati Sambhajinagar Zone.

- *To facilitate PPA with MSEDCL.*

### Discussion in GCC:-

The STU representative placed before the GCC a proposal titled "Scheme for work of replacement of existing ACSR conductor by High Performance Conductor along with strengthening of end bays of

1) 132kV Ambad- Jalna S/C line (36Ckm),
2) 132kV Ghansawangi – Tirthpuri S/C line (10.5Ckm),
3) 132kV Jalna Old – Utwad S/C line (33.29Ckm),
4) 132kV Mantha – Dusarbid SC line (26Ckm),
5) 132kV Nagewadi – Jalna Old S/C line (9.06 Ckm),
6) 220kV Jalna - Nagewadi S/C Line (5.17Ckm),
7) 220kV TP Sourya-Thaptitanda line (4Ckm),
8) 132kV Ghansawangi- Partur S/C line (38.20Ckm) &
9) 132kV Tirthpuri – Ambad S/C line ( 29Ckm)

along with strengthening of associated end bays for RE power evacuation under EHV O&M Division, Jalna under Chhatrapati Sambhajinagar Zone.."

**Need of the Scheme**

Jalna district is a renewable energy (RE)–rich region with approximately **2825 MW** of planned solar generation. In order to facilitate power purchase agreements (PPAs) with MSEDCL and ensure timely evacuation of RE power, strengthening of the existing transmission network is essential.

It was observed from STU studies that the existing transmission network does not have adequate power carrying capacity to evacuate the renewable energy (RE) generation proposed in the area. Additionally, network strengthening is required to facilitate evacuation of RE power from the proposed 400 kV Jalna substation.

Further, RE developers have already executed PPAs with MSEDCL for supplying RE power from the RE projects being established at-

- **200 MW** at 132/33 kV Ghansawangi S/s (SCOD: 21.11.2026)
- **300 MW** at 220 kV Nagewadi S/s (SCOD: 27.11.2026)

Considering the stringent timelines of these PPAs and the limitation of the existing network, replacement of existing ACSR conductors with High Performance Conductors (HPC) and strengthening of associated line end bays on priority is necessary to enable evacuation of RE power. It was highlighted that:

The scheme has been:

- Recommended by **O&M Capital Schemes Screening Committee** in meetings held on 11.02.2026 and 11.03.2026.
- STU has carried load flow studies and recommended HPC reconductoring of above.

**Technical Benefits**

The scheme will provide:

- Enhanced current carrying capacity using existing RoW
- Efficient evacuation of RE power without new line construction
- Increased loading capability to meet present and future demand/RE power evacuation.

**Financial Implications & Timeline**

The total estimated cost of the scheme is **₹ 206.62 Crores**, including IDC **₹ 17.06 Crores**.

**Line-wise Details and Cost**

| Sr. No. | Name of Line | Length (Ckm) | Cost (₹ Cr) |
|---|---|---|---|
| 1 | 132 kV Partur – Ghansawangi | 38.20 | 41.81 |
| 2 | 132 kV Tirthpuri – Ghansawangi | 10.50 | 12.47 |
| 3 | 132 kV Ambad – Tirthpuri | 29.00 | 29.84 |
| 4 | 132 kV Jalna – Ambad | 36.00 | 35.36 |
| 5 | 132 kV Utwad – Jalna Old | 33.29 | 34.23 |
| 6 | 132 kV Nagewadi – Jalna Old | 9.06 | 10.64 |
| 7 | 132 kV Mantha – Dusarbid | 26.00 | 26.76 |
| 8 | 220 kV TP Sourya – Thapti Tanda | 4.00 | 5.67 |
| 9 | 220 kV Jalna – Nagewadi | 5.17 | 9.84 |
| **Total** | | **191.22** | **206.62** |

The scheme will be implemented on **priority basis** in line with PPA SCOD timelines (November 2026) and before commissioning of the 400 kV Jalna substation.

**Committee's Key Observations and Recommendations**

The committee emphasized that the works should be executed in a time-bound manner with proper planning to minimize outages. Coordination with RE developers and system operators is essential to ensure seamless integration of generation.

**Considering the critical importance for RE evacuation and compliance with PPA timelines, 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. 2:**

Scheme of the work of replacement of existing 0.4 Zebra ACSR Conductor by High Performance Conductor for following lines-

a) 220kV Harangul- Parli PG line (51Ckm)
b) 220kV Harangul- ICL line (53.8 Ckm)
c) 220kV Parli - ICL line (5 Ckm)
d) 220kV Parli-PGCIL Ckt-II SCDC line (23.3 Ckm)
e) 220kV Girwali-Murud SCDC line (44.3 Ckm)
f) 220kV Kumbhargaon-Jalkot D/C line (108 Ckm) along with strengthening of associated end bays for RE power evacuation under EHV O&M Circle, Parli, under Chhatrapati Sambhajinagar Zone. - *To facilitate PPA with MSEDCL.*

**Discussion in GCC:-**

The STU representative placed before the GCC a proposal titled "Scheme of the work of replacement of existing 0.4 Zebra ACSR Conductor by High Performance Conductor of

a) 220kV Harangul- Parli PG line (51Ckm)
b) 220kV Harangul- ICL line (53.8 Ckm)
c) 220kV Parli - ICL line (5 Ckm)
d) 220kV Parli-PGCIL Ckt-II SCDC line (23.3 Ckm)
e) 220kV Girwali-Murud SCDC line (44.3 Ckm)
f) 220kV Kumbhargaon-Jalkot D/C line (108 Ckm) along with strengthening of associated end bays for RE power evacuation under EHV O&M Circle, Parli, under Chhatrapati Sambhajinagar Zone. - *To facilitate PPA with MSEDCL*

**Need of the Scheme**

The representative submitted that Latur district is a RE-rich region with approximately **2947 MW** of planned RE generation. Further, MSEDCL has PPAs with RE projects in Nanded district which are under development. It was submitted that:

- Grid connectivity has been granted as:
- 268 MW Wind Project at 220 kV Harangul S/s
- 100 MW Wind Project at 220 kV Harangul S/s
  - 132 MW Wind Project at 220 kV Murud S/s
- Additional RE projects include:
  - 150 MW Solar Project at 220 kV Krishnur S/s
  - 200 MW Solar Project at 220 kV Jalkot S/s (SCOD: 21.01.2027)

The representative further submitted that the proposed **400/220/132 kV Latur substation** is planned for commissioning in FY 2028–29; however, the SCOD of the above RE projects is prior to this timeline. Hence, evacuation of power through the existing network is required on priority. It was highlighted that the schemes has been:

- Recommended by **O&M Capital Schemes Screening Committee** in meetings held on 11.02.2026 and 11.03.2026
- STU has carried load flow studies and recommended HPC reconductoring of above.
- The scheme is included in the **10-year STU Plan (2026–27 to 2035–36)**.

- **Financial Implications & Timeline**

| Sr. No. | Name of Line | Length (Ckm) | Cost (₹ Cr) |
|---|---|---|---|
| 1 | 220 kV Harangul – Parli PG | 51.0 | 63.59 |
| 2 | 220 kV Harangul – ICL | 53.8 | 65.69 |
| 3 | 220 kV Parli – ICL | 5.0 | 7.73 |
| 4 | 220 kV Parli – PGCIL Ckt-II | 23.3 | 33.03 |
| 5 | 220 kV Girwali – Murud | 44.3 | 54.11 |
| 6 | 220 kV Kumbhargaon – Jalkot | 108.0 | 144.45 |
| **Total** | | **285.4** | **368.60** |

The total estimated cost of the scheme is **₹368.60 Crores**, including IDC of **₹30.43 Crores**.

**Committee's Key Observations and Recommendations**

The committee emphasized that the enhancement of the capacity of the above existing network is essential for effective evacuation of RE power. He also highlighted that due to time- bounded PPAs, it is essential to complete the scheme works within the stipulated timelines.

**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 the work of replacement of existing 0.4 Zebra ACSR Conductor by equivalent High Ampacity Conductor for following lines-
a) 220 kV Dhule - Dondaicha line (63 Km) and
b) 220 kV Dhule - Amalner line (36.55 Km)
along with bay equipment's & strengthening of end bays (01 no. each at 220 kV Dondaicha Substation and 220 kV Amalner Substation & 02 nos. at 400/220 kV Dhule Substation (New switch yard) under EHV (O&M) Circle, Bhusawal.

**Discussion in GCC:-**

The STU representative placed before the GCC a proposal titled "Scheme of the work of replacement of existing 0.4 Zebra ACSR Conductor by High Ampacity Conductor of
a) 220 kV Dhule - Dondaicha line (63 Km) and
b) 220 kV Dhule - Amalner line (36.55 Km)

along with bay equipment's & strengthening of end bays (01 no. each at 220 kV Dondaicha Substation and 220 kV Amalner Substation & 02 nos. at 400/220 kV Dhule Substation (New switch yard) under EHV (O&M) Circle, Bhusawal."

Dhule region is emerging as a renewable energy (RE)–prone area with upcoming solar generation projects. Technical feasibility has been granted for 400 MW solar Project at Dhule district, necessitating strengthening of the transmission network.

It was observed that the existing 220 kV Dhule–Dondaicha and Dhule–Amalner lines are already operating near their thermal limits. The Dhule–Dondaicha line has recorded loading up to **95% of its capacity**, while the Dhule–Amalner line is also operating at high loading levels **89% of its capacity.**

Further, with the integration of upcoming RE generation, the existing network will not be adequate to handle additional power flow, leading to potential congestion and reliability issues. In view of this, replacement of existing ACSR conductors with High Ampacity Conductors (HPC) is essential to enhance transmission capacity within the existing Right of Way (RoW).

STU representative highlighted that the schemes are

- Recommended by STU based on load flow studies (vide letter dated 18.03.2026)
- Included in the 10-year STU Plan (2026–27 to 2035–36)
- Recommended by the O&M Capital Schemes Screening Committee in its meeting held on 11.02.2026

### Existing Infrastructure and line loadings

The details of existing infrastructure and line loadings are as below-

| Sr No. | EHV Line Name | CkM | Commissioning Year | Max Loading |
|---|---|---|---|---|
| 1 | 220 kV Dhule–Dondaicha line | 63.0 | 1998 | 265 MW |
| 2 | 220 kV Dhule–Amalner line | 36.55 | 2007 | 245 MW |

Both lines are operating close to their thermal limits.

### Financial Implication & Implementation Timeline

The total estimated cost of the scheme is **₹128.94 Crores**, including IDC component of **₹10.64 Crores**.

## Committee's Key Observations and Recommendations

**In order to meet the present & future load requirement, to address the overloading problems, to ensure readiness of the transmission network for evacuation of upcoming renewable energy and to meet PPA timelines, 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:

Work of enhancement of existing corridor of 220kV Kalwa-Mulund-Bhandup-Borivali Line by addition of LILO cable at 220kV GIS, Bhandup substation for Mumbai strengthening, under EHV O&M Division Kalwa.

**Discussion in GCC:-**

The STU representative placed before the GCC a proposal titled "Work of enhancement of existing corridor of 220kV Kalwa-Mulund-Bhandup-Borivali Line by addition of LILO cable at 220kV GIS, Bhandup substation for Mumbai strengthening, under EHV O&M Division Kalwa"

The 220 kV Kalwa–Mulund–Bhandup–Borivali transmission corridor is a critical link for power supply to central Mumbai and the MMR region. The corridor has already been upgraded to higher capacity (1600 Amp) by replacement of conductor; however, the LILO cable portion connecting Bhandup GIS substation (From Tower No. 21 to 220 kV Bhandup GIS S/s), remains a bottleneck due to its limited capacity (800 Amp).

It was observed that the existing cable route, laid in 2011 through private properties, has become highly vulnerable due to encroachments and development activities. Multiple incidents of cable faults have occurred due to unauthorized excavation, leading to prolonged outages and serious reliability concerns.

The STU Representative submitted that:

- The scheme has been approved vide **BR No. 178/06 dated 24.11.2025**
- Recommended by STU vide letters dated 22.03.2017 and 06.03.2026

### Scope of Work

The scope of work includes:

- To carry out detail & check survey of proposed tower location & complete route of EHV cables.
- Supply, Erection, Testing & Commissioning of 01 No. Cable termination tower along with earthing system.
- Supply of EHV XLPE Cable along with its accessories, terminations at tower & GIS ends, Cable joints, Lightening Arresters etc.
- Laying of 220kV XLPE cable in excavated trench with sand bedding, HDPE pipes from CTT to 220kV Bhandup GIS substation.
- Handling & making Terminations at cable joints, terminations at GIS & Tower ends.
- Installation of lightening arresters at Cable Termination Tower.
- Parallel connection of existing cable with new cable on Cable Termination Towers.
- Supply & Installation of OPGW from CTT to 220kV Bhandup GIS substation.

### Financial Implication & Implementation Timeline

Estimated cost: **₹27.10 Crores**, including IDC of **₹1.71 Crores**.

## Committee's Key Observations and Recommendations

**Accordingly, the Committee ratified the scheme. While approving the proposal, the Committee advised MSETCL to duly consider the views, technical observations and suggestions of all stakeholders during finalization of the Detailed Project Report (DPR), particularly with regard to cable configuration, route feasibility, load sharing, future system requirements and implementation constraints, so as to ensure optimal and reliable execution of the scheme.**

***All GCC members took note of the discussions.***

## Agenda Point No. 5:

Replacement of 3X105MVA, 400/220/33kV ICT-I by 3x167MVA, 400/220/33kV ICT along with replacement of 1x105MVA, 400/220/33kV RRS unit by 1x167MVA, 400/220/33kV ICT at 400kV Dhule S/s under Nashik Zone.

**Discussion in GCC:-**

The STU representative placed before the GCC a proposal titled "Replacement of 3X105MVA, 400/220/33kV ICT-I by 3x167MVA, 400/220/33kV ICT along with replacement of 1x105MVA, 400/220/33kV RRS unit by 1x167MVA, 400/220/33kV ICT at 400kV Dhule S/s under Nashik Zone."

At present, the total installed transformation capacity at the substation is 1315 MVA. This includes two ICTs of 3×167 MVA rating and one ICT of 3×105 MVA rating. These transformers are critical for maintaining load flow and system reliability in the region. The average maximum loading has reached approximately 90% of the installed capacity, reflecting increasing demand and system stress and limiting its ability to handle N-1 contingency conditions. ICT-II is already exceeding its rated capacity, while ICT-I is an ageing unit (1995), increasing the risk of failure and system disturbance. The replacement scheme for existing ICTs has also been approved in the O&M Capital Schemes Screening Committee meeting held on 11.02.2026.

The State Transmission Utility (STU) has granted grid connectivity of totalling 650 MW Solar project in the vicinity which will significantly increase loading on the substation. Hence, augmentation is essential for reliable operation and evacuation of power.

**ICT Loading Status & Observations**

| SN | ICT Details | Capacity (MVA) | Year of Commissioning | Peak Load Range (MVA) (FY24-FY26) | % Loading | Observations |
|---|---|---|---|---|---|---|
| 1 | ICT-I (3×105 MVA) | 315 | 1995 | 322.94 | 97–98% | Old unit and critically loaded; requires replacement |

| SN | ICT Details | Capacity (MVA) | Year of Commissioning | Peak Load Range (MVA) (FY24-FY26) | % Loading | Observations |
|---|---|---|---|---|---|---|
| 2 | ICT-II (3×167 MVA) | 501 | 2021 | 528.49 | 99–101% | Operating at/above rated capacity; risk of overloading |
| 3 | ICT-III (3×167 MVA) | 501 | 2012 | 485 | 91–97% | Heavily loaded; limited spare margin |

### Committee's Key Observations and Recommendations

The committee observed that:

- The anticipated renewable energy injection of 650 MW further reinforced the need for immediate augmentation.
- Timely implementation of the project is essential to meet the growing energy demands and strengthen the transmission network.

**In order to meet the present & future load requirement, to address the overloading problems, to enable efficient evacuation of renewable energy, ensure uninterrupted power supply to the region N-1 compliance, MSKVY requirement, enhance system reliability and stability, the Committee, after detailed deliberations, ratified the scheme.**

### Agenda Point No. 6:

Replacement of 2 Nos of 3x105MVA, 400/220/33kV ICTs by 2 Nos of 3x167MVA, 400/220/33kV ICTs at 400kV Girwali S/s under Chh. Sambhaji Nagar Zone.

**Discussion in GCC:-**

The STU representative placed before the GCC a proposal titled "Replacement of 2 nos of 3x105MVA, 400/220/33kV ICTs by 2 nos of 3x167MVA, 400/220/33kV ICTs at 400kV Girwali S/s under Chhatrapati Sambhaji Nagar Zone**."**

The 400kV Girwali Substation presently has a total installed transformation capacity of 1130 MVA, comprising 02 nos. of 315 MVA, 400/220kV ICTs and 01 no. of 500 MVA, 400/220kV ICT. The maximum loading has reached approximately 50% under present operating conditions.

The requirement of augmentation has been identified under the System Strengthening Plan for evacuation of power from MSEDCL RE related PPA projects. It was highlighted that scheme was approved in O&M Capital Schemes Screening Committee Meeting dated 11.02.2026.

## Existing Infrastructure and ICT Loading

| Sr. No. | Details of ICTs | Date of Commissioning | Nature of Load | % Loading (Avg/Peak) | Augmentation Proposed | Total Capacity After Aug. |
|---|---|---|---|---|---|---|
| 1 | 3x105 MVA, 400/220 kV ICT-1 | 21.07.2017 | Urban–22%, MIDC–10%, Rural–28%, Agri–40% | 48.25% / 52.70% | 2×(500–315) MVA | 1500 MVA |
| 2 | 3x105 MVA, 400/220 kV ICT-2 | 18.04.1997 | | 47.09% / 51.11% | — | |
| 3 | 3x167 MVA, 400/220 kV ICT-3 | 31.03.2012 | — — | 45.33% / 49.80% | — | |

The STU representative submitted that, although the present ICT loading is moderate, the upcoming ~400 MW wind generation and large RE potential (~7900 MW) in nearby districts will significantly increase power flow at the 220kV level. Also, the present and upcoming scenario of Solar RE generation in the vicinity is as below-

| District | Existing | Sanctioned | Application | Co-gen | MSKVY | Total (MW) |
|---|---|---|---|---|---|---|
| Beed | 450 | 550 | 328 | 117 | 639 | **2084** |
| Dharashiv | 849 | 1463 | 15 | 173.5 | 433 | **2933.5** |
| Latur | 350 | 1180 | 556 | 91 | 770 | **2947** |

## Financial Implication and Timeline

Estimated cost: **₹ 10709.59 Lakh**

Target commissioning year**: FY 2027-28**

## Committee's Key Observations and Recommendations

**Considering the critical requirement of RE evacuation and PPA timelines, meet present and future load requirements, address overloading issues, to ensure RE evacuation, ensure N-1 compliance, 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. 7:

**Providing additional 1x50MVA, 132-110/33 kV Transformer along with HV & LV bays at 110 kV Vishrambag under Karad Zone**

**Discussion in GCC:-**

The STU representative placed before the GCC a proposal titled "Providing additional 1x50MVA, 132-110/33 kV Transformer along with HV & LV bays at 110 kV Vishrambag under Karad Zone".

