



**MAHARASHTRA STATE ELECTRICITY TRANSMISSION COMPANY LIMITED
(CIN NO U40109MH2005SGC153646)**

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MSETCL/CO/STU/Sys/MTC/

Date:

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129 OCT 2024

To,
As per mailing list

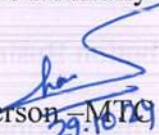
Sub: Minutes of 11th Maharashtra Transmission Committee (MTC) meeting held on 16 Oct, 2024.

Please find enclosed herewith minutes of the 11th Maharashtra Transmission Committee (MTC) meeting held on 16 Oct 2024 at 11:00 Hrs. This meeting was hosted by TPC-T at Vikhroli Receiving Station.

It is to be noted that the minutes of above meeting are also available on website www.mahatransco.in in STU section.

Thanking you.

Yours faithfully


Chairperson - MTC And
Chief Engineer (STU)

Copy s.w.r. to:

- 1) The Director (Operations), CO, MSETCL, Mumbai

List of MTC Members

Sr. No.	Name of Organization	Name of Nominee & Designation	Committee position	Email ID
1	State Transmission Utility (STU)	Chief Engineer-STU	Chairperson	CESTU@mahatransco.in
2	State Transmission Utility (STU)	Superintending Engineer -STU	Member Convener	sesys@mahatransco.in
3	SLDC	Chief Engineer-SLDC	Member	cesldc@mahatransco.in
4	MSETCL	Superintending Engineer (O&M)	Member	selom@mahatransco.in
5	MSEDCL	Chief Engineer (Distribution), CO, Mumbai	Member	cedist@mahadiscom.in
6	MSPGCL	Rahul Sohani (Superintending Engineer)	Member	cegwmahagenco.in, seest1@mahagenco.in
7	Maharashtra eastern grid Power Transmission co Ltd	Atul Sadaria	Member	atulj.sadaria@adani.com
8	Adani Electricity Mumbai Ltd. (Transmission Business)	Rakesh Raj (Head Planning – AEML Transmission)	Member	rakesh.raj2@adani.com
9	Tata Power Co. Ltd.- Mumbai- Transmission	Sh. Kiran Desale (Head-Transmission)	Member	desalekv@tatapower.com gstawre@tatapower.com
10	Central Railway	S.S.Parihar (M Chief Electrical Engineer/Electrical Energy Management/CR)	Member	dyceetrdcrly@gmail.com
11	M/s Tata Power Company Ltd. (Distribution)	S. Savarkar	Member	svsavarkar@tatapower.com
12	Adani Electricity Mumbai Ltd. (Distribution Business)	Abaji Naralkar (Asst. Vice President)	Member	abaji.naralkar@adani.com
13	BEST Undertaking	Smt. Manisha Krupanand Daware.Divisional Engineer (Project)	Member	depro@bestundertaking.com
Additional Member:				
1	MSETCL	Superintending Engineer (Project Scheme-I)	Member	SE1prj@mahatransco.in

Minutes of the 11th Maharashtra Transmission Committee (MTC) Meeting held on 16 Oct, 2024 at TPC-T, Vikhroli Receiving Station.

The 11th Maharashtra Transmission Committee (MTC) meeting was held on 16th Oct, 2024 at TPC-T, Vikhroli Receiving Station. The Chief Engineer (STU), Chairman of MTC, presided over the meeting. Representatives of MSETCL, MSEDCL, TPC-T, AEML-T, MEGPTCL, BEST representative attended meeting.

On the onset Superintending Engineer (STU), Member convener of MTC, welcomed all the MTC members present & other participants in the 11th MTC meeting. After brief introduction of the participants, SE (STU) Member convener of MTC, informed the agenda points of 11th MTC to presented Members.