The 110 kV Vishrambag Substation was commissioned in the year 1962 and is presently catering to the load through 2 Nos. of 50 MVA, 110/33 kV Transformers The existing transformation capacity is facing operational constraints, particularly during contingency conditions and do not fulfil (N-1) reliability criteria. Further, it was highlighted that the loading on both transformers has already reached above 70% of the installed capacity, indicating limited margin for future load growth and increased risk during peak demand conditions.

### Existing Infrastructure and Loading Condition

The substation is currently equipped with 2 × 50 MVA Transformers, catering to mixed load demand in the area. The summary of transformer loading is as follows:

| Sr. No. | Details of T/Fs | Nature of Load | Date of Commissioning | Max Load / Peak Load / Month (2024-25) | % Loading (Avg./Peak) | Augmentation Proposed (Addition) | Total Capacity After Aug. |
|---|---|---|---|---|---|---|---|
| 1 | 50 MVA T/F-I | Mixed | 08.11.2009 | 39.10 | 78.2% | 1×50 MVA | 150 MVA |
| 2 | 50 MVA T/F-II | Mixed | 17.12.2009 | 40.3 | 80.6% | — | |

### Financial Implication & Timeline

- Estimated Project Cost: ₹ 759.60 Lakh
- Target Commissioning year: FY 2027–28

### Committee's Key Observations and Recommendations

**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. 8:

**Providing additional 1x25MVA, 132-110/33 kV Transformer along with HV & LV bays at 110 kV Tasgaon S/s under Karad Zone.**

**Discussion in GCC:-**

The STU representative placed before the GCC a proposal titled "Providing additional 1x25MVA, 132-110/33 kV Transformer along with HV & LV bays at 110 kV Tasgaon S/s under Karad Zone."

The 110 kV Tasgaon Substation was commissioned in the year 1979 and is presently catering to load through 2 Nos. of 25 MVA, 110/33 kV Transformers. The existing transformation capacity is inadequate to meet present and future demand and do not fulfil (N-1) reliability criteria.

Further, it was highlighted that additional load demand of 30 MVA has been projected for 03 Nos. of new 33/11 kV Substations (2×10 MVA & 2×5 MVA) under MSKVY 2.0 and ADB funded schemes.

Additionally, both existing transformers are operating at loading levels exceeding 80%, indicating N-1 non-compliance and urgent need for augmentation.

### Existing Infrastructure and Transformer Loading

The details of existing transformers and loading pattern are as follows:

| Sr. No. | Details of T/Fs | Nature of load | Date of comm. | % Loading Peak 2024-25 | Aug. proposed by add. in MVA, | Aug. proposed by repl. in MVA | Total Capacity after Aug in MVA |
|---|---|---|---|---|---|---|---|
| 1 | 25 MVA, 110/33 kV T/F 1 | Agri.-30% Rural-70% | 02.12. 2009 | 85.2 | 25MVA, 132-110/33 kV T/F | - | 75 |
| 2 | 25 MVA, 110/33 kV T/F 2 | | 16.07. 2009 | 81.2 | | | |

### Financial Implication & Timeline

- Estimated Project Cost: ₹ **633.97 Lakh**
- Target commissioning year: **FY 2026–27**

### Committee's Key Observations and Recommendations

Committee observed that the transformers are operating above 80% of capacity and do not fulfill N-1 criteria.

**In order to meet present and future load requirements, 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

**Addition of 1X50 MVA, 220/33kV T/F No.-5 along with 220kV AIS HV bay, 33kV GIS LV bay, 5x33kV GIS feeder bays, 1x33kV GIS Bus sectionalizer bay and 1x33kV GIS PT bay at 400kV Kharghar S/s under 400kV R.S. (O&M) Div., Kharghar.**

The STU representative placed before the GCC a proposal titled "Addition of 1X50 MVA, 220/33kV T/F No.-5 along with 220kV AIS HV bay, 33kV GIS LV bay, 5x33kV GIS feeder bays, 1x33kV GIS Bus sectionalizer bay and 1x33kV GIS PT bay at 400kV Kharghar S/s under 400kV R.S. (O&M) Div., Kharghar"
The 400kV Kharghar Substation is one of the critical substations catering to the urban load of Navi Mumbai for more than 25 years. The substation presently supplies power through 3×315 MVA and 1×500 MVA, 400/220kV ICTs, along with 4×50 MVA, 220/33kV Transformers.

Due to rapid urbanization and increasing electricity demand, the load on the substation is continuously rising. Further, MSEDCL has requested 5 Nos. of additional 33kV feeder bays, indicating the requirement for augmentation of transformation capacity.

### Existing Infrastructure and Transformer Loading

| S N | Details of T/Fs | Date of commg. | Nature of load | % Peak Loading | Aug. proposed by add. in MVA | Total Capacity after Aug. |
|---|---|---|---|---|---|---|
| **1** | 50MVA, 220/33 kV T/F-1 | 06-08-1998 | Urban-100% | 73.90 | 1x50 MVA, 220/33 kV | 250 MVA |
| **2** | 50MVA, 220/33 kV T/F-2 | 27-05-2004 | | 42.40 | | |
| **3** | 50MVA, 220/33 kV T/F-3 | 17-06-2017 | | 62.80 | | |
| **4** | 50MVA, 220/33 kV T/F-4 | 15-03-2024 | | 37.90 | | |

### Financial Implication & Timeline

- **Estimated Project Cost: ₹ 1964.24 Lakh**
- **Target Commissioning year: FY 2027–28**

### Committee's Key Observations and Recommendations

The committee observed that, MSEDCL has placed Requirement of additional feeder bays. Considering Potential future capacity constraints and overloading, the addition of TF with additional bays is essential.
**In order to meet present and future load requirements, address overloading issues, ensure N-1 compliance, to support Network expansion, 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. 10

**Addition of 1x25MVA, 132/33kV T/F along with HV & LV bays at 132kV Dharni S/s under Amravati Zone.**

**Discussion in GCC:-**

The STU representative placed before the GCC a proposal titled "Addition of 1x25MVA, 132/33kV T/F along with HV & LV bays at 132kV Dharni S/s under Amravati Zone".
The existing transformation capacity at 132kV Dharni Substation is 50 MVA (2x25 MVA). The loading on both transformers has already reached more than 75% of their installed capacity. The loading trend of both transformers indicates steady growth over the last three years. It was further observed that the recorded loading is during a period when load shedding was imposed at 11 kV level due to overloading of downstream 33/11 kV transformers. The 33kV Hiwarkhed–Dabka–Dharni line is under breakdown since 25.06.2020 and could not be restored due to forest/tiger reserve issues and terrain challenges. The substation does not meet N-1 contingency criteria. In case of outage of one transformer, the entire load cannot be sustained by the remaining transformer. Hence with future load growth and removal of load shedding, the substation is expected to exceed its capacity limits.
At present, 132kV Dharni Substation is equipped with:

| S N | Details of T/Fs | Date of commg. | Nature of load | % Loading Peak | Aug. proposed by add. in MVA | Total Capacity after Aug. |
|---|---|---|---|---|---|---|
| 1 | 25MVA, 132/33 kV T/F-1 | 30-03-2021 | Urban- 10%<br>MIDC- 0%<br>Rural- 20%<br>Agri.- 70% | 78.40 | 1x25 MVA, 132/33 kV | 75 MVA |
| 2 | 25MVA, 132/33 kV T/F-2 | 10-02-2017 | | 78.40 | | |

The substation is radially connected to the interstate 132kV Nepanagar Substation, and there is no interconnection with any nearby MSETCL 132kV substation.

## Financial Implication

- Estimated Cost: **Rs. 1089.52 Lakh**
- Target commissioning year: **FY 2027-28**

## Committee's Key Observations and Recommendations

**In order to meet the present and future load requirements, to address overloading issues, to ensure N-1 compliance, 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. 11

**Replacement of existing 2x25MVA, 132/33kV T/Fs by 2x50MVA, 132/33kV T/Fs at 132kV Deulgaon Raja S/s under Amravati Zone.**

**Discussion in GCC:-**

The STU representative placed before the GCC a proposal titled "Replacement of existing 2x25MVA, 132/33kV T/Fs by 2x50MVA, 132/33kV T/Fs at 132kV Deulgaon Raja S/s under Amravati Zone"

132kV Deulgaon Raja Substation is an important substation catering to a mix of Urban, Rural, and Agricultural load in the area. The substation is presently equipped with 2 x 25 MVA, 132/33 kV transformers commissioned in April 2017, with a total installed capacity of 50 MVA and the substation is currently catering to a connected load of about 90 MVA from MSEDCL network.

Further, the STU Representative submitted that the average maximum loading on the transformers has already exceeded 75%, with peak loading reaching up to ~87%.
At present, the details of installed transformer capacity of substation with loading is as below:

| S N | Details of T/Fs | Date of commg. | Nature of load | % Loading Avg Max/ Peak | Aug. proposed by repl. in MVA | Total Capacity after Aug. |
|---|---|---|---|---|---|---|
| 1 | 25MVA, 132/33 kV T/F-1 | 25-04-2017 | Urban- 40%<br>MIDC- 0%<br>Rural- 30%<br>Agri.- 30% | 85.94/ 87.11 | 2x(50-25) MVA, 132/33 kV | 100 MVA |
| 2 | 25MVA, 132/33 kV T/F-2 | 25-04-2017 | | 79.69/ 81.72 | | |

Additionally, Two 33 kV feeders (Deulgaon Mahi & Narayankhed) are test charged and expected to be loaded and One spare feeder is planned for upcoming 33kV Ambhora Substation.

## Financial Implication & Implementation Timelines

- Estimated Cost: **Rs. 1500.18 Lakh**
- Target commission year: **2027-28**

## Committee's Key Observations and Recommendations

**In order to meet the present and future load requirements, to address overloading issues, to ensure N-1 compliance, 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. 12

**Replacement of 2x100MVA, 220/132kV ICTs by 2x200MVA, 220/132kV ICTs at 220kV Belwandi S/sunder Nashik Zone.**

**Discussion in GCC:-**

The STU representative placed before the GCC a proposal titled "Replacement of 2x100MVA, 220/132kV ICTs by 2x200MVA, 220/132kV ICTs at 220kV Belwandi S/s under Nashik Zone"

220kV Belwandi Substation was commissioned in the year 2013 and is a key node supplying power to Shrigonda and Karjat Talukas. The substation is presently equipped with 2 x 100 MVA, 220/132 kV ICTs and 2 x 50 MVA, 132/33 kV transformers.

The substation receives power through 220kV Ahmednagar and 220kV Karjat lines. Over the years, the load demand in the area has increased steadily due to a mix of Agricultural, Rural, Urban, and limited MIDC load, thereby stressing the existing ICT capacity.

Representative of STU submitted that the maximum loading on both ICTs has consistently exceeded 80% of their installed capacity, indicating non-compliance with N-1 contingency criteria. The details of installed ICT capacity of substation with loading is as below:

| S N | Details of ICTs | Date of commg. | Nature of load | % Loading Peak. | Aug. proposed by repl. in MVA | Total Capacity after Aug |
|---|---|---|---|---|---|---|
| **1** | 100 MVA 220/132kV ICT-1 | 07.05.2013 | MIDC- 5%, Rural- 20%, Agri- 60% & Urban- 15% | 81.00 | 2X(200- 100) MVA 220/132 kV ICTs | 400 MVA |
| **2** | 100 MVA 220/132kV ICT-2 | 07.05.2013 | | 81.00 | | |

## Financial Implication & Implementation timeline

- Estimated Cost: **Rs. 3278 Lakhs**
- Target commissioning year: **2027-28**

## Committee's Key Observations and Recommendations

**In order to meet the present and future load requirements, to address overloading issues, to ensure N-1 compliance, 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. 13

**Replacement of 1x25 MVA, 132/33kV T/F by 1x50MVA, 132/33kV T/F at 132kV Kuruli S/s under Pune Zone.**

**Discussion in GCC:-**

The STU representative placed before the GCC a proposal titled "Replacement of 1x25 MVA, 132/33kV T/F by 1x50MVA, 132/33kV T/F at 132kV Kuruli S/s under Pune Zone."
132kV Kuruli Substation was commissioned on 07.08.1979 and caters to the load demand of Kuruli Taluka. The substation is fed through 132kV Ranjangaon and 132kV Shirur lines. The load mix comprises Agriculture (70%), Rural (20%), and MIDC (10%). With aging infrastructure and evolving demand patterns, system strengthening is required to ensure reliable power supply.
Additionally STU Representative submitted that the present transformer configuration is not adequate from reliability and contingency point of view. In case of outage of any transformer, the remaining transformer is unable to cater the entire load, leading to system constraints.
Hence, augmentation through replacement is necessary to meet future demand and maintain reliability. The details of installed transformer capacity of substation with loading is as below:

| S N | Details of T/Fs | Date of commg. | Nature of load | % Loading Avg Max/ Peak. | Aug. proposed by repl. in MVA | Total Capacity after Aug. |
|---|---|---|---|---|---|---|
| 1 | 50 MVA 132/33 kV T/F-I | 16.04. 2010 | Agri- 70%, Rural- 20% & MIDC- 10%, | 54.70/ 57.60 | 1X (50-25) MVA, 132/33kV | 100 MVA |
| 2 | 25 MVA 132/33 kV T/F-II | 10.02. 2017 | | 55.08/ 58.00 | | |

## Financial Implication & Implementation timeline

- Estimated Cost: **₹ 797.16 Lakh**
- Target commissioning year: **2027-28**

## Committee's Key Observations and Recommendations

**In order to meet the present and future load requirements, to address overloading issues, to ensure N-1 compliance, 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. 14

**Addition of 1x50MVA, 220/22kV T/F along with HV & LV bays at 220kV VSNL S/s under Pune Zone.**

**Discussion in GCC:-**

The STU representative placed before the GCC a proposal titled "Addition of 1x50MVA, 220/22kV T/F along with HV & LV bays at 220kV VSNL S/s under Pune Zone".

220kV VSNL Substation was commissioned in the year 2011 and caters to the load demand of IT Park, Defence establishments, and urban areas. The substation is presently equipped with 2 x 50 MVA, 220/22 kV transformers.

The substation is fed through 220kV Khadki and 220kV Lonikand-II lines. With rapid growth in IT and urban infrastructure, the load demand on the substation has increased significantly over the years. Also the loading on the existing transformers has reached up to 80% under peak conditions. In case of outage of any one transformer, the remaining transformer is unable to cater the entire load, thereby not meeting N-1 contingency criteria. Hence, additional transformation capacity is required to ensure reliability and to meet future load demand. the details of installed transformer capacity of substation with loading is as below:

| S N | Details of T/Fs | Date of commg. | Nature of load | % Peak Load. | Aug. proposed by repl. in MVA | Total Capacity after Aug. |
|---|---|---|---|---|---|---|
| **1** | 50 MVA 220/22 kV T/F-1 | 15.12. 2011 | IT Park- 23%, Defence- 7% & Urban- 70% | 71.40 | 1X 50 MVA, 220/22kV | 150 MVA |
| **2** | 50 MVA 220/22 kV T/F-2 | 15.12. 2011 | | 80.00 | | |

Peak loading has reached up to 80%, indicating increasing demand trend, especially due to IT and urban load growth. Due to which, TFs are Non-compliant toN-1 contingency criteria and faces difficulty in managing load during outage/tripping of one transformer.

## Financial Implication

- Estimated Cost: Rs. 1943 Lakhs
- Target commissioning year: 2026-27

## Committee's Key Observations and Recommendations

**In order to meet the present and future load requirements, to address overloading issues, to provide reliable supply to IT and defence establishments, to ensure N-1 compliance, 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. 15

**Addition of 1x50MVA, 220/22kV T/F along with HV & LV bays at 220kV Theur S/s under Pune Zone.**

**Discussion in GCC:-**

The STU representative placed before the GCC a proposal titled "Addition of 1x50MVA, 220/22kV T/F along with HV & LV bays at 220kV Theur S/s under Pune Zone."
220kV Theur Substation is an important substation under Pune Zone supplying power to areas under MSEDCL such as Uruli Kanchan, Kedgaon, and Mulshi subdivisions.

The substation caters to a mixed load comprising Urban (50%), MIDC (30%), Agriculture (10%), and Rural (10%). The details of installed transformer capacity of substation with loading is as below:-

| Sr. No. | Details of ICTs | Date of commg. | Nature of load | % Loading Avg Max/ Peak. | Aug. proposed by repl. in MVA | Total Capacity after Aug. |
|---|---|---|---|---|---|---|
| **1** | 50 MVA 220/22kV T/F-1 | 12.10. 2008 | Agri- 10%, Rural- 10% & MIDC- 30% & Urban-50% | 76.96 | 1X50 MVA, 132/33kV | 200 MVA |
| **2** | 50 MVA 220/22kV T/F-2 | 26.03. 2002 | | 59.42 | | |
| **3** | 50 MVA 220/22kV T/F-3 | 19.08. 2020 | | 43.42 | | |

The STU representative added that following additional load demand (~77.79 MVA) has been projected in vicinity of area:

- M/s Pune Projects LLP – 10 MVA
- 22kV Group Express – 4 MVA
- M/s Pancharatna Beverages & RMD Foods – ~1.93 MVA
- M/s Ashdhan Developers Pvt. Ltd. – 18.86 MVA
- M/s Riverview City – 43 MVA

This substantial upcoming demand necessitates immediate capacity augmentation.

## Financial Implication & Implementation timelines

- Estimated Cost: **₹ 1335 Lakhs**
- Target commissioning year: **2027-28**

## Committee's Key Observations and Recommendations

**In order to meet the present and future load requirements, to address overloading issues, to ensure N-1 compliance, 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. 16

**Addition of 1X100 MVA, 220/22-22KV kV T/F along with HV & LV bays at 220kV Bhosari-I S/s under Pune Zone.**

**Discussion in GCC:-**

The STU representative placed before the GCC a proposal titled "Addition of 1X100 MVA, 220/22-22KV kV T/F along with HV & LV bays at 220kV Bhosari-I S/s under Pune Zone".

220kV Bhosari-I Substation is a major substation catering to the load demand of Bhosari MIDC and surrounding urban areas. The substation is presently equipped with 2 x 80 MVA and 1 x 75 MVA, 220/22 kV transformers, with a total installed capacity of 235 MVA with Predominantly MIDC (industrial) and urban load.
The installed transformation capacity with loading is as below-

| Sr. No. | Existing T/Fs details | Date of comm. | % Peak (2024-25) | Augmentation proposed in MVA | | Total Capacity after Aug. |
|---|---|---|---|---|---|---|
| | | | | Add T/F | Repl. T/F | |
| 1 | 80 MVA 220/22kV T/F-1 | 21.04. 2022 | 81.18 | 1X 100 MVA, 220/ 22-22kV | --- | 335 MVA |
| 2 | 75 MVA 220/22kV T/F-2 | 07.09.2013 | 47.13 | | | |
| 3 | 80 MVA 220/22kV T/F-3 | 23.03.2022 | 72.16 | | | |

Peak loading of TF-1, has reached up to **81.18%**, indicating high utilization of transformers.

## Financial Implication & Implementation timeline

- Estimated Cost: **₹ 1920.85 Lakh**
- Target commissioning year: **2027-28**

### Committee's Key Observations and Recommendations

The committee observed that:

- The substation is critically loaded with no load diversion possibility.
- The substation caters mainly MIDC (industrial) and urban load.
- The proposal is technically justified and necessary for reliable operation

**In order to meet the present and future load requirements, considering industrial growth, to address overloading issues, to ensure N-1 compliance, 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

**Scheme for supply, installation and commissioning of Neutral Grounding Reactor (NGR) for Power Transformer at various substation under EHV O&M Division-I, Pune.**

**Discussion in GCC:-**

The STU representative placed before the GCC a proposal titled "Scheme for supply, installation and commissioning of Neutral Grounding Reactor (NGR) for Power Transformer at various substation under EHV O&M Division-I, Pune."

Power transformers at various substations are frequently tripping due to faults on HV feeders. These fault conditions adversely impact the health of transformers and, in several cases, have led to transformer failures.

As per Circular No. 8556 dated 13.12.2024 (Part-A), it is recommended to provide Neutral Grounding Reactors (NGRs) on LV neutral of transformers, particularly:

- For all 220kV transformers of 50 MVA and above
- For 132kV substations with high fault levels and frequent feeder faults

  Accordingly, CE, EHV PC (O&M) Zone Pune, in consultation with SE PAC Pune, proposed the scheme for installation of NGRs at various substations under EHV O&M Division-I, Pune.

Existing system lacks adequate fault current limiting mechanism on transformer neutral, resulting in higher damage during faults.

Hence, installation of NGRs is essential to limit fault current, protect transformers, and improve overall system reliability. Further it was added that, the scheme is in line with recommendations of Circular No. 8556 dated 13.12.2024 and proposal is based on fault level study and tripping data verified by CE (ACI & P).

### Scope of Work

Supply, installation, testing and commissioning of Neutral Grounding Reactor (NGR) for Power Transformer (45 Nos NGR) at various substation under EHV O&M Division-I, Pune

### Financial Implication & Implementation timeline

- Estimated Cost: **Rs. 766 Lakhs (Excluding IDC)**
- Target commissioning year: **2026-27**

### Committee's Key Observations and Recommendations

**The Committee ratified the scheme and advised MSETCL to finalize the DPR based on detailed substation-wise studies considering fault level, voltage level and system requirements for selection of appropriate Neutral Grounding Reactor (NGR) specifications and values, instead of adopting a uniform standard value. The Committee further emphasized that the scheme shall be designed ensuring that the sensitivity, selectivity and reliability of the protection system are not adversely affected.**

***All GCC members took note of the discussions.***

### Agenda Point No. 18

**Balance work of Conversion of 220 kV SCSC to 220 kV MCMC line from 400 kV Babhaleshwar S/sn. to Kopargaon Tap Point Dist. Ahmednagar, under Nasik Zone.**

**Discussion in GCC:-**

MSETCL representative placed before the GCC a proposal titled "Balance work of Conversion of 220 kV SCSC to 220 kV MCMC line from 400 kV Babhaleshwar S/sn. to Kopargaon Tap Point Dist. Ahmednagar, under Nasik Zone".

The 220kV Kopargaon Substation is presently fed through a single source from 220kV Chalisgaon Substation via a long transmission line of approximately 86 km. This single source arrangement leads to operational challenges, particularly during outages and maintenance activities.
400 kV Babhaleshwar Substation is located approximately 47 km from Kopargaon Substation and can serve as a strong alternate source. Hence, strengthening of the transmission network by providing an additional strong source from 400kV Babhaleshwar is necessary. The proposed scheme involves balance work for conversion of the existing 220kV SCSC line into MCMC configuration to enhance transmission capacity.

### Scope of Work

Balance work of Conversion of 220 kV SCSC to MCMC line from 400 kV Babhaleshwar S/sn. to Kopargaon Tap Point– 36.02 kms

### Financial Implication & Implementation timeline

- Estimated Cost: **₹ 121.98 Cr**
- Target Commissioning year: **FY 2026-27**

### Committee's Key Observations and Recommendations

**In view of Requirement of strong alternate source from 400kV substation, for Elimination of Single Source Dependency, to ensure Operational Flexibility, for Increasing Transmission Capacity & enhancement of reliability of the system, the Committee, after detailed deliberations, ratified the scheme.**

***All GCC members took note of the discussions.***

### Agenda Point No. 19

**220KV Additional source at 220/132/33 KV Kalmeshwar S/Stn by making LILO arrangement at Tower No. 72 of on-going 220KV Koradi –II to Butibori –III MCDC TL Ckt –II - (2.651 km).**

**Discussion in GCC:-**

STU representative placed before the GCC a proposal titled "220KV Additional source at 220/132/33 KV Kalmeshwar S/Stn by making LILO arrangement at Tower No. 72 of on-going 220KV Koradi –II to Butibori –III MCDC TL Ckt –II - (2.651 km)".

220kV Kalmeshwar Substation is an important node in Nagpur Zone catering to regional load demand. At present, the substation faces system constraints due to limited source availability and network configuration. The 220kV Koradi-II to Butibori-III DCMC line is a major transmission corridor in the region. To mitigate these constraints and to provide an additional reliable source, LILO of the 220kV Koradi-II to Butibori-III line is required. This will facilitate supply redundancy and reliable power delivery in the area.

### Scope of Work

The scope of work include:

- LILO on 220 kV D/C Koradi –II to Butibori –III DCMC line Ckt –II line at 220 kV Kalmeshwar S/Stn (Total Length: **7.532 km)**
  - Underground Cable: **2.651 km**
  - Overhead Line: **4.881 km**
- Construction of line bays at Kalmeshwar Substation:
  - 2 Nos. 220kV Line Bays (1 AIS & 1 GIS)

### Financial Implication

- Estimated Cost: **Rs. 152.33 Cr**
- **Target Commissioning year: FY 2028-29**

### Committee's Key Observations and Recommendations

The committee opined that, from the perspective of system reliability, operational flexibility and ease of maintenance, monopole configuration should be preferred over underground cable arrangement to the extent feasible. It was further observed that overhead structures would facilitate quicker restoration during outages, reduce operational complexities associated with underground cable systems and provide better accessibility for maintenance activities.

Further, it is directed that a detailed route survey and technical assessment shall be carried out to examine the feasibility of providing MCMC towers up to the proposed LILO point. The survey shall consider factors such as right of way availability, corridor constraints, statutory clearances, technical viability and overall system requirements so as to arrive at the most suitable and reliable configuration for implementation of the scheme.

**Taking into consideration the above discussions and suggestions of the stakeholders, the Committee observed that the proposed scheme is essential for mitigating system constraints in Nagpur Zone, providing an additional source to Kalmeshwar Substation and enhancing system reliability, redundancy and operational flexibility. Accordingly, after detailed deliberations, the Committee ratified the scheme, with a direction to MSETCL to finalize the configuration based on detailed survey, technical feasibility and system requirements.**

***All GCC members took note of the discussions.***

## Agenda Point No. 20

**Establishment of 400/220 kV Ashti/Illur S/Stn, Dist. Gadchiroli.**

**Discussion in GCC:-**

STU representative placed before the GCC a proposed titled "Establishment of 400/220kV Ashti/Illur S/Stn, Dist. Gadchiroli"

STU representative placed before the GCC a proposal titled "Establishment of 400/220 kV The Gadchiroli region is witnessing rapid industrial development, particularly due to mining and steel sector activities around Surjagarh, Hedri, Konsari, and Ashti. M/s Lloyds Metals and Energy Ltd. (LMEL) has planned large-scale expansion including BHQ iron ore processing and an upcoming steel plant at Konsari, requiring substantial power demand.

At present, the transmission infrastructure in the region is relatively weak to cater to such high demand and future industrial growth. Therefore, establishment of a strong 400kV network with adequate transformation capacity is essential to support upcoming industrial and DISCOM load.

Further, the representative of STU highlighted that a major EHV consumer (LMEL) has projected a demand of approximately **600 MW** at 220kV level. The existing network is not adequate to supply such high demand reliably. Hence, strengthening of the network through a new 400/220kV substation is necessary.

The Gadchiroli region is presently undergoing unprecedented industrial expansion driven by mining, iron ore beneficiation, pelletisation and integrated steel manufacturing activities in the Surjagarh–Hedri–Konsari belt. M/s Lloyds Metals and Energy Ltd. has proposed substantial industrial infrastructure including iron ore processing facilities and an integrated steel plant requiring additional power demand of approximately 825 MW. The magnitude of the proposed load itself establishes the critical nature of the project, which is essential not only for supply to a single consumer but also for enabling the larger industrial development policy of the Government of Maharashtra for the Gadchiroli region.

The proposed 400/220 kV Illur (Ashti) substation is not merely dedicated consumer connectivity assets but are important backbone EHV infrastructure projects intended to strengthen the transmission network of Gadchiroli district. The substations will improve voltage profile, enhance reliability of supply and provide long-term system strengthening benefits to the entire region including interior areas such as Sironcha, Bhamragarh, and Gimalgitta. Therefore, both substations constitute critical infrastructure of public importance and are essential for grid stability and future load growth in the region.

Further, the project is proposed under the Non-DDF framework governed by the MERC SOP Regulations, 2021, wherein the transmission infrastructure is required to be developed to meet statutory obligations for providing EHV supply within prescribed timelines. In the present case, the infrastructure is being developed substantially on refundable basis under the regulated framework, and the expenditure shall be subject to prudence check and approval by the Hon'ble Commission. Hence, the project does not involve speculative or discretionary capital investment but arises from a statutory obligation to provide supply to an EHV consumer.

### Scope of Work

- 3x315MVA, 400/220kV ICTs at 400/220kV Ashti/Illur Sub-station.
- LILO on Ckt-II of 400kV Chandrapur-II - Warora D/C Quad line-115 km
- 220 kV D/C line with HPC Conductor from Proposed 400/220kV (Illur) Ashti S/s to 220/132 kV Konsari S/s along with corresponding end bays at both ends-17 km.
- LILO on 220 kV Virur- Konsari Line for 400/220 kV (Illur) Ashti Sub-station-8 km and HPC conversion of 220 kV line from 400 kV Ashti to 220 kV Konsari S/s formed after the LILO arrangement.
- 2x400 kV Bays at 400/220 kV Illur (Ashti) S/s
- 6x220 kV Bays (04 nos. at 400 kV Illur (Ashti) S/s and 02 nos. at 220 kV Konsari S/s
- The scheme is proposed under **Non-DDF category.**

### Financial Implication

- Estimated Cost: **Rs. 1170.47 Cr**
- Target Commissioning year: **FY 2028-29**

### Committee's Key Observations and Recommendations

The proposed substation and associated EHV network are being developed as part of the integrated transmission system required for evacuation and supply to multiple locations of the same industrial cluster while simultaneously strengthening the regional transmission network. Delineation of ownership and operational responsibilities through a segregated TBCB structure may create coordination and interface issues affecting implementation timelines and operational reliability.

Further, considering the strategic importance and urgency associated with timely development of transmission backbone infrastructure in the region, the Committee also recommended that although the project is above the threshold limit of 200Cr. it may be considered for implementation 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 satisfies the conditions specified under the said Regulations for execution through the cost-plus route, considering the criticality of the project for system strengthening, regional reliability requirements, operational necessity, implementation urgency and the practical requirement for coordinated development of integrated transmission infrastructure in a time-bound manner.

**After detailed deliberations, and considering the criticality of the scheme for supporting major industrial load, regional development, strengthening of the transmission network, improvement in voltage profile and ensuring reliable and uninterrupted power supply in the Gadchiroli region, the Committee ratified the scheme and recommended that the scheme may be considered for exemption from TBCB and implemented by under the regulated tariff mechanism subject to approval of the Hon'ble MERC.**

***All GCC members took note of the discussions.***

## Agenda Point No. 21

**Establishment of 132/33kV Boris s/s Dist.-Dhule.**

**Discussion in OCC:-**

STU representative placed before the GCC a proposal titled "Establishment of 132/33kV Boris s/s Dist.-Dhule.".

The Dhule region is experiencing steady growth in load demand, particularly in areas presently fed through long 33kV feeders from existing substations such as Dhule and Dondaicha. Due to extended feeder lengths, the system is facing issues related to higher losses and poor voltage profile. The existing substations at Dhule and Dondaicha are heavily loaded, with total loads of 168.4 MVA and 135 MVA respectively.

MSEDCL has submitted load requirement vide letter No. 22792 dated 11.07.2025, indicating the necessity of establishing a new substation to cater both existing and future load demand in the Boris area.

Further, long 33kV feeders are resulting in higher technical losses and poor voltage regulation. Hence, establishment of a new 132/33kV substation at Boris is required to improve system performance and reliability.

## Scope of Work

- 2 x 50 MVA, 132/33 kV Power Transformers with HV & LV bay
- Construction of 132kV DCDC LILO on 132kV Dhule – Dondaicha line for
- proposed 132/33 kV Boris s/s – 6.632 km
- 2 x 132 kV line bay
- 1 x 132 kV Bus Sectionalizer
- 1 x 132 kV Transfer Bus Coupler
- 2 x 132 kV PT bay
- 9 x 33 kV outlets

- 1 x 33 kV Bus Sectionalizer
- 2 x 33 kV PT bay
- 2 x 200kVA, 33/0.4 kV Station Transformer

### Financial Implication

- Estimated Cost: Rs. 73.58 Cr
- Target commissioning year: FY 2028-29

### Committee's Key Observations and Recommendations

Chairperson, GCC opined that MSETCL shall verify MSEDCL bay requirements and ensure constructed bays will not be remain un-utilised.

**In order to give relief to overloaded substations, to cater the new load of Vishrambag & Ashta area, Network Strengthening, Improving Voltage Profile ensuring reliable and un-interrupted power supply, the Committee, after detailed deliberations, ratified the scheme.**

***All GCC members took note of the discussions.***

### Agenda Point No. 22

**Establishment of 400/132kV Hedri S/Stn, Dist. Gadchiroli.**

**Discussion in GCC:-**

STU representative placed before the GCC a proposal titled "Establishment of 400/132kV Hedri S/Stn, Dist. Gadchiroli".

LMEL has projected a demand of approximately **225 MW** at Hedri. The current network lacks sufficient capacity and redundancy to cater to this demand reliably.

It was further submitted that additional load growth is expected in the near future on account of:

- Mining sector expansion in the Surjagarh region;
- Industrial development and expansion activities in Hedri, Konsari, and Ashti areas; and
- Increase in MSEDCL demand in remote and developing areas of Gadchiroli district.

Additionally, interior areas of Gadchiroli district are facing voltage regulation issues due to weak network connectivity. Hence, the proposed scheme is essential to strengthen the transmission system.

The existing transmission network in the region is not adequate to cater to the increasing industrial demand and to ensure reliable power supply. The proposed 400/132 kV Hedri substation is not merely dedicated consumer connectivity assets but are important backbone EHV infrastructure projects intended to strengthen the transmission network of Gadchiroli district. The substations will improve voltage profile, enhance reliability of supply and provide long-term system strengthening benefits to the entire region including interior areas such as Sironcha, Bhamragarh, and Gimalgitta. Therefore, both substations constitute critical

infrastructure of public importance and are essential for grid stability and future load growth in the region.

Further, the project is proposed under the Non-DDF framework governed by the MERC SOP Regulations, 2021, wherein the transmission infrastructure is required to be developed to meet statutory obligations for providing EHV supply within prescribed timelines. In the present case, the infrastructure is being developed substantially on refundable basis under the regulated framework, and the expenditure shall be subject to prudence check and approval by the Hon'ble Commission. Hence, the project does not involve speculative or discretionary capital investment but arises from a statutory obligation to provide supply to an EHV consumer.

### Scope of Work

- 2x315MVA, 400/132kV ICTs at proposed 400/132kV Hedri Sub-station
- 400 kV D/C Quad line from proposed 400/220 kV Illur (Ashti) S/s to the proposed 400/132 kV Hedri S/s-75 km
- LILO on both circuit of 132 kV Etapalli-132 kV LMEL Hedri-1 (Old) DC line at 400 kV proposed Hedri s/s resulting into:-
- Double circuit to l32kV Etapalli s/s with 0.2 ACSR Panthar conductor- 2.5km
- Double circuit to l32kV Hedri s/s (old) with 316.5 $mm^2$ CCC HPC conductor-3.5 km

### Financial Implication & Implementation timelines

- Estimated Cost: ₹ **887.48 Cr**
- Target commissioning year: **FY 2028-29**

### Committee's Key Observations and Recommendations

The Committee, after detailed deliberations, observed that the proposed scheme is essential for catering to the rapidly increasing industrial demand in the Gadchiroli region and for strengthening the regional transmission grid. The Committee noted that the proposal is technically justified considering the large projected load from mining and steel sector activities and is well aligned with the long-term industrial and regional development requirements of the area.

The scheme involves potential ownership and interface complexities. The proposed substation and associated EHV network are being developed as part of the integrated transmission system required for evacuation and supply to multiple locations of the same industrial cluster while simultaneously strengthening the regional transmission network. Delineation of ownership and operational responsibilities through a segregated TBCB structure may create coordination and interface issues affecting implementation timelines and operational reliability.

The Committee further recommended that, considering the strategic importance of the project for industrial development, system strengthening, and regional grid reliability, although the

scheme cost is above the threshold limit of 200Cr. may be considered for implementation in a time-bound manner 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 fulfills the conditions specified under the said Regulations for execution through the cost-plus route, considering the criticality of the project, implementation urgency, regional importance and the requirement for coordinated development of integrated transmission infrastructure to support upcoming industrial growth in the Gadchiroli region.

**Accordingly, in order to cater to the growing industrial demand, strengthen the regional transmission network, enhance system reliability and operational security, improve voltage profile and ensure reliable and uninterrupted power supply in the Gadchiroli region, the Committee, after detailed deliberations, ratified the scheme and recommended that the scheme may be considered for exemption from TBCB and implemented by under the regulated tariff mechanism subject to approval of the Hon'ble MERC.**

***All GCC members took note of the discussions.***

## Agenda Point No. 23

**Vintage Line - CSN/Amravati :**

Upgradation of existing 132kV Balapur – Patur – Malegaon – Risod – Yeldari – Jintur – Parbhani SCSC line by composite 220kV/132kV MCMC Narrow Base Towers & Monopoles along with associated End Bays & Strengthening of Existing Bays.

**Discussion in GCC:-**

STU representative placed before the GCC a proposal titled "Vintage Line - CSN/Amravati: Upgradation of existing 132kV Balapur – Patur – Malegaon – Risod – Yeldari – Jintur – Parbhani SCSC line by composite 220kV/132kV MCMC Narrow Base Towers & Monopoles along with associated End Bays & Strengthening of Existing Bays".

The existing 132kV transmission corridor from Balapur to Parbhani via Patur, Malegaon, Risod, Yeldari, and Jintur is a critical backbone network in Akola, Washim, and Parbhani districts. However, a major portion of this corridor, particularly the Malegaon–Risod–Yeldari–Jintur–Parbhani section, is more than **55 years old** and built with **0.15 conductor**, limiting its power transfer capability. Further, the corridor is currently constrained, with the maximum permissible load on the Malegaon–Risod section restricted to **40 MW**, leading to operational challenges and risk of overloading under contingency conditions.

In line with national guidelines for transmission line health assessment (for assets exceeding 35 years), modernization and upgradation of this vintage corridor is essential to ensure long-term grid reliability and safety.

### Scope of Work

1) Upgradation of existing 132kV Balapur – Patur – Malegaon – Risod – Yeldari – Jintur – Parbhani SCSC Line by Composite 220kV/ 132kV MCMC line using 220kV MC Narrow Base Towers & 220kV MC Composite Monopoles (Total corridor 189.963 km)

a) 132kV Balapur – 132kV Patur Line – 30 km

b) 132kV Patur – 132kV Malegaon Line – 31 km
c) 132kV Malegaon – 132kV Risod Line – 38 km
d) 132kV Risod – 132kV Yeldari Line – 34.004 km
e) 132kV Yeldari – 132kV Jintur Line – 13.4 km
f) 132kV Jintur – 132kV Parbhani Line – 43.559 km
2) 2 x 132kV Bays at 220kV Balapur s/s
3) 2 x 132kV Bay at 132kV Risod s/s
4) 2 x 132kV Bays at 132kV Malegaon s/s
5) 1 x 132kV Bays at 132kV Jintur s/s
6) 2 x 132kV Bays at 220kV Parbhani s/s & 132kV Jintur
7) Strengthening of 2 x 132kV existing line bays at 132kV Patur s/s.

### Financial Implication & Implementation of timeline

- Estimated Cost: **Rs. 1189.24 Cr**
- Target commissioning year: **FY 2031-32**

CE, STU submitted that these Vintage corridor upgradations are planned envisaging the power requirement for horizon of next 35 years.

### Committee's Key Observations and Recommendations

The Committee, after detailed deliberations, observed that the existing 132 kV corridor from Balapur to Parbhani via Patur, Malegaon, Risod, Yeldari, and Jintur 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 and is presently operating with load restrictions due to limitations of the old 0.15 conductor configuration.

The Committee further recommended that, although the estimated project cost is more than ₹200 Crore, the scheme may be considered for implementation 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 is technically and operationally justified.

**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 and recommended that the scheme may be considered for exemption from TBCB and**

**implemented by under the regulated tariff mechanism subject to approval of the Hon'ble MERC.**

***All GCC members took note of the discussions.***

## Agenda Point No. 24

**Establishment of 220 kV DCDC new corridor from Eklahare to Sinner.**

**Discussion in GCC**:-

STU representative placed before the GCC a proposal titled "Establishment of 220 kV DCDC new corridor from Eklhare to Sinner.

The scheme is proposed to ensure reliable evacuation of power from STPL, Sinnar generating station (1350 MW capacity). Currently, evacuation arrangement is comprised of a 400 kV Sinner- Bhabhleshwar DCDC line. With upcoming operationalization of generating units of total 1350MW, for effective full evacuation in reliable manner, the scheme is proposed.

Representative of STU also highlighted that the Sinnar Thermal Power Limited (STPL), Sinnar (5 x 270 MW) has been taken over by MSPGCL and NTPC. The MSPGCL plans commissioning of **2 x 270 MW units within 6 months.**

The proposed transmission scheme is not merely a dedicated evacuation arrangement for the thermal generating station, but constitutes critical backbone EHV infrastructure for strengthening of the transmission network in Nashik region. The proposed scheme would enhance transformation capacity, improve voltage profile, strengthen the Nashik Ring Main network, improve operational reliability and facilitate long-term system strengthening in the region.

The proposed transmission infrastructure assumes strategic and critical importance considering the anticipated increase in power demand and operational requirements in Nashik region, particularly in view of the upcoming Holy Kumbh-Mela. Reliable and adequate transmission infrastructure is essential for ensuring uninterrupted and secure power supply during the said event of significant public importance.

The proposed scheme includes establishment of 2 × 315 MVA, 400/220 kV ICTs at the proposed 400/220 kV Sinner IPP (MSPGCL) substation along with associated 220 kV transmission lines and re-orientation of existing 220 kV lines at Nashik (OCR) and Nashik (GCR) substations. The scheme involves integration and reconfiguration of existing operational transmission infrastructure in Nashik region and forms part of the overall transmission strengthening arrangement required for evacuation of power from the generating station while simultaneously strengthening the regional transmission network.

### Scope of Work

- 7x105MVA, 400/220kV ICTs at 400/220kV STPL, Sinnar (MSPGCL) s/s alongwith GIS HV bays & AIS LV bays.

- 220kV DC line (HPC) from 400kV STPL, Sinnar s/s (MSPGCL) to 220kV Nashik Eklahare (OCR & GCR) s/s using HPC conductor – 26.478 kms.
- Reorientation of lines at 220kV Nashik Eklahare (OCR & GCR) s/s – 2.196 kms.
- 3x220kV Line AIS bays at 220kV Nashik Eklahare OCR s/s
- 2x220kV PT AIS bays at 400kV STPL, Sinnar s/s
- 1x220kV TBC AIS bay at 400kV STPL, Sinnar s/s
- 1x220kV Bus Coupler AIS bay at 400kV STPL, Sinnar s/s

The proposed scheme achieve Reduction in system losses of 13.9 MW.

**Financial Implication & Implementation timeline**

- Total Estimated Cost: **Rs. 586.15 Crores**

**Committee's Key Observations and Recommendations**

The Committee further observed that although the estimated project cost exceeds the threshold limit prescribed under the MERC MYT Regulations, 2024 for implementation through Tariff Based Competitive Bidding (TBCB), the scheme merits consideration for implementation under the cost-plus route in accordance with Clause 75.3 of the MERC MYT Regulations, 2024.

The Committee also noted that the scheme primarily involves augmentation, reorientation, modification, and integration of existing operational transmission assets forming part of the integrated State Transmission System of, wherein practical delineation of ownership, interface arrangements, outage coordination, operational responsibilities, and future maintenance obligations under a separate TBCB/SPV framework may not be feasible. The scheme also requires extensive modifications to existing transmission corridors and operational infrastructure, requiring centralized planning and execution under the direct control of the State Transmission Utility.

Accordingly, considering the strategic importance of the scheme, implementation urgency linked with generation commissioning timelines and Kumbh-Mela preparedness, extensive interfacing and reorientation of existing lines, operational criticality and the impracticality of asset delineation under a separate TBCB framework, the Committee recommended that the scheme may be considered for exemption from TBCB and implemented by through the regulated tariff mechanism subject to approval of the Hon'ble commission.

**Accordingly, in order to synchronize transmission system development with generation commissioning, ensure reliable power evacuation from STPL, strengthen grid stability in Nashik region, mitigate existing infrastructure constraints, optimize utilization of existing transmission corridors through reorientation of lines and cater to the anticipated increase in demand during the forthcoming Kumbh-Mela, the Committee ratified the scheme and recommended that the scheme may be considered for exemption from TBCB and implemented by under the regulated tariff mechanism subject to approval of the Hon'ble MERC.**

***All GCC members took note of the discussions.***

## Agenda Point No. 25

**Construction of 220kV SC line from 220kV Hinjewadi-I to 220kV Hinjewadi-II s/s by using Under Ground Cable**

**Discussion in GCC:-**

STU representative placed before the GCC a proposal titled "Construction of 220kV SC line from 220kV Hinjewadi-I to 220kV Hinjewadi-II s/s by using Under Ground Cable"
The scheme is proposed to enhance reliability and ensure uninterrupted power supply to the Hinjewadi IT hub. Frequent underground cable faults and prolonged restoration time have led to major outages affecting critical loads including IT parks and data centers. The link line will provide redundancy and alternate power flow path to mitigate such risks.
STU representative highlighted that, currently the Hinjewadi IT area is fed from:

- 220 kV Chinchwad-I S/s
- 220 kV Kandalgaon S/s through overhead lines

Power flow is through underground cable network: 220 kV Hinjewadi Phase-I (partial) → Infosys → Pegasus → Hinjewadi Phase-II → Pirangut (partial). The 400/220 kV Hinjewadi Phase-III S/s is presently back charged from 220 kV Hinjewadi Phase-II S/s

- Load supply is mainly dependent on Kandalgaon & Chinchwad substations
- Underground cable faults take significant time for restoration
- Limited availability of expert agencies for cable joint repairs
- Non-availability of spare joints/components leading to delays
- Faults in main roads create severe traffic disruptions during repair
- Multiple underground cable joint failures observed recently
- During faults, approximately 75 MW load including data centres was affected
- Restoration activities took several days causing prolonged outages
- Fault locations in main roads caused traffic disruption for up to 8 days
- Risk of recurrence leading to large-scale outages and public inconvenience

## Scope of Work

- Direct link line from 220kV Hinjewadi I to 220kV Hinjewadi II by using 220kV, Single core, 1200 sq. mm copper conductor, XLPE insulated corrugated Aluminum sheathed power cable-5.77 km
- 1x220kV Outdoor GIS bay at Hinjewadi Ph-II S/s
- 1x220kV Hybrid GIS bay at Hinjewadi Ph-I S/s

The STU representative highlighted that the scheme offers alternate source to 220kV Hinjewadi II and Hinjewadi III Substations. This significantly improves Reliability & availability of power supply in case of fault on 220kV Pegasus-Infosys or 220 kV Pirangut-Hinjewadi-II circuit and Network improvement of Hinjewadi pocket under Pune Zone.

## Financial Implication

- Estimated Cost: **Rs. 109.71 Crores**
- Target commissioning year: **FY 2029-30**
-

## Committee's Key Observations and Recommendations

The Committee further observed that adequacy of the downstream network associated with 400/220 kV Hinjewadi substation shall be comprehensively examined by the Committee constituted for addressing Pune Metropolitan Region transmission constraints, so as to ensure coordinated and long-term network planning for the Pune region.

Committee directed to prepare a comprehensive transmission network plan for downstream network in the Pune Region, along with suitable remedial measures for ensuring reliable system operation and effective power evacuation.
The Committee observe that:

- Scheme is essential for maintaining reliability in Pune's prime IT hub
- Avoidance of future large-scale outages and economic losses
- Critical for uninterrupted functioning of multinational companies and essential services
- Requires close monitoring and coordination for timely completion
- Adequacy of down stream network of 400/220 kV Hinjewadi to be ensured by committee formed for Pune constraints.

**Accordingly, in order to maintain reliability in Pune's prime IT hub, avoid future large-scale outages and economic losses, ensure uninterrupted functioning of multinational companies and essential services, enhance redundancy and operational flexibility of the transmission network, and strengthen the downstream network of 400 kV Hinjewadi, the Committee ratified the scheme.**

***All GCC members took note of the discussions.***

## Agenda Point No. 26

**Scheme for Establishment of 220 kV switching station for providing Grid connectivity to M/s. Amazon Data Service India Pvt. Ltd., M/s. STT Global Data Centres India Pvt. Ltd. and other upcoming Data Centre Consumer in the Green integrated Data park premises of M/s. Lodha Developers Ltd. (Formerly M/s Macrotech Developers Ltd.) Tal. Ambernath, Dist. Thane**

**Discussion in GCC:-**

The STU representative placed before the GCC a proposal titled "Scheme for Establishment of 220 kV switching station for providing Grid connectivity to M/s. Amazon Data Service India Pvt. Ltd., M/s. STT Global Data Centers India Pvt. Ltd. and other upcoming Data Centre Consumer in the Green integrated Data park premises of M/s. Lodha Developers Ltd. (Formerly M/s Macrotech Developers Ltd.) Tal. Ambernath, Dist. Thane".

The scheme is proposed to cater to the large and growing power demand of upcoming data centers and EHV consumers in the Ambernath region. Major data centres developers such as M/s. Amazon Data Services India Pvt. Ltd. and M/s. STT Global Data Centres India Pvt. Ltd. require reliable and high-capacity power supply at 220 kV level. The scheme will also

support future EHV consumers in the region and ensure dependable power infrastructure. Existing transmission network in the region includes:

- 220 kV Padghe – Pal line
- 220 kV Anand Nagar – Palava line

Also, it was highlighted that, no dedicated switching station exists to cater specifically to large data centre loads in the proposed Green Integrated Data Park. The increasing demand from high-end consumers is putting pressure on existing infrastructure

The STU representative submitted that, there is significant load growth due to development of large-scale data centres. Also projected power demand includes M/s. Amazon Data Services India Pvt. Ltd. – 475 MW and M/s. STT Global Data Centres India Pvt. Ltd. – 575 MW. Further additional demand expected from future EHV consumers in the area with total demand expected to exceed 1000 MW in near future.

### Scope of Work

- Establishment of 220 kV GIS Switching Station
- LILO of 220 kV Padghe – Pal line (2.34 km) and 220 kV Anand Nagar – Palava line (2.34 km) at proposed switching station using High Ampacity Conductor & OPGW on M/C monopole towers with 4 GIS end bays – 2.5 km
- Provision of space for 10 nos. of 220 kV GIS bays (2 for Amazon, 2 for STT Global, 4 for feeders from 400/220 kV Ambernath (TBCB) S/s, and 2 future bays)

### Financial Implication & Implementation timeline

- Estimated Cost: **₹ 136.88 Crores**
- Implementation to be aligned with timelines of data centre commissioning
- Priority execution recommended due to critical consumer requirements

### Committee's Key Observations and Recommendations

The Committee, after detailed deliberations, observed that the proposed scheme is of strategic importance for development of reliable transmission infrastructure in the Ambernath region to cater to rapidly increasing demand from hyperscale data centres and upcoming EHV consumers.

The Committee further observed that timely implementation of the scheme is critical for matching the load growth timelines of upcoming data centres and ensuring availability of dependable transmission infrastructure for future power demand in the region. The Committee also emphasized that close coordination amongst developers, transmission utility and other stakeholders would be essential for timely execution and seamless integration of the proposed infrastructure with the existing State Transmission System.

**Accordingly, in order to support the large-scale data centre ecosystem in the region, meet present and future load requirements, strengthen the transmission network in Ambernath region, enhance system reliability and stability and ensure uninterrupted and high-quality power supply to critical data centre loads and upcoming EHV consumers, the Committee ratified the scheme.**

***All GCC members took note of the discussions.***

## Agenda Point No. 27

**Vintage Line Nashik:**

**Upgradation of existing 132kV GCR Eklahare - Manmad DCDC line by Composite (220/132kV) M/C line *-(Revision in scope & cost)***

**Discussion in GCC:-**

The STU representative placed before the GCC a proposal titled "Vintage Line Nashik: Upgradation of existing 132kV GCR Eklahare - Manmad DCDC line by Composite (220/132kV) M/C line -(Revision in scope & cost)"

The scheme is proposed to upgrade the ageing 132 kV transmission corridor into a higher capacity 220/132 kV multi-circuit corridor to meet future load demand and improve system reliability. The existing network is heavily loaded and constrained, with critical dependency on limited sources. Upgradation is essential to cater to long-term load growth, reduce overloading, and ensure reliable power supply in Nashik region.

The Representative of STU also highlighted that MTC has recommended this scheme in 16th MTC dated 27 Jan 2026 (Agenda No. No. 41). The estimated cost is revised & reduced from Rs. 1481.98 Cr to Rs. 1010.23 Cr. Due to reduction in scope of work. Hence, revised proposal is submitted in front of 17th MTC. The present infrastructure of existing 132 kV GCR Eklahare – Manmad line is more than 40 years old. 132 kV Manmad–Lasalgaon SC line is loaded up to ~80% capacity. Around 300 MW power flow through 220 kV Manmad – Pimpalgaon – Nashik (GCR) line and 220 kV Manmad – Nashik (GCR) line. Further, the Nashik district (~450 MW demand) depends mainly on Nashik TPS generation and 220 kV GCR Eklahare – BBLR DCDC line. However, the 220 kV Eklahare–BBLR lines are operating under continuous overload condition

## Scope of Work

- Upgradation of existing 132kV GCR Eklahare – Manmad Line by Composite 220kV & 132kV MCMC line using 220kV MC Narrow Base Towers & 220kV MC Monopoles **(Total 80.034 Kms)**
  - 220kV GCR Eklahare – 132kV Ranwad (Loc. No. 106) Line – 32.190 km
  - 132kV Ranwad (Loc. No. 106) – 220kV Pimpalgaon Line – 7.15 km
  - 132kV Ranwad (Loc. No. 106) – 220kV Manmad Line – 40.694 km
- Replacement of existing 0.2 ACSR conductor by HPC **(Total 13.138 Kms)** from:
  - LILO point to 132kV Ozar s/s – 2.49 km
  - LILO point to 132kV Lasalgaon s/s – 1.355 km
  - LILO point to 132kV Chandwad s/s – 9.3 km
- Construction of 4 x 220kV Bays at 220kV Manmad s/s
- Construction of 2 x 220kV Bays at 220kV GCR Eklahare s/s
- Construction of 2 x 220kV Bays at 220kV Pimpalgaon Wavi s/s
- Strengthening of existing line bay at Ozar, Ranwad, Lasalgaon, Chandwad, Eklahare (GCR) & Manmad s/s

- Reorientation of 132kV Ozar line bay at 220kV Pimpalgaon s/s

**Financial Implication**

- Estimated Cost: **₹ 1010.23 Crores**
- Target commissioning year: **FY 2028-29**

## Committee's Key Observations and Recommendations

The Committee observed that the scheme primarily involves upgradation, augmentation, reconfiguration, and modernization of existing operational transmission assets already forming part of the integrated State Transmission System. The proposed works involve extensive interfacing with the existing operational network, modifications to existing line infrastructure, reorientation and integration of existing assets and coordinated execution within the live transmission corridor.

Accordingly, the Committee observed that practical delineation of assets, ownership boundaries, outage coordination, operational responsibilities, maintenance obligations and interface arrangements under a separate Tariff Based Competitive Bidding (TBCB) / SPV framework may not be feasible considering the integrated nature of the existing infrastructure and the substantial involvement of existing operational assets.

The Committee further observed that although the estimated cost of the scheme exceeds the threshold limit specified under the MERC MYT Regulations, 2024 for implementation through TBCB, the scheme merits consideration for implementation under the cost-plus route in accordance with Clause 75.3 of the MERC MYT Regulations, 2024 considering:

- the scheme primarily involves upgradation and modernization of existing transmission assets;
- delineation and segregation of assets under a separate TBCB framework may not be feasible;
- extensive interfacing with existing operational infrastructure is involved;
- continuity, reliability, and operational security of the existing grid are critically linked with implementation of the scheme;
- coordinated execution under the direct control of the State Transmission Utility is necessary.

**Accordingly, in order to strengthen and modernize the existing transmission infrastructure, enhance transmission capacity through Composite 220/132 kV Multi-Circuit configuration, cater to future industrial, agricultural, urbanization , mitigate operational constraints, improve system reliability and operational security and ensure optimum utilization of the existing transmission corridor, the Committee, after detailed deliberations, ratified the scheme and further recommended that the scheme may be considered for exemption from TBCB and implemented by under the regulated tariff mechanism subject to approval of the Hon'ble MERC.**

***All GCC members took note of the discussions.***

## Agenda Point No. 28

**Revision of cost of Conversion of existing 400 kV SCSC lines to 400kV DCDC lines on MC towers for formation of 04 circuits of 400kV Kalwa - Padghe Ckt-I, II, III & IV by using HPC.-** ***(Revision in cost)***

**Discussion in GCC:-**

The STU representative placed before the GCC a proposal titled "Revision of cost of Conversion of existing 400 kV SCSC lines to 400kV DCDC lines on MC towers for formation of 04 circuits of 400kV Kalwa - Padghe Ckt-I, II, III & IV by using HPC.- (Revision in cost)"

The scheme is proposed to strengthen the transmission network of Mumbai Metropolitan Region (MMR) and to cater to rapidly increasing load demand. Existing 400 kV Kalwa–Padghe corridor is inadequate to meet future load requirements and poses a risk to grid security due to limited source availability. The scheme is also essential for evacuation of Renewable Energy (RE) power from Khavada to MMR and for ensuring reliable supply to Mumbai and surrounding regions.

The 400 kV Kalwa–Padghe transmission corridor constitutes one of the most critical transmission backbones supplying power to the Mumbai Metropolitan Region (MMR). The corridor also forms a strategic interface for evacuation of Renewable Energy power from Khavada, Gujarat towards the MMR region. The existing 400 kV Kalwa–Padghe Ckt-I & II lines were originally developed in Single Circuit Single Conductor (SCSC) configuration considering historical load levels and prevailing system conditions. However, due to substantial increase in demand, rapid urbanization, growth of metro rail systems, commercial infrastructure, data centers and future Renewable Energy integration requirements, the existing configuration is no longer adequate to reliably cater to the projected transmission requirements of the MMR region.

The corridor is presently operating under stressed system conditions and continued dependence on the existing configuration may adversely impact system reliability, operational flexibility, contingency handling capability and future RE evacuation preparedness. Accordingly, the proposed scheme envisages conversion of the existing SCSC corridor into Double Circuit Multi-Conductor (DCMC) configuration using Twin High Performance Conductors (HPC), thereby substantially enhancing the power transfer capability and reliability of the existing transmission corridor within the available right-of-way itself. The scheme also includes establishment of 400 kV Padghe (Split) Substation and 400 kV Kalwa GIS Substation as part of the integrated strengthening and reconfiguration of the MMR transmission network.

STU representative highlighted that, the MTC has recommended the scheme in 14th MTC dated 14 July 2025 (Agenda No. 30). The estimated cost is revised cost from Rs. 962.66 Cr to Rs. 2058.47 Cr. Due to increase in MT of MC towers quantity.

### Scope of Work

- Conversion of existing 400 kV Kalwa–Padghe Ckt-I into Ckt-I & II – 30.359 km
- Conversion of existing 400 kV Kalwa–Padghe Ckt-II into Ckt-III & IV – 32.159 km including ~20 km restringing on existing DC towers

The STU Representative highlighted that, Conversion of existing Kalwa–Padghe lines into **multi-circuit configuration** is techno-economically viable and provides strong additional sources for Kalwa.

### 14th GCC Observations:

- In-principle approval granted for conversion of SCSC lines to DC configuration
- Directed MSETCL to:
    - rework the scheme for optimal utilization of the existing network by exploring conversion to Multi-circuit corridor & utilization of other High performance conductors with equivalent ampacity for new MCMC corridor. Accordingly revised survey was carried for conversion of SCSC corridor to multi-circuit corridor.

### Financial Implication

- Estimated Cost: **Rs. 2058.48 Crores**
- Target commissioning year: **FY 2028-29**

### Committee's Key Observations and Recommendations

The Committee, after detailed deliberations, observed that the existing Kalwa–Padghe corridor constitutes one of the most critical transmission corridors feeding Mumbai and surrounding regions and that strengthening of the corridor is essential considering the rapidly increasing load demand, integration of Renewable Energy (RE) power from Khavada and future growth requirements of MMR.

The Committee further observed that the proposed scheme would provide substantial operational, technical, and long-term strategic benefits to the State Transmission System, including:

- strengthening of the critical Kalwa–Padghe transmission corridor;
- enhancement of transmission capacity and operational flexibility;
- improvement in reliability and security of power supply to Mumbai Metropolitan Region;
- support for evacuation and integration of Renewable Energy power from Khavada and other upcoming RE sources;
- facilitation of growing urban, commercial, infrastructure, and industrial demand in MMR;
- development of scalable and future-ready transmission infrastructure;
- optimum utilization of the existing transmission corridor and available Right-of-Way (RoW);

- minimization of fresh corridor requirements and associated execution constraints in densely urbanized areas;
- Enhancement of contingency management capability and grid resilience.

The Committee also observed that the revised proposal based on Multi-Circuit configuration represents an optimized technical solution balancing transmission capacity enhancement, corridor utilization, reliability requirements and cost optimization. The Committee emphasized that maximum utilization of the existing corridor and associated infrastructure shall be ensured while minimizing overall project cost and execution challenges.

The Committee further observed that the scheme primarily involves conversion, upgradation, strengthening, reconfiguration, and augmentation of existing operational transmission assets already forming part of the integrated State Transmission System. The scheme involves extensive utilization of existing Right-of-Way, modification and conversion of existing 400 kV lines, integration with live operational infrastructure and coordinated implementation within the existing transmission corridor.

Accordingly, the Committee observed that practical delineation and segregation of assets, ownership boundaries, outage coordination responsibilities, operation and maintenance obligations and interface arrangements under a separate Tariff Based Competitive Bidding (TBCB) / SPV framework may not be feasible considering:

- the integrated nature of the existing operational assets;
- extensive interfacing with existing transmission infrastructure;
- utilization of existing Right-of-Way and live operational corridors;
- requirement of phased conversion and coordinated outages;
- Necessity of centralized planning, execution, and operational control by the State Transmission Utility.

The Committee further observed that although the estimated project cost exceeds the threshold limit specified under the MERC MYT Regulations, 2024 for implementation through TBCB, the scheme merits consideration for implementation under the cost-plus route in accordance with Clause 75.3 of the MERC MYT Regulations, 2024 considering that the scheme substantially involves upgradation and strengthening of existing transmission assets wherein delineation of assets under a separate TBCB framework may not be practical or feasible.

**Accordingly, in order to strengthen the Kalwa–Padghe corridor, ensure optimum utilization of the existing corridor and Right-of-Way, support Renewable Energy integration and growing urban demand, provide scalable and future-ready transmission infrastructure and enhance system reliability and stability of Mumbai Metropolitan Region, the Committee, after detailed deliberations, ratified the scheme and further recommended that the scheme may be considered for exemption from TBCB and implemented by under the regulated tariff mechanism subject to approval of the Hon'ble MERC.**

***All GCC members took note of the discussions.***

## Agenda Point No. 29

**Upgradation of TPC 220 kV Mahalaxmi S/s by creation of 400 kV Level: (TPC-T)**

**Discussion in GCC:-**

The STU representative placed before the GCC a proposal titled "Upgradation of TPC 220 kV Mahalaxmi S/s by creation of 400 kV Level".

The scheme is proposed to strengthen the internal transmission network of Mumbai by establishing a 400 kV level system within South Mumbai. At present, there is limited 400 kV network inside Mumbai, leading to dependency on external sources and constraints in power evacuation. The scheme is critical for handling future load growth, ensuring grid reliability, and complying with recommendations of the High-Level Committee (HLC) on MMR Grid Disturbance (12th October 2020). Currently Mumbai transmission system has limited 400 kV network availability within city limits. 400 kV Vikhroli scheme is under development; however, no strong 400 kV network exists in South Mumbai resulting in overloading of existing transmission network during contingency conditions. Also no adequate downstream evacuation plan aligned with bulk injection schemes. The South Mumbai has current Mumbai peak load of 4300 MW which may rises to 6000 MW (projected in next 10 years with 4% CAGR). Additionally, Dharavi Redevelopment Project, Worli BDD Chawl redevelopment, Bhendi Bazaar redevelopment, Kamathipura redevelopment, MbPT redevelopment and Expansion of Metro networks act as demand drivers in south Mumbai.

## Scope of Work

- Laying of 400kV, 1C x 2500 Sq.mm LS XLPE Dharavi –Mahalaxmi cable (9.5 Ckt km cable)
- 400 kV , 07 Nos of GIS bays and 220 kV , 10 Nos of GIS bays at Mahalaxmi
- 220 kV, 02 Nos of GIS bays at Dharavi.
- 2X500 MVA 400 kV / 220 kV / 33 kV ICTs at Mahalaxmi.
- Two Nos of 125MVA, 3 Phase, 420 kV reactors each at Mahalaxmi and Dharavi.

The proposed scheme envisages establishment of a strong and reliable 400 kV transmission network within Mumbai with the objective of enhancing transmission capacity, improving operational flexibility, and strengthening overall system reliability of the Mumbai Metropolitan Region (MMR) grid. The scheme is also intended to facilitate reliable evacuation and downstream distribution of bulk power from upcoming major injection points such as Sewree and Trombay, thereby supporting the long-term load growth and network security requirements of Mumbai.

The proposed scheme is planned to be implemented largely within the existing substation premises through suitable modifications and augmentation of the existing infrastructure, thereby optimizing land utilization and minimizing practical execution constraints in the highly congested urban environment of Mumbai. Further, the scheme forms part of the STU New Corridor Plan under the Maharashtra Energy Transition Plan (2024–25 to 2033–34 / 2026–27 to 2035–36) and is aligned with the broader regional transmission planning undertaken by CTU, including deliberations held during the 38th CMETS-WR meeting dated

03.09.2025. The scheme is therefore strategically important for development of a robust in-city 400 kV backbone network for Mumbai in line with future demand growth, grid resilience requirements, and recommendations emerging from various system studies and post-disturbance assessments.

The scheme was earlier, presented in 15Th MTC, on Dt. 27.10.2025. The Chairperson enquired about space availability at Mahalaxmi RSS and directed STU & TPC-T to carry out correlated study including new corridor plan and Trombay upgradation and Proposal to be taken up after study submission. Accordingly, TPC-T conveyed that, adequate space is confirmed at Mahalaxmi RSS and Joint load flow study completed in coordination with STU. The scheme is proposed to be implemented within existing substation premises with modifications. The scheme is part of STU New Corridor Plan (Maharashtra Energy Transition Plan 2024–25 to 2033–34 / 2026–27 to 2035–36) and aligned with CTU planning (38th CMETS-WR meeting dated 03.09.2025).

**Financial Implication**

- Estimated Cost: ₹ **1295.31 Cr.**
- Target Completion: **FY 2030–31**

The ED, SLDC submitted that a dedicated study for fault level assessment and reactive power requirement shall be carried out for the proposed scheme.

The Chairperson, GCC highlighted that, proposed upgradation scheme includes single 400 kV Source from Dharavi, Further, he concurred with the views of the ED, SLDC and further opined that a separate fault level study shall be undertaken.

**Committee's Key Observations and Recommendations**

The Committee observed that the proposed upgradation of the 220 kV Mahalaxmi Substation to the 400 kV voltage level is presently planned with a single 400 kV source from the proposed 400 kV Dharavi Substation. While the proposal is significant for meeting the growing demand of South Mumbai and strengthening the transmission network, the Committee noted that dependence on a single infeed would not provide the level of reliability, operational flexibility, and supply security expected from a strategic 400 kV node serving a critical urban load centre.

The Committee emphasized that the development of the 400 kV Mahalaxmi Substation should be planned as an integral part of the long-term strengthening of the Mumbai Metropolitan Region (MMR) transmission network, with adequate redundancy through at least one additional independent 400 kV source. Such redundancy is essential to ensure compliance with grid security criteria, facilitate maintenance without supply interruption, and enhance system resilience under contingency conditions. The Committee further observed that the planning of the proposed Mumbai 400 kV Ring/Main transmission network should be synchronized so that the required alternate source to Mahalaxmi is developed within the same implementation timeframe.

**Accordingly, the Committee directed the STU to undertake a comprehensive review of the proposed scheme in consultation with the concerned transmission utilities and stakeholders, with specific focus on providing a reliable and redundant 400 kV source arrangement for the Mahalaxmi Substation. Based on the outcome of this review and the finalized development plan for the Mumbai 400 kV Ring/Main network, the STU shall revisit the proposed scheme, including its configuration, interconnections, and implementation strategy, and submit the revised proposal for consideration of the Committee.**

***All GCC members took note of the discussions.***

## Agenda Point No. 30

**220 kV Bhivpuri-Ambernath D/C line LILO at South Kalmb : (TPC-T)**

**Discussion in GCC:-**

The STU representative placed before the GCC a proposal titled "220 kV Bhivpuri-Ambernath D/C line LILO at South Kalmb"

The 765/400/220 kV South Kalamb project is under construction through Tariff Based Competitive Bidding (TBCB) and is located approximately 12 km from the proposed 220 kV Bhivpuri–Ambernath transmission corridor. Additionally, the 765 kV D/c Boisar-II – Pune-III line is planned for LILO at South Kalamb, which will strengthen the bulk power transfer network.

With the development of the proposed 765 kV South Kalamb node, renewable energy (RE) power from Gujarat is expected to be available for meeting the future load demand in the Mumbai Metropolitan Region (MMR). In view of the downstream power evacuation capability available at South Kalamb, TPC-T has proposed the LILO of the 220 kV Bhivpuri–Ambernath D/C line at this location.

Further, TPC-T has also planned phased upgradation of the existing 110 kV Kalwa–Kalyan–Ambernath–Bhivpuri–Khopoli–Bhokarpada–Karanjade corridor into a high-capacity 220 kV four-circuit corridor. The proposed corridor strengthening is aimed at substantially enhancing transmission capacity, improving reliability of supply, reducing dependency on existing constrained corridors, and creating a robust downstream evacuation network aligned with the future 400 kV and 765 kV system development planned for Mumbai and surrounding areas.

### Scope of Work

- 220 kV GIS bays , D/c 220 kV LILO line , EHV cables & ETC for entire scope.

### Financial Implication & Implementation Timeline

Estimated cost: **₹ 250 Crore**.
Targeted commissioning year: **FY 2030-31**

## Committee's Key Observations and Recommendations

The Committee observed that:

- The proposed scheme is strategically important for integration and downstream evacuation of Renewable Energy (RE) power from the upcoming 765/400/220 kV South Kalamb node and for strengthening the transmission network in the Mumbai Metropolitan Region (MMR).
- The proposed LILO arrangement and corridor upgradation would enhance transmission capacity, improve operational flexibility, strengthen redundancy, and facilitate reliable evacuation and distribution of bulk power in the MMR region.
- The scheme would also support the growing power demand of upcoming high-load centres in Mumbai and surrounding areas while mitigating future transmission congestion and improving overall network resilience.
- The Committee noted that the proposed scheme is closely linked with the development and commissioning of the South Kalamb substation and associated transmission infrastructure. Accordingly, coordinated implementation and planning would be essential for optimal utilization of the upcoming transmission assets and seamless power evacuation.
- The Committee further noted that the scheme primarily involves upgradation, augmentation, and utilization of the existing transmission corridor and Right of Way (RoW) of TPC-T, wherein practical delineation and segregation of assets under a separate SPV/TBCB framework may not be feasible.

The Committee further recommended that the scheme may be considered for implementation through the cost-plus route under Section 62 of the Electricity Act, 2003 in accordance with the provisions of the MERC MYT Regulations, 2024 subject to approval of Hon. MERC considering that the proposed works predominantly involve augmentation and upgradation of existing transmission assets and utilization of the existing Right of Way and operational corridor infrastructure of TPC-T, where practical delineation of assets for implementation through the TBCB route may not be feasible.

**Accordingly, in order to facilitate integration and evacuation of Renewable Energy power from South Kalamb, strengthen the transmission system in the Mumbai Metropolitan Region, enhance transmission capacity and operational reliability, support upcoming high-demand load centres, and avoid future congestion in the transmission network, the Committee, after detailed deliberations, ratified the scheme and recommended that the scheme may be considered for exemption from TBCB and implemented by under the regulated tariff mechanism subject to approval of the Hon'ble MERC.**

***All GCC members took note of the discussions.***

## Agenda Point No. 31

**Upgradation of existing 110 kV Khopoli-Bhivpuri line corridor by replacing existing conductor by higher capacity conductor along with four circuit towers: (TPC-T)**

**Discussion in GCC:-**

The STU representative representative placed before the GCC a proposal titled "Upgradation of existing 110 kV Khopoli-Bhivpuri line corridor by replacing existing conductor by higher capacity conductor along with four circuit towers".

TPC-T has proposed the phased upgradation of the existing 110 kV Kalwa–Kalyan–Ambernath–Bhivpuri–Khopoli–Bhokarpada–Karanjade corridor into a 220 kV four-circuit network to cater to existing as well as future load requirements in the corridor.

It was further highlighted that, with the development of the proposed 765/400/220 kV South Kalamb pooling station, substantial quantum of Renewable Energy (RE) power from Gujarat and other western region generation sources is expected to be available for meeting the rapidly increasing demand of the Mumbai Metropolitan Region. In this regard, the proposed LILO of the 220 kV Bhivpuri–Ambernath D/C line at South Kalamb is envisaged to play an important role in strengthening regional connectivity and facilitating reliable downstream evacuation and distribution of bulk power from the South Kalamb node into the Mumbai area network.

Further, the Hon'ble MERC, during various transmission planning deliberations and regulatory proceedings, has emphasized progressive migration and upgradation of the existing 110 kV transmission network and substations to the 220 kV level as part of long-term transmission planning and modernization of the Mumbai transmission system. In line with the said planning philosophy, strengthening of the Khopoli–Bhivpuri corridor has become essential for enabling reliable bulk power evacuation from the proposed South Kalamb pooling station and for integrating the upcoming high-capacity transmission network with the existing Mumbai transmission system.

Accordingly, considering the future power flow requirement, increasing demand in MMR, and the need for strengthening downstream evacuation infrastructure, TPC-T has proposed upgradation of the existing 110 kV Khopoli–Bhivpuri line corridor through replacement of the existing conductor with higher-capacity conductor along with replacement/strengthening of towers and associated infrastructure. The proposed works are aimed at substantially enhancing transmission capacity, improving thermal loading margins, increasing operational reliability under contingency conditions, and ensuring optimum utilization of the existing transmission corridor and Right of Way in view of severe corridor constraints prevailing in the Mumbai region.

Further, the proposed scheme may be considered for implementation through the cost-plus route under Section 62 of the Electricity Act, 2003 in accordance with the provisions of the MERC MYT Regulations, 2024, considering that the scheme primarily involves upgradation, augmentation and strengthening of the existing operational transmission corridor and associated infrastructure. It was submitted that the proposed works are intrinsically integrated with the existing assets and utilize the existing Right of Way and corridor infrastructure,

wherein practical delineation and segregation of assets, ownership boundaries, and operational responsibilities under a separate SPV/TBCB framework may not be feasible.

### Scope of Work

- Construction of 220 kV Mult Circuit (M/C) Transmission towers on 110 kV Khopoli-Bhivpuri existing corridor @ 23 km & high ampacity conductor stringing.

### Load Growth in the Area

Representative of STU highlighted that there is significant load growth in the Khopoli, Bhivpuri, and nearby MMR regions due to:

- Increasing industrial activities
- Infrastructure development
- Growing demand from urban and semi-urban areas

The upcoming South Kalamb node will further inject bulk power into the system, necessitating strengthening of downstream corridors.

### Financial Implication & Implementation timeline

- The estimated cost : **₹350 Crore**.
- Target commissioning year: **FY 2030-31**

### Committee's Key Observations and Recommendations

The Committee observed that:

- The proposed scheme is important from the overall system strengthening point of view considering the rapidly increasing load demand in the Mumbai Metropolitan Region and the upcoming bulk power injection from the proposed 765/400/220 kV South Kalamb pooling station.
- Timely execution of the scheme would be essential to ensure readiness of the transmission corridor for future voltage upgradation and seamless evacuation and downstream distribution of power from South Kalamb into the Mumbai transmission network.
- The proposed strengthening and upgradation of the existing corridor would substantially enhance transmission capacity, improve operational flexibility, and facilitate reliable integration of Renewable Energy (RE) power expected from Gujarat and other western region sources through the South Kalamb node.
- The scheme would also play a significant role in avoidance of future transmission congestion, reduction in overloading of existing corridors under contingency conditions, and improvement in overall system reliability, redundancy, and stability of the Mumbai Metropolitan Region transmission system.
- The Committee further noted that the proposed works predominantly involve augmentation, strengthening, and voltage upgradation of the existing transmission corridor and associated operational assets utilizing the existing Right of Way infrastructure, wherein practical delineation and segregation of assets for implementation through a separate SPV/TBCB framework may not be feasible.

The Committee further recommended that the scheme may be considered for implementation through the cost-plus route under Section 62 of the Electricity Act, 2003 in accordance with the provisions of the MERC MYT Regulations, 2024 subject to approval of Hon MERC considering that the proposed works primarily involve strengthening and upgradation of the existing operational transmission corridor and associated infrastructure utilizing the existing Right of Way, wherein practical delineation of assets and interface segregation under the TBCB route may not be feasible.

**Accordingly, in order to cater to the present and future load demand, enhance transmission capacity in the corridor, facilitate integration and evacuation of Renewable Energy from South Kalamb, avoid future congestion, improve system reliability and stability, and strengthen the overall transmission network from the system planning perspective, the Committee, after detailed deliberations, ratified the scheme and recommended that the scheme may be considered for exemption from TBCB and implemented by under the regulated tariff mechanism subject to approval of the Hon'ble MERC.**

***All GCC members took note of the discussions.***

## Agenda Point No. 32

### Upgradation of existing 110 kV AIS at TPC-T Trombay RSS with GIS: (TPC-T)

**Discussion in GCC:-**

The STU representative placed before the GCC a proposal titled "Upgradation of existing 110 kV AIS at TPC-T Trombay RSS with GIS".

The existing 110 kV AIS at TPC-T Trombay Receiving Substation (RSS) was commissioned in 1956 and has completed nearly 70 years of service. Being a generation pooling station, maintaining high reliability of substation equipment is critical.

Further, the Trombay substation caters to major critical consumers such as BPCL, HPCL, RCF, and TPC-D, with a total load of approximately 400 MW. The existing AIS is located in a coastal and highly polluted environment surrounded by coal handling units, petroleum refineries, and generating units. This has resulted in significant operational challenges such as dust accumulation, corrosion of structures, rusting of equipment, and development of hotspots at terminal connections. Further, due to its proximity to the coastal area, saline deposits have caused deterioration of switchgear contacts and insulators, adversely affecting system reliability. It was also highlighted that recommendations of the Task Force constituted by the Ministry of Power, Central Electricity Authority (Report dated 10th June 2021), which emphasized the need for conversion of AIS to GIS substations in coastal areas to improve resilience against cyclones and environmental degradation.

Further, owing to the close proximity to the coastal belt, saline contamination and moisture ingress have resulted in progressive deterioration of switchgear contacts, insulators and associated equipment insulation characteristics, thereby adversely impacting system reliability and increasing maintenance requirements and operational risks. It was also submitted that the ageing nature of the AIS infrastructure poses challenges in terms of reliability, availability of spares, maintenance outage management and long-term operational sustainability.

Further, the recommendations of the Task Force constituted by the Ministry of Power and Central Electricity Authority (Report dated 10th June 2021), which had emphasized the need for progressive conversion of AIS substations located in coastal and environmentally vulnerable areas into GIS substations for enhancing resilience against cyclones, saline atmospheric conditions, environmental degradation and extreme weather events.

In view of the above technical, operational, environmental and reliability considerations, TPC-T submitted that conversion of the existing 110 kV AIS into GIS configuration at Trombay RSS has become essential for ensuring reliable and secure power supply to critical consumers, improving operational safety, enhancing system resilience, reducing maintenance requirements and ensuring long-term sustainability and reliability of the Mumbai transmission network. TPC-T further requested that the proposed scheme may be considered for implementation through the cost-plus route under Section 62 of the Electricity Act, 2003 in accordance with the provisions of the MERC MYT Regulations, 2024, considering that the project primarily involves conversion, augmentation, and upgradation of the existing operational substation assets and associated infrastructure at Trombay RSS.

**Scope of Work**

- 110 kV AIS to GIS conversion at TPC-T Trombay RSS with PAC (Total 32 no of AIS bays)

**Financial Implication & Implementation timeline**

The estimated cost: **₹650 Crore**.
Targeted commissioning year: **FY 2028-29**

**Committee's Key Observations and Recommendations**

The Committee observed that:

- The existing 110 kV AIS infrastructure at Trombay RSS is significantly aged and has been in service for nearly seven decades, thereby necessitating phased modernization and replacement from the system reliability and operational safety perspective.
- Considering the strategic importance of Trombay RSS as a major generation pooling and supply node catering to critical consumers such as BPCL, HPCL, RCF, and TPC-D, reliable operation of the substation is essential for maintaining secure power supply in the Mumbai Metropolitan Region.
- The existing AIS infrastructure is operating in a highly corrosive coastal and industrial environment, resulting in progressive deterioration of equipment, increased maintenance requirements, operational constraints, and reliability concerns.
- Conversion of the existing AIS into GIS configuration would enhance system reliability, operational resilience, safety, maintainability, and long-term sustainability of the transmission infrastructure while improving resistance against adverse environmental and coastal conditions.
- The Committee further noted that the proposed scheme primarily involves replacement, augmentation, and upgradation of the existing operational substation assets within the existing premises and infrastructure of TPC-T, wherein practical delineation and segregation of assets under a separate SPV/TBCB framework may not be feasible.

The Committee further recommended that the scheme may be considered for implementation through the cost-plus route under Section 62 of the Electricity Act, 2003 in accordance with the provisions of the MERC MYT Regulations, 2024, subject to approval of the Hon'ble MERC, considering that the scheme primarily involves augmentation and upgradation of existing operational assets within the

existing substation premises where practical delineation of assets for implementation through the TBCB route may not be feasible.

**Accordingly, considering the ageing and deteriorating condition of the existing AIS infrastructure, the criticality of Trombay RSS for reliable power supply to Mumbai, and the need for enhancing system reliability, resilience, operational safety, and long-term sustainability of the transmission network, the Committee, after detailed deliberations, ratified the scheme and recommended that the scheme may be considered for exemption from TBCB and implemented by under the regulated tariff mechanism subject to approval of the Hon'ble MERC.**

***All GCC members took note of the discussions.***

## Agenda Point No. 33

**220 kV Malad (East) EHV scheme-** ***(Revision in scope & cost):*** **(AEML-T)**

**Discussion in GCC:-**

The STU representative placed before the GCC a proposal titled "220 kV Malad (East) EHV scheme".

The scheme for establishment of 220kV Malad (East) EHV Substation has been part of multiple planning frameworks, and currently included in latest published STU 10 year plan.The scheme has undergone extensive deliberations:

- Approved in 13th MTC (17.04.2025) and ratified in 13th GCC (22.04.2025), it was suggested to carry out joint study considering LILO connectivity on 220kV AEML Aarey -Borivali line and 220kV Aarey - AEML/TPC Borivali line with 2500sqmm cable. Hence, scope & cost revised.
- Included under Transmission License (Case No. 159 of 2024 dated 10.09.2025)

Subsequently, due to change in scope and cost, STU directed resubmission of the scheme for fresh approval in MTC & GCC vide email dated 06.03.2026.

Further, there is no transmission infrastructure between Aarey and Borivali (~15 km stretch), resulting in dependency on long 33kV feeders for supply to Malad (E) and Goregaon (E) areas. The long 33kV feeders supplying load, leading to higher losses and voltage issues. Due to the extensive length of these feeders and continuously increasing urban load demand, the existing network is facing operational constraints including higher technical losses, voltage regulation issues, reduced operational flexibility, and reliability concerns under contingency conditions.

Further, the existing 220kV Aarey Substation is nearing its firm capacity, and there are no spare outlets available at nearby substations to cater to future demand. Hence, a new 220kV substation at Malad (E) is essential to meet growing load demand and improve network reliability.

Further submitted that the proposal has been planned considering an estimated load requirement of approximately 372 MW in the Malad–Goregaon corridor, comprising around 322 MW of projected new load demand and approximately 50 MW of load arising due to network reconfiguration and system balancing requirements.

## Operational Constraints

- Overloading of existing substations
- Long feeder lengths causing voltage drops and higher technical losses
- Limited network flexibility
- Inadequate redundancy and contingency support

### Scope of Work

**Substation Scope:** 220kV GIS EHV Station at Malad (2 x 125 MVA Capacity).

• LILO of both circuits of existing overhead line of 220 kV AEML Aarey – TPC Borivali line and AEML-Aarey-AEML Borivali line with220kV D/C Underground Cable Connectivity from LILO tower location (VAB 50) to the proposed 220kV Malad (E) EHV S/S.
• 220 kV cable – 4 runs
• 220 kV GIS bays – 9 bays
• Transformers – 2x125 MVA
• 33kV GIS bays – 15 nos.
• Protection System
• Associated Civil works

### Financial Implication & Implementation timeline

- Estimated Cost (including IDC): ₹ 713.81 Cr
- Earlier Cost: ₹ 515.07 Cr
- Target commissioning year: **FY 2029-30**

### Committee's Key Observations and Recommendations

The Committee observed that:

- The proposed 220 kV Malad (East) EHV Substation is critical for strengthening the transmission network in the Mumbai Metropolitan Region, particularly in the Malad–Goregaon corridor where substantial load growth is being witnessed.
- The absence of intermediate EHV infrastructure between Aarey and Borivali substations and continued dependency on long 33 kV feeders has resulted in operational constraints, higher losses, voltage regulation issues, and reduced system reliability, thereby justifying the need for establishment of the proposed substation.
- The Committee noted that the existing 220 kV Aarey Substation is approaching its firm capacity limits and adequate transmission infrastructure would be required to cater to future load growth arising from urbanization, redevelopment activities, commercial expansion, and increasing infrastructure demand in the area.
- The proposed scheme would improve operational flexibility, strengthen the in-city transmission network, reduce dependency on long distribution feeders, enhance voltage profile, and improve overall reliability and resilience of the Mumbai transmission system.
- The Committee further noted that the scheme already forms part of the Transmission License granted to AEML-T by the Hon'ble MERC and has been included in the approved transmission planning framework.

The Committee further recommended that the scheme may be considered for implementation through the cost-plus route under Section 62 of the Electricity Act, 2003, considering that the scheme already forms part of the existing Transmission License of AEML-T and is intrinsically integrated with the existing licensed transmission system and associated infrastructure.

**Accordingly, in order to strengthen the Mumbai transmission network, bridge the existing infrastructure gap in the Malad–Goregaon corridor, cater to present and future load growth, enhance system reliability, operational flexibility and resilience and ensure secure and reliable power supply in the region, the Committee, after detailed deliberations, ratified the scheme and recommended that the scheme may be considered for exemption from TBCB and implemented by under the regulated tariff mechanism subject to approval of the Hon'ble MERC.**

***All GCC members took note of the discussions.***

## Agenda Point No. 34

**Online Dissolved Gas Analysis (DGA) for Transformers and Reactors – Healthiness of Critical Assets across MEGPTCL's existing network.": (MEGPTCL)**

**Discussion in GCC:-**

The STU representative placed before the GCC a proposal titled "Online Dissolved Gas Analysis (DGA) for Transformers and Reactors – Healthiness of Critical Assets across MEGPTCL's existing network."

The necessity of scheme highlighted as below:

- Provide continuous assessment of internal conditions, enabling early detection of faults such as overheating, partial discharge, arcing & other internal faults.
- The proactive monitoring enhances system reliability & helps in avoiding catastrophic failures ensuring uninterrupted power system operation.
- Online DGA detects early signs of incipient faults such as:
- Overheating, Partial discharge, Arcing & Insulation degradation.
- The CEA has outlined the explicit requirement of Online DGA monitoring tool for critical transformer /ICT/ reactor in its "Manual on Transmission Planning Criteria & Technical specifications"

The STU representative further highlighted that:

- 23 Online DGA systems have already been installed, and
- 31 additional DGA kits are required under the present scheme.

## Scope of works

- Installation of 31 No. Online Dissolve Gas Analyzer Kit or Transformer/ Reactor

*In 17th GCC, ED, SLDC sought clarification on the specific locations for installation of the proposed DGAs, including whether they pertain to new or existing transformers/reactors.*

*Further, The Chairperson, GCC directed to submit a detailed report confirming the requirement, proposed locations (new/existing transformers or reactors) & apprise the same in the ensuing GCC meeting.*

Accordingly, MEGPTCL submitted that at the Akola Substation, 16 Nos. online DGA analyser kits have already been installed, and an additional 13 Nos. online DGA analyser kits are proposed under the present scheme. Also, at the Koradi location, 7 Nos. online DGA analyser kits have already been installed, while 18 Nos. online DGA analyser kits are proposed to be installed through the scheme.

### Financial Implications & Timeline

- Estimated Project Cost: ₹ 10.08 Crore.
- Target Commissioning: FY 2028-29.

### Committee's Key Observations and Recommendations

The Committee considered the submission made by MEGPTCL regarding the proposed implementation of an online condition monitoring system for continuous monitoring of critical substation equipment. The proposed system would facilitate real-time assessment of the internal condition of the equipment, enabling early detection of abnormalities such as overheating, partial discharge, arcing, insulation degradation, and other incipient faults. The Committee noted that continuous condition monitoring would enhance asset reliability, support condition-based maintenance, minimize the risk of forced outages and catastrophic failures, improve operational safety, and optimize maintenance planning over the asset life cycle.

**After detailed deliberations and considering the technical merits and operational benefits of the proposed system, the Committee ratified the scheme.**

***All GCC members took note of the discussions.***

### Agenda Point No. 35

**Proposed Amendments to the Maharashtra Electricity Regulatory Commission (Transmission Open Access) Regulations, 2016 (and Subsequent Amendments) in alignment with the Central Electricity Regulatory Commission (Connectivity and General Network Access) Regulations, 2022 (3rd Amendment)**

**Discussion in GCC:-**

The STU representative placed before the GCC the agenda titled *"Proposed Amendments to the Maharashtra Electricity Regulatory Commission (Transmission Open Access) Regulations, 2016 (and Subsequent Amendments) in alignment with the Central Electricity Regulatory Commission (Connectivity and General Network Access) Regulations, 2022 (3rd Amendment)"*.

The STU representative submitted that, as per the directions issued during the 18th GCC meeting, inputs/comments/suggestions were invited from GCC members on the proposed amendments. Based on the comments received from GCC members/ stakeholders, comments

were consolidated for deliberation in GCC committee. Further, the clauses proposed for amendment in the Maharashtra Electricity Regulatory Commission (Transmission Open Access) Regulations, 2016 and subsequent amendments was deliberated in details.

The Executive Director, SLDC, observed that the comments and suggestions on the proposed amendments had been submitted independently by the individual GCC members. Consequently, all members may not have had the opportunity to review or appreciate the observations and viewpoints put forth by the other stakeholders. In order to facilitate a more comprehensive and collaborative deliberation, the ED, SLDC suggested that the STU prepare a consolidated draft report incorporating all comments received from the stakeholders and circulate the same among all GCC members. This would provide an opportunity for the members to examine the consolidated observations, offer any further comments or suggestions, resolve any inconsistencies, and arrive at a broader consensus before the report is finalized.

The Chairperson, GCC concurred with the observations of the ED, SLDC and emphasized that the amendment proposal should reflect the collective views of the Committee. Accordingly, the Chairperson directed the STU to circulate the consolidated draft amendment report to all GCC members for their review and to invite any additional comments, suggestions, or observations within a stipulated timeframe. Considering that Hon. MERC has already initiated the amendment process for the TOA Regulations, the Committee further decided that, after incorporating the additional comments and achieving broad consensus among the GCC members, the consolidated report shall be submitted to Hon. MERC as part of the comments and suggestions of the GCC on the proposed draft amendments to the TOA Regulations.

### Committee's Key Observations and Recommendations

The GCC decided that the comments received from individual members shall be circulated among all GCC members. Members were requested to furnish their further observations, if any, on the STU Draft Report within the stipulated timeframe.

**Thereafter, the consolidated report, incorporating the views of the GCC, shall be placed before the Committee for final approval and submitted to Hon. MERC as part of the GCC's comments and suggestions on the proposed amendments to the TOA Regulations.**

The GCC members made the following suggestions for the effective functioning of the Committee:

- The representative of MSPGCL requested that the GCC agenda, presentation, and detailed scope of work be circulated sufficiently in advance to facilitate detailed examination by the stakeholders.
- The ED, SLDC suggested that MTC and GCC meetings should not be held in the same week to allow adequate time for review and deliberation.

The Chairperson, GCC concurred with the suggestions and directed that MTC meetings shall ordinarily be held during the first week of the month and GCC meetings during the third week, maintaining a minimum gap of 15 days between the two meetings.

***All GCC members took note of the discussions***

**Item No.4: Agenda from OCC**

**4.1** MSLDC had conducted meeting with all state discoms on the resource adequacy review on dt. 21st April 2026 and subsequently discussed in 13th OCC held on 27.04.2026. It was observed that distribution licensees are in firm resource deficit.

***- Appraisal for GCC committee thereof.***

**Discussion in GCC:-**

The Executive Director, MSLDC informed the GCC that a meeting with all Distribution Licensees (DLs) was conducted on 21st April 2026 to review the status of Resource Adequacy (RA) in the State.

During the meeting held on 21st April 2026, it was observed that there exist significant lacunae in maintaining adequate resource tie-ups by the Distribution Licensees. In this regard, MSLDC carried out a detailed resource shortfall analysis for the period from 13th April to 20th April 2026, highlighting instances of shortfalls in meeting forecasted demand requirements.

Further, it was informed that formal notices have been issued to the concerned DLs, highlighting the lacunae in maintaining sufficient resources and advising necessary corrective actions.
The matter was subsequently placed before the OCC forum in the 13th OCC Meeting held on 27th April 2026. During the meeting, block-wise shortfall data for all DLs for the period from 13th April to 20th April 2026 was presented. The summary of shortfall observed for various Distribution Licensees during the period was as follows:

| Distribution Licensee | Shortfall Blocks (Count) | Shortfall Blocks (%) | Peak Shortfall Magnitude (MW) | Average Shortfall Magnitude (MW) |
|---|---|---|---|---|
| MSEDCL | 319 | 23.74 | -2068.66 | -548.37 |
| RAILWAY | 1245 | 92.63 | -338.72 | -70.53 |
| AEML | 186 | 13.84 | -319.12 | -30.18 |
| TPCL | 30 | 2.23 | -91.2 | -17.78 |
| BEST | 32 | 2.38 | -49.54 | -13.74 |
| AEML SEEPZ LTD | 1132 | 84.23 | -38.29 | -12.74 |

| | | | | |
|---|---|---|---|---|
| MITL | 1317 | 97.99 | -19.26 | -4.16 |
| NUPLLP | 985 | 73.29 | -9.92 | -7.14 |
| MBPPL | 830 | 61.76 | -8.39 | -0.98 |
| BiotechSPL_M_SEZ | 997 | 74.18 | -7.16 | -2.67 |
| BiotechSPL_H_SEZ | 949 | 70.61 | -6.68 | -2.55 |
| MADC | 660 | 49.11 | -6.24 | -1.31 |
| KRCIAPPL | 834 | 62.05 | -3.54 | -0.55 |
| GPEPL | 667 | 49.63 | -2.62 | -0.53 |
| MITL_BIDKIN | 1326 | 98.66 | -2.48 | -0.33 |
| EON_kharadi_SEZ1 | 1032 | 76.79 | -1.92 | -0.21 |
| JNPT | 632 | 47.02 | -1.48 | -0.42 |
| EON_kharadi_SEZ2 | 706 | 52.53 | -1.35 | -0.11 |
| LBSCML | 846 | 62.95 | -0.38 | -0.19 |

The key observations made Executive Director, MSLDC as listed below

1. In particular evening periods, resource deficit was observed for all Distribution Licensees.
2. Small Distribution Licensees were over forecasting their demand. Although such DLs were not overdrawing but over forecasting.
3. MSEDCL has shortfall block count being 319 blocks and peak shortfall of -2068.66 MW
4. Railways was not having enough energy procurement contracts resulting into consistent shortfalls.

It was further informed that MSLDC is issuing daily notices to the Distribution Licensees, directing them to arrange adequate power to meet their respective demand requirements and avoid load curtailment.

Additionally, it was apprised that a formal communication is being initiated to the Government of Maharashtra, highlighting the persistent resource shortfall behaviour of the Distribution Licensees and its implications on reliable power supply in the State.

***All GCC members took note of the discussions***

## 4.2 Procedure for Black Start at various Generating Stations at Maharashtra

The revised Black Start Procedure was presented in 12th OCC held on 17.03.2026 at MSLDC Airoli after circulating to all stakeholders**.** The procedure highlights key gaps observed during black start operations at various locations. These include the non-availability of essential equipment at several substations, such as DG sets, battery sets, PMUs, synchroscopes, and communication devices.

Additionally, critical elements like isolators, breakers, and battery chargers are aged and are experiencing operational issues.

***- Appraisal for GCC committee thereof.***

**Discussion in GCC:-**

The Executive Director, MSLDC informed the committee about the black start mock drills conducted during 2025–26. He stated that MSLDC had already shared the gaps and bottlenecks observed during these mock drills with all concerned generators and transmission utilities (vide letters dated 14.10.2025).

The key issues identified are as follows:

- Important equipment such as synchronoscopes (sync check facility), DG sets, PMUs, and communication systems are not available at some substations on the cranking path.
- Some equipment like isolators, breakers, batteries, and chargers are old and need replacement.
- Additional (redundant) battery systems are required at certain black start stations.
- At Uran Gas Power Station, black start with other units needs to be explored, as the designated cranking path is partially not available.
- Black start using Unit-2 at Ghatghar PSP needs to be planned and carried out.
- During the Koyna mock drill (U-5) on 08.12.2025, synchronization with the main grid using the Niwali line sync check feature needs review.
- Communication systems (PLCC and hotline) are available but must be ensured to work reliably during emergencies.
- The cranking path for Uran GTPS is partially unavailable due to failure of 220 kV EHV cables (Ulwe–Waghivali and Uran–Ulwe). These need urgent repair. Also, line reactors are required to control voltage during black start operations.

It was informed that all these issues have already been communicated separately to the concerned stakeholders. However, due to these gaps, the cranking paths are presently not fully reliable and may create problems during actual operation.

Since black start is a last option to restore the grid, any problem in these systems can delay restoration. Therefore, all locations need to be checked carefully, and all required systems must be kept ready.

Communication systems like PLCC and hotline are available, but they must be checked to ensure they work properly during emergencies.

The Executive Director (MSLDC) has suggested that synchronization facilities be made available at every EHV substation in the black start cranking path. Furthermore, the

designated cranking paths utilized during black start operations must possess synchronization capability to ensure safe grid restoration.

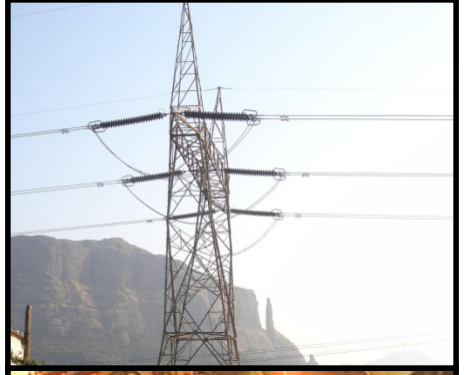
***The GCC took note of the above and directed all concerned generators and transmission utilities to take necessary action and ensure compliance at the earliest.***

**With these discussions the meeting concluded with vote of thanks.**

## Annexure A

### List of participants for 19th GCC meeting held on 28.04.2026

| Sr no | Name of member | Designation | Committee position |
|---|---|---|---|
| 1 | Shri Satish Chavan | Director (Operations), MSETCL | Chairperson |
| 2 | Shri Shashank Jewalikar | Executive Director (MSLDC) | Member Convener |
| 3 | Shri. Anil Bharsakle | CE (Trans O&M) | Member |
| 4 | Shri Sandip Patil | Chief Engineer (PP), MSEDCL attended on behalf of Director (Commercial) MSEDCL | Member |
| 5 | Shri. Pankaj Nagdeote | CE (Works), MSPGCL | Member |
| 6 | Shri P. D. Lone, | S.E. Commercial, WRPC | Member |
| 7 | Shri Manoj Pise | General Manager, MEDA | Member |




MAHATRANSCO
Maharashtra State Electricity Transmission Co. Ltd.

# OFFICE OF THE CHIEF ENGINEER

## Automation, Communication, Innovation & Protection

## PROPOSED MODIFICATIONS/CHANGES IN MEGC – 2020 REGULATION

## APPROVED BY PCC

## PROPOSED MODIFICATIONS/CHANGES IN MEGC DRAFT:

- Review of MEGC Regulation -2020 was discussed during the 14th GCC meeting held on dtd. 28th July 2025.
- GCC committee has directed that “Protection Code” shall be discussed & reviewed in PCC meeting and after in-principal approval from PCC, the approved protection code shall be put up to GCC.
- “Protection code” was discussed during 9th PCC meeting held on dtd. 12.01.2026.
- In-principal approved “Protection code” is put up to GCC for appraisal.

## PROPOSED MODIFICATIONS/CHANGES IN MEGC DRAFT:

| Sr. No. | MEGC Regulation-2020 | | IEGC Regulation-2023 | | Proposed Changes in MEGC draft (Approved by 9th PCC) |
|---|---|---|---|---|---|
| | Cl. No. | Regulation | Cl. No. | Regulation | |
| 1 | 23.2.1 | **23.2] Fault Clearance Time**:<br>Fault clearance time for primary protection schemes, when all equipment operate correctly, for a three phase fault (close to the bus- bars) on Users' equipment directly connected to InSTS and for a three phase fault (close to the bus-bars) on InSTS connected to Users' equipment, shall not be more than:<br>100 milliseconds for 800 kV class & 400 kV<br>160 milliseconds for 220 kV & 132 kV/110kV | 13.1 | **13] PROTECTION PROTOCOL**<br>All users connected to the integrated grid shall provide and maintain effective protection system having reliability, selectivity, speed and sensitivity to isolate faulty section and protect element(s) as per the CEA Technical Standards for Construction, the CEA Technical Standards for Connectivity, the CEA (Grid Standards) Regulations, 2010, the CEA Technical Standards for Communication and any other applicable CEA Standards specified from time to time. | **13] PROTECTION PROTOCOL**<br>All users connected to the integrated grid shall provide and maintain effective protection system having reliability, selectivity, speed and sensitivity to isolate faulty section and protect element(s) as per the CEA Technical Standards for Construction, the CEA Technical Standards for Connectivity, the CEA (Grid Standards) Regulations, 2010, the CEA Technical Standards for Communication and any other applicable CEA Standards specified from time to time. |
| 2 | 23.2.2 | Back-up protection shall be provided for required isolation/protection in the event of failure of the primary protection systems provided to meet the above fault clearance time requirements. If a Generating Unit is connected to the InSTS directly, it shall be capable of withstanding, until clearing of the fault by back-up protection on the InSTS side. | 13.2 | Back-up protection system shall be provided to protect an element in the event of failure of the primary protection system. | Back-up protection system shall be provided to protect an element in the event of failure of the primary protection system.<br>**If a Generating Unit is connected to the InSTS directly, it shall be capable of withstanding, until clearing of the fault by back-up protection on the InSTS side.** |

## PROPOSED MODIFICATIONS/CHANGES IN MEGC DRAFT:

| Sr. No. | MEGC Regulation-2020 | | IEGC Regulation-2023 | | Proposed Changes in MEGC draft (Approved by 9th PCC) |
|---|---|---|---|---|---|
| | Cl. No. | Regulation | Cl. No. | Regulation | |
| 3 | 23.3.1 | **23.3] Protection System**<br>Protection Systems shall be provided by all Transmission Licensees and Users to isolate the faulty equipment and protect the other components against all types of faults, internal/external to them, within specified fault clearance time with the reliability, selectivity and sensitivity: Provided that all Users or Transmission Licensees shall provide protection systems as specified by the Authority and the provisions of the protection code and Connection Agreement. | - | - | Protection Systems shall be provided by all Transmission Licensees and Users to isolate the faulty equipment and protect the other components against all types of faults, internal/external to them, within specified fault clearance time with the reliability, selectivity and sensitivity: Provided that all Users or Transmission Licensees shall provide protection systems and as per the provisions of the protection code/**Protection manual** and Connection Agreement. |
| 4 | 23.3.2 | Relay setting coordination shall be done at State level in coordination with the STU and with WRLDC/WRPC. | 13.3 | RPC shall develop the protection protocol and revise the same, after review from time to time, in consultation with the stakeholders in the concerned region, and in doing so shall be guided by the principle that minimum electrical protection functions for equipment connected with the grid shall be provided as per the CEA Technical Standards for Construction, the CEA Technical Standards for Connectivity, the CEA Technical Standards for Communication, the CEA (Grid Standards) Regulations, 2010, the CEA (Measures relating to Safety and Electric Supply) Regulations, 2010, and any other CEA standards specified from time to time. | RPC / **PCC** shall develop the protection protocol and revise the same, after review from time to time, in consultation with the stakeholders in the concerned region, and in doing so shall be guided by the principle that minimum electrical protection functions for equipment connected with the grid shall be provided as per the CEA Technical Standards for Construction, the CEA Technical Standards for Connectivity, the CEA Technical Standards for Communication, the CEA (Grid Standards) Regulations, 2010, the CEA (Measures relating to Safety and Electric Supply) Regulations, 2010, and any other CEA standards specified from time to time. |

## PROPOSED MODIFICATIONS/CHANGES IN MEGC DRAFT:

| Sr. No. | MEGC Regulation-2020 | | IEGC Regulation-2023 | | Proposed Changes in MEGC draft (Approved by 9th PCC) |
|---|---|---|---|---|---|
| | Cl. No. | Regulation | Cl. No. | Regulation | |
| 5 | | | 13.4 | The protection protocol in a particular system may vary depending upon operational experience. Changes in protection protocol, as and when required, shall be carried out after deliberation and approval of the concerned RPC. | The protection protocol in a particular system may vary depending upon operational experience. Changes in protection protocol, as and when required, shall be carried out after deliberation and approval of the concerned RPC / **PCC**. |
| 6 | | | 13.5 | Violation of the protection protocol of the region shall be brought to the notice of concerned RPC by the concerned RLDC or SLDC, as the case may be. | Violation of the protection protocol of the region shall be brought to the notice of concerned RPC/**PCC** by the concerned RLDC or SLDC, as the case may be. |
| 7 | 23.3.3 | All 220 kV and above stations shall have bus bar protection scheme, over flux, under voltage, over voltage relays and any other protection recommended by Regional PSCC of WRPC/STU. | - | - | **All EHV sub stations shall have protection scheme as per Protection manual and any other protection recommended by Regional Protection committee (RPC) and PCC.** |
| 8 | 23.3.4 | Users shall provide information to SLDC regarding installation and healthiness of protective equipment like df/dt relays etc., reactive compensation on UFR monthly basis. | - | - | Users shall provide information to SLDC regarding installation and healthiness of system defence mechanism (protective equipment) like df/dt relays, **islanding scheme, UVLS, LTS, GTS, UFR, SPS etc.** on monthly basis **before 5th of the every month.** |

## PROPOSED MODIFICATIONS/CHANGES IN MEGC DRAFT:

| Sr. No. | MEGC Regulation-2020 | | IEGC Regulation-2023 | | Proposed Changes in MEGC draft (Approved by 9th PCC) |
|---|---|---|---|---|---|
| | Cl. No. | Regulation | Cl. No. | Regulation | |
| 9 | | | 14.1 | **14] PROTECTION SETTINGS**<br>RPCs shall undertake review of the protection settings, assess the requirement of revisions in protection settings and revise protection settings in consultation with the stakeholders of the respective region, from time to time and at least once in a year. The necessary studies in this regard shall be carried out by the respective RPCs. The data including base case (peak and off-peak cases) files for carrying out studies shall be provided by RLDC and CTU to the RPCs. | RPC/**PCC** shall undertake review of the protection settings, assess the requirement of revisions in protection settings and revise protection settings in consultation with the stakeholders of the region, from time to time and at least once in a year. The necessary studies in this regard shall be carried out by the **RLDC/CTU/SLDC/STU**. The data including base case (peak and off-peak cases) files for carrying out studies shall be provided by RLDC and CTU to the RPCs. **The fault level data shall be provided by STU/CTU/RLDC/SLDC on yearly basis.** |
| 10 | | | 14.2 | All users connected to the grid shall:<br>(a) furnish the protection settings implemented for each element to respective RPC in a format as prescribed by the concerned RPC;<br>(b) obtain approval of the concerned RPC for (i) any revision in settings, and (ii) implementation of new protection system;<br>(c) intimate to the concerned RPC about the changes implemented in protection system or protection settings within a fortnight of such changes;<br>(d) ensure correct and appropriate settings of protection as specified by the concerned RPC.<br>(e) ensure proper coordinated protection settings. | All users connected to the grid shall:<br><br>(a) furnish the protection settings implemented for each element to respective RPC/PCC in a format as prescribed by the concerned RPC/PCC;<br>**(b) submit protection setting to PCC & obtain approval for**<br>(i) any revision in settings, and<br>(ii) implementation of new protection system;<br>(c) intimate to the concerned RPC/PCC about the changes implemented in protection system or protection settings within a fortnight of such changes;<br>(d) ensure correct and appropriate settings of protection as specified by the RPC/PCC.<br>(a) ensure proper coordinated protection settings. |

## PROPOSED MODIFICATIONS/CHANGES IN MEGC DRAFT:

| Sr. No. | MEGC Regulation-2020 | | IEGC Regulation-2023 | | Proposed Changes in MEGC draft (Approved by 9th PCC) |
|---|---|---|---|---|---|
| | Cl. No. | Regulation | Cl. No. | Regulation | |
| 14 | | | 16.1 | **16] SYSTEM PROTECTION SCHEME (SPS)** SPS for identified system shall have redundancies in measurement of input signals and communication paths involved up to the last mile to ensure security and dependability. | SPS for identified system shall have redundancies in measurement of input signals and communication paths involved up to the last mile to ensure security and dependability. |
| 15 | | | 16.2 | For the operational SPS, RLDC or NLDC, as the case may be, in consultation with the concerned RPC(s) shall perform regular load flow and dynamic studies and mock testing for reviewing SPS parameters & functions, at least once in a year. RLDC or NLDC shall share the report of such studies and mock testing including any short comings to respective RPC(s). The data for such studies shall be provided by CTU to the concerned RPC, RLDC and NLDC. | For the operational SPS, RLDC/NLDC/**SLDC,** as the case may be, in consultation with the RPC/**PCC** shall perform regular load flow and dynamic studies and mock testing for reviewing SPS parameters & functions, at least once in a year. RLDC/NLDC/**SLDC** shall share the report of such studies and mock testing including any short comings to RPC/**PCC.** The data for such studies shall be provided by CTU/**STU** to the concerned RLDC/NLDC/**SLDC**. |
| 16 | | | 16.3 | The users and SLDCs shall report about the operation of SPS immediately and detailed report shall be submitted within three days of operation to the concerned RPC and RLDC in the format specified by the respective RPCs. | The users shall report about the operation of SPS immediately and detailed report shall be submitted within three days of operation to the RPC/**PCC** and **SLDC/ALDC** in the format specified by the RPC/**PCC** and **may informed RLDC**. |
| 17 | | | 16.4 | The performance of SPS shall be assessed as per the protection performance indices specified in these Regulations. In case, the SPS fails to operate, the concerned User shall take corrective actions and submit a detailed report on the corrective actions taken to the concerned RPC within a fortnight. | The performance of SPS shall be assessed as per the protection performance indices specified in these Regulations. In case, the SPS fails to operate, the concerned User shall take corrective actions and submit a detailed report on the corrective actions taken to the RPC/ **PCC** within a fortnight. |

## PROPOSED MODIFICATIONS/CHANGES IN MEGC DRAFT:

| Sr. No. | MEGC Regulation-2020 | | IEGC Regulation-2023 | | Proposed Changes in MEGC draft (Approved by 9th PCC) |
|---|---|---|---|---|---|
| | Cl. No. | Regulation | Cl. No. | Regulation | |
| 18 | 25.1 | **25] System recording Instruments**: Recording instruments such as Data Acquisition System/Disturbance Recorder/ Event Logger/Fault Locator (including time synchronization equipment)/voice recorder/ any other such equipment in each generating station/substation/SLDC/ALDC shall be provided in the InSTS for recording of dynamic performance of the system and shall be maintained in working condition: Provided that all such locations shall be time synchronized with the Meter Data Acquisition Systems (MDAS) located at SLDC and same shall be ensured by periodic verification and validation procedure to be developed and monitored by the STU. | 17.1 | **17]RECORDING INSTRUMENTS** All users shall keep the recording instruments (disturbance recorder and event logger) in proper working condition. | All users shall keep the recording instruments (disturbance recorder and event logger) in proper working condition. |
| 19 | | | 17.2 | The disturbance recorders shall have time synchronization and a standard format for recording analogue and digital signals which shall be included in the guidelines issued by the respective RPCs. | The disturbance recorders shall have time synchronization and a standard format for recording analogue and digital signals which shall be included in the guidelines issued by the **PCC**/RPC. |

## PROPOSED MODIFICATIONS/CHANGES IN MEGC DRAFT:

| Sr. No. | MEGC Regulation-2020 | | IEGC Regulation-2023 | | Proposed Changes in MEGC draft (Approved by 9th PCC) |
|---|---|---|---|---|---|
| | Cl. No. | Regulation | Cl. No. | Regulation | |
| 20 | | | 17.3 | The time synchronization of the disturbance recorders shall be corroborated with the PMU data or SCADA event loggers by the respective RLDC. Disturbance recorders which are non- compliant shall be listed out for discussion at RPC | The time synchronization of the disturbance recorders shall be corroborated with the PMU data or SCADA event loggers by the RLDC/**SLDC**. Disturbance recorders which are non- compliant shall be listed out for discussion at RPC/**PCC**. |
| 21 | 46.2.1 | **46.2] Reporting Procedure**:<br>User or T/L licensee after having initially reported about the event orally to the SLDC shall provide a written report within 2 days of the occurrence of the event to the SLDC in accordance with Regulation 46.1.1. | 37.2 | **Event Reporting**:<br>Event reporting shall make available adequate data to facilitate event analysis.<br>(a) Immediately following an event (grid disturbance or grid incidence as defined in the CEA Grid Standards) in the system, the concerned user or SLDC shall inform the RLDC through voice message. | Event reporting shall make available adequate data to facilitate event analysis.<br>(a) Immediately following an event<br>grid disturbance or grid incidence as defined in the CEA Grid Standards) in the system, the concerned user shall inform the SLDC through voice message. **SLDC shall inform to RLDC if required.** |
| 22 | | | | (b) Written flash report shall be submitted to RLDC and SLDC by the concerned user within the time line specified in **Table 8** below. | (b) Written flash report shall be submitted to SLDC/ALDC/PCC by the concerned user within the time line specified in **Table 8**. |

## PROPOSED MODIFICATIONS/CHANGES IN MEGC DRAFT:

| Sr. No. | MEGC Regulation-2020 | | IEGC Regulation-2023 | | Proposed Changes in MEGC draft Remarks |
|---|---|---|---|---|---|
| | Cl. No. | Regulation | Cl. No. | Regulation | |
| 23 | | | 37.2 | (c) Disturbance Recorder (DR), station Event Logger (EL), Data Acquisition System (DAS) shall be submitted within the time line specified in Table 8 below. | (c) Preliminary report along with Disturbance Recorder (DR), station Event Logger (EL), Data Acquisition System (DAS) shall be submitted within the time line specified in **Table 8**. |
| 24 | | | | (d) RLDC shall report the event (grid disturbance or grid incidence) to CEA, RPC and all regional entities within twenty-four (24) hours of receipt of the flash report | (d) SLDC shall report the event (grid disturbance or grid incidence) to RLDC within twenty-four (24) hours of receipt of the flash report. |
| 25 | 46.2.2 | SLDC, after having initially reported about the event orally to the Users/Transmission Licensees, shall provide a written report within two weeks of the occurrence of the event to the concerned Users/Transmission Licensees. | | (e) After a complete analysis of the event, the user shall submit a detailed report in the case of grid disturbance or grid incidence within one (1) week of the occurrence of event to RLDC and RPC. | (e) After a complete analysis of the event, the user shall submit a detailed report in the case of grid disturbance or grid incidence within one (1) week of the occurrence of event to **SLDC**/RLDC/RPC/**PCC**. |

## PROPOSED MODIFICATIONS/CHANGES IN MEGC DRAFT:

| Sr. No. | MEGC Regulation-2020 | | IEGC Regulation-2023 | | Proposed Changes in MEGC draft (Approved by 9th PCC) |
|---|---|---|---|---|---|
| | Cl. No. | Regulation | Cl. No. | Regulation | |
| 26 | | | 37.2 | (f) RLDCs and NLDC (for events involving more than one region) shall prepare a draft report of each grid disturbance or grid incidence including simulation results and analysis which shall be discussed and finalized at the Protection sub committee of RPC as per the timeline specified in Table-8 below. | (f) SLDC (for events involving more than one user) shall prepare a draft report of each grid disturbance or grid incidence **for GD category-2 & above** including simulation results and analysis which shall be discussed and finalized at the Protection sub- committee of RPC/**PCC** as per the timeline specified in **Table 8**. |
| 27 | | | | (g) The implementation of the recommendations of the final report shall be monitored by the protection sub-committee of the RPC. NLDC shall disseminate the lessons learnt from each event to all the RPCs for necessary action in the respective regions. | (g)The implementation of the recommendations of the final report shall be monitored by the Protection sub-committee of RPC/**GCC** (i.e. PCC). NLDC/**RLDC**/**SLDC** shall disseminate the lessons learnt from each event to all the RPCs/**PCC** for necessary action in the respective regions. |

| Sr. No. | MEGC Regulation-2020 | | IEGC Regulation-2023 | | Proposed Changes in MEGC draft (Approved by 9th PCC) |
|---|---|---|---|---|---|
| | Cl. No. | Regulation | Cl. No. | Regulation | |
| 28 | | | 37.2 | (h) Any additional data such as single line diagram (SLD) of the station, protection relay settings, HVDC transient fault record, switchyard equipment and any other relevant station data required for carrying out analysis of an event by RPC, NLDC, RLDC and SLDC shall be furnished by the users including RLDC and SLDC, as the case may be, within forty- eight (48) hours of the request. All users shall also furnish high-resolution analog data from various instruments including power electronic devices like HVDC, FACTS, renewable generation (inverter level or WTG level) on the request of RPCs, NLDC, RLDCs or SLDCs. | (h) Any additional data such as single line diagram (SLD) of the station, protection relay settings, HVDC transient fault record, switchyard equipment and any other relevant station data required for carrying out analysis of an event by RPC/PCC, NLDC, RLDC and SLDC shall be furnished by the users including RLDC and SLDC, as the case may be, within forty- eight (48) hours of the request. All users shall also furnish high-resolution analog data from various instruments including power electronic devices like HVDC, FACTS, renewable generation (inverter level or WTG level) on the request of RPCs, NLDC, RLDCs or SLDCs. |

## PROPOSED MODIFICATIONS/CHANGES IN MEGC DRAFT:

| Sr. No. | MEGC Regulation-2020 | | IEGC Regulation-2023 | | Proposed Changes in MEGC draft (Approved by 9th PCC) |
|---|---|---|---|---|---|
| | Cl. No. | Regulation | Cl. No. | Regulation | |
| 29 | | | 37.2 | (i) Triggering of STATCOM, TCSC, HVDC run-back, HVDC power oscillation damping, generating station power system stabilizer and any other controller system during any event in the grid shall be reported to the concerned RLDC and RPC if connected to ISTS and to the concerned SLDC if connected to an intra- state system. The transient fault records and event logger data shall be submitted to the concerned RLDC or SLDC within 24 hours of the occurrence of the incident. Generating stations shall submit 1 second resolution active power and reactive power data recorded during oscillations to the concerned RLDC or SLDC within 24 hours of the occurrence of the oscillations. | (i) Triggering of STATCOM, TCSC, HVDC run back, HVDC power oscillation damping, generating station power system stabilizer and any other controller system during any event in the grid shall be reported to the concerned RLDC/SLDC and RPC/PCC if connected to ISTS and to the concerned SLDC if connected to an intra- state system. The transient fault records and event logger data shall be submitted to the concerned RLDC/SLDC within 24 hours of the occurrence of the incident. Generating stations shall submit 1 second resolution active power and reactive power data recorded during oscillations to the RLDC or SLDC within 24 hours of the occurrence of the oscillations. |
| 30 | | | | (j) A monthly report on events of unintended operation or non- operation of the protection system shall be prepared and submitted by each user [owner of important elements as identified at sub-clause (b) of clause (2) of Regulation 29 of these regulations] to the concerned RPC and RLDC within the first week of the subsequent month. | (j) A monthly report on events of unintended operation or non-operation of the protection system shall be prepared and submitted by each user [owner of important elements as identified at sub-clause (b) of clause (2) of Regulation 29 of these regulations] to the concerned RPC/PCC and RLDC/SLDC within the first week of the subsequent month. |

| Sr. No. | MEGC Regulation-2020 | | IEGC Regulation-2023 | | Proposed Changes in MEGC draft (Approved by 9th PCC) |
|---|---|---|---|---|---|
| | Cl. No. | Regulation | Cl. No. | Regulation | |
| 31 | 46.2.3 | **Reporting Procedure**:<br>A written report shall be sent to SLDC or Users/Transmission Licensees, as the case may be, and shall confirm the oral notification together with the following details of the event:<br>a)Time and date of the event;<br>b) Location;<br>c)Plant and/or Equipment directly involved;<br>d) Description and cause of event;<br>e) Antecedent conditions;<br>f) Demand and/or Generation (in MW) interrupted and duration of interruption;<br>g) All relevant system data including copies of records of all recording Instruments including Disturbance h)Recorder, Event Logger and Data Acquisition System;<br>i) Sequence of tripping with time;<br>j) Details of Relay Flags; k)Remedial measures; and Any other related information. Provided that SLDC shall develop standard reporting, format considering information mentioned in 46.1.1 and as agreed by the GCC. Such formats shall be made available on the SLDC website. | -- | --- | A written report shall be sent to SLDC or Users/Transmission Licensees, as the case may be, and shall confirm the oral notification together with the following details of the event:<br>a) Time and date of the event;<br>b) Location;<br>c) Plant and/or Equipment directly involved;<br>d) Description and cause of event;<br>e) Antecedent conditions;<br>f) **Loading Conditions Pre and Post of the Event**<br>g) Demand and/or Generation (in MW) interrupted and duration of interruption;<br>h) All relevant system data including copies of records of all recording Instruments including Disturbance<br>i) Recorder, Event Logger and Data Acquisition System;<br>j) Sequence of tripping with time;<br>k) **Sequence of restorations with time;**<br>l) Details of Relay Flags;<br>m) **Single line diagrams with details as connected bays, involved & adjacent elements .bus configurations, nature & location of fault, load flows, other relevant info.**<br>n) **Single line diagrams of the grid (network involved)**<br>o) **Mention of last Protections Audit (Third Party/Internal) carried out.**<br>n) Remedial measures; and Any other related information. |

## PROPOSED MODIFICATIONS/CHANGES IN MEGC DRAFT:

| Sr. No. | MEGC Regulation-2020 | | IEGC Regulation-2023 | | Proposed Changes in MEGC draft (Approved by 9th PCC) |
|---|---|---|---|---|---|
| | Cl. No. | Regulation | Cl. No. | Regulation | |
| 32 | 66.2 | **Protection Code:**<br>**66] General**:<br>Electrical equipment or part of electrical equipment shall be allowed to remain connected to the InSTS only if it shall be provided by minimum specified protection aimed at reliability, selectivity, speed, stability, and sensitivity. | -- | --- | Electrical equipment or part of electrical equipment shall be allowed to connect & to remain connected to the InSTS only if it shall be provided by minimum specified protection aimed at reliability, selectivity, speed, stability, and sensitivity. |
| 33 | 66.9 | h) Protection Audit; and<br>i) Any other provisions that STU deem fit as required for the system. | 15.1 | 15] **PROTECTION AUDIT PLAN**<br>All users shall conduct internal audit of their protection systems annually, and any shortcomings identified shall be rectified and informed to their respective RPC. The audit report along with action plan for rectification of deficiencies detected, if any, shall be shared with respective RPC for users connected at 220 kV and above (132 kV and above in NER). | All users shall conduct internal audit **of all EHV sub station** & their protection systems annually, and any shortcomings identified shall be rectified and informed to their respective RPC/**PCC/SLDC**. The audit report along with action plan for rectification of deficiencies detected, if any, shall be shared with respective RPC/**PCC/SLDC**. |

## PROPOSED MODIFICATIONS/CHANGES IN MEGC DRAFT:

| Sr. No. | MEGC Regulation-2020 | | IEGC Regulation-2023 | | Proposed Changes in MEGC draft (Approved by 9th PCC) |
|---|---|---|---|---|---|
| | Cl. No. | Regulation | Cl. No. | Regulation | |
| 34 | | | 15.2 | All users shall also conduct third party protection audit of each sub-station at 220 kV and above (132 kV and above in NER) once in five years or earlier as advised by the respective RPC. | All users shall also conduct third party protection audit of each sub-station at 220 kV and above **(110 kV and above in Mumbai & Mumbai suburban city area)** once in five years or earlier as advised by the respective RPC/PCC. |
| 35 | | | 15.3 | After analysis of any event, each RPC shall identify a list of substations / and generating stations where third-party protection audit is required to be carried out and accordingly advise the respective users to complete third party audit within three months. | After analysis of any event, RPC/**PCC** shall identify a list of substations / and generating stations where third-party protection audit is required to be carried out and accordingly advise the respective users to complete third party audit within three months. |
| 36 | | | 15.4 | The third-party protection audit report shall contain information sought in the format enclosed as **Annexure–1.** The protection audit reports, along with action plan for rectification of deficiencies detected, if any, shall be submitted to the respective RPC and RLDC or SLDC, as the case may be, within a month of submission of third party audit report. The necessary compliance to such protection audit report shall be followed up regularly in the respective RPC. | The third-party protection audit report shall contain information sought in the format enclosed as **Annexure–1**. The protection audit reports, along with action plan for rectification of deficiencies detected, if any, shall be submitted to the RPC/**PCC** and RLDC or SLDC, as the case may be, within a month of submission of third party audit report. The necessary compliance to such protection audit report shall be followed up regularly in the respective RPC/**PCC**. |

## PROPOSED MODIFICATIONS/CHANGES IN MEGC DRAFT:

| Sr. No. | MEGC Regulation-2020 | | IEGC Regulation-2023 | | Proposed Changes in MEGC draft (Approved by 9th PCC) |
|---|---|---|---|---|---|
| | Cl. No. | Regulation | Cl. No. | Regulation | |
| 37 | | | 15.5 | Annual audit plan for the next financial year shall be submitted by the users to their respective RPC by 31st October. The users shall adhere to the annual audit plan and report compliance of the same to their respective RPC. | Annual audit plan for the next financial year shall be submitted by the users to RPC/PCC/SLDC/STU by 31st October. The users shall adhere to the annual audit plan and report compliance of the same to RPC/PCC/SLDC/STU. |
| 38 | | | 15.6 | Users shall submit the following protection performance indices of previous month to their respective RPC and RLDC on monthly basis for 220 kV and above (132 kV and above in NER) system, which shall be reviewed by the RPC: | Users shall submit the following protection performance indices of previous month to RPC/PCC & RLDC/SLDC on monthly basis for 220 kV and above system, which shall be reviewed by the RPC/PCC/RLDC/SLDC: |
| | | | | (a) The Dependability Index defined as<br>$D = Nc / Nc+Nf$<br>where,<br>Nc is the number of correct operations at internal power system faults and<br>Nf is the number of failures to operate at internal power system faults. | (a) The Dependability Index defined as<br>(b) $D = Nc / Nc+Nf$<br>where,<br>Nc is the number of correct operations at internal power system faults and<br>Nf is the number of failures to operate at internal power system faults. |
| | | | | (b) The Security Index defined as<br>$S = Nc / Nc+Nu$<br>Where, Nc is the number of correct operations at internal power system faults and<br>Nu is the number of unwanted operations. | (b) The Security Index defined as<br>$S = Nc / Nc+Nu$<br>Where, Nc is the number of correct operations at internal power system faults and<br>Nu is the number of unwanted operations. |

## PROPOSED MODIFICATIONS/CHANGES IN MEGC DRAFT:

| Sr. No. | MEGC Regulation-2020 | | IEGC Regulation-2023 | | Proposed Changes in MEGC draft (Approved by 9th PCC) |
|---|---|---|---|---|---|
| | Cl. No. | Regulation | Cl. No. | Regulation | |
| | | | | (c) The Reliability Index defined as<br>$R = Nc / Nc+Ni$<br>Where, Nc is the number of correct operations at internal power system faults and<br>Ni is the number of incorrect operations and is the sum of Nf and Nu | (c) The Reliability Index defined as<br>$R = Nc / Nc+Ni$<br>Where, Nc is the number of correct operations at internal power system faults and<br>Ni is the number of incorrect operations and is the sum of Nf and Nu |
| 39 | | | 15.7 | Each user shall also submit the reasons for performance indices less than unity of individual element wise protection system to the respective RPC and action plan for corrective measures. The action plan will be followed up regularly in the respective RPC. | Each user shall also submit the reasons for performance indices less than unity of Individual element wise protection system to the respective RPC/PCC and action plan for corrective measures. The action plan will be followed up regularly in the respective RPC/PCC. |
| 40 | | | 15.8 | In case any user fails to comply with the protection protocol specified by the RPC or fails to undertake remedial action identified by the RPC within the specified timelines, the concerned RPC may approach the Commission with all relevant details for suitable directions. | In case any user fails to comply with the protection protocol specified by the RPC/PCC or fails to undertake remedial action identified by the RPC/PCC within the specified timelines, the concerned RPC/PCC may approach the Commission with all relevant details for suitable directions. |

**TABLE 8 : REPORT SUBMISSION TIMELINE**

| Sr. No. | Grid Event^ (Classification) | Flash report submission deadline (users/ SLDC) | Disturbance record and station event log submission deadline (users/ SLDC) | Detailed report and data submission deadline (users/ SLDC) | Draft report submission deadline (RLDC/ NLDC) | Discussion in protection committee meeting and final report submission deadline (RPC) |
|---|---|---|---|---|---|---|
| 1 | GI-1/GI-2 | 8 hours | 24 hours | +7 days | +7 days | +60 days |
| 2 | Near miss event | 8 hours | 24 hours | +7 days | +7 days | +60 days |
| 3 | GD-1 | 8 hours | 24 hours | +7 days | +7 days | +60 days |
| 4 | GD-2/GD-3 | 8 hours | 24 hours | +7 days | +21 days | +60 days |
| 5 | GD-4/GD-5 | 8 hours | 24 hours | +7 days | +30 days | +60 days |
| ^The classification of Grid Disturbance (GD)/Grid Incident (GI) shall be as per the CEA Grid Standards. | | | | | | |

# Thank You…!