Agenda Point No. 1:

Confirmation of minutes of the 10th MTC Meeting

The SE (STU) Member convener of MTC, informed that minutes of the 10th MTC meeting held on 10 July, 2024 were circulated to all the members vide STU Letter No. 4842 Dated 29 July, 2024. AEML-T requested for partial correction in Agenda AD15 in AEML-T submission. Therefore, following para of AD15 is partially modified & shall be read as below:

Earlier	Modified
..The fault was on a common point of Bus-1 Isolator & TR-2. The fault was seen by both buses within 27 Sec.	..The fault was on a common point of Bus-1 Isolator (normally open) & TR-2. The fault was seen by both buses within 27 Milliseconds.

Further, no more comments are received from members, and hence requested to conform the MOM of the 10th MTC Meeting. With the consent of the members present the Minutes of 10th MTC meeting held on 16 Oct, 2024 are confirmed.

Agenda Point No. 2:

Replacement of existing 0.2 ASCR Conductor along with hardware by HTLS conductor of 132kV Khapri-Buttibori ckt I & II and replacement of 21 nos. of 132kV CTs with allied works at 220kV Buttibori & 132kV Khapri s/s under RS O&M Division, Nagpur

MSETCL representative placed before the MTC a proposal for the Replacement of existing 0.2 ASCR Conductor along with hardware by HTLS conductor of 132kV Khapri-Buttibori ckt I &

II and replacement of 21 nos. of 132kV CTs with allied works at 220kV Buttibori & 132kV Khapri s/s under RS O&M Division, Nagpur

a) 220 kV Butibori S/s

MSETCL representative explained that 220 kV Butibori S/s is commissioned in 1994. The Sub-station Feeding Nagpur Ring main Sub-stations via 132KV Butibori-1-Khapri I & II ckt under Nagpur district Butibori Industrial MIDC. 132KV Butibori-1-Khapri I & II ckt commissioned on dt 30.10.2010 & 28.12.2010 respectively. 220 kV Butibori -1 substation is connected to M/s VIPL generation and this feeder evacuating VIPL generation.

MSETCL representative highlighted that being directly connected to generation the voltage is higher than other sub stations which are feeding Nagpur Ring Main which results in loading of ICTs above 75% of its installed capacity. There is approximate 10% rise of load on ICTs annually. At present there are various schemes operated by MSEDCL such as additional Infra-II, DDUGJY, East vidharbha, Infra 1, IPDS & Smart City under which various feeders are sanctioned and shall be charged in future at various sub stations under Nagpur Ring Main. Also there is load of Nagpur Metro railway. This will result in increase in loading on ICTs at 220 kV Butibori -1 sub-station.

132kV Khapri S/s :

MSETCL representative submitted that this substation was commissioned in 2005. 132kV Khapri-Butibori Ckt-1 and Ckt-2 are the main source of supply for 132kV Khapri S/S. 132KV Khapri-Hingna – 2 Circuit generally exports power from Khapri S/S and 132kV Khapri-Besa Ckt always export power from Khapri SS and this line is the main source of supply to 132kV Besa SS which is one of the loaded SS of R.S. Ring main Division, Nagpur.

MSETCL representative highlighted that the existing 0.2 ACSR Panther conductor of both 132kV Khapri-Butibori Ckt-1 and Ckt-2 is having thermal capacity of 487 Amps. The maximum monthly load on 132kV Khapri - Butibori Ckt-1 and Ckt-2 during last four years has reached 90% of its thermal capacity.

MSETCL representative further added that maximum current on each of these lines in the year 2024 is approximately 365 Amp (i.e. 730 Amp in total) hence in case of either of the circuit trip on fault / remain under shutdown during peak load period, the other circuit will be overloaded & may lead to tripping of the 2nd ckt due to overloading, which will result into failure of major source of supply to 132 kV Khapri SS and further 132 kV Besa S/s.

Brief scope of work:

- i) Replacement of existing 0.2 ACSR conductor along with hardware by High Ampacity current carrying Conductor in r/o 132kV Khapri Butibori Ckt I & Khapri-Butibori Ckt II and allied works at 132kV Khapri S EHV (O&M) Circle Nagpur. (2 x 21.27 kM = 42.54 CkM)

- ii) Replacement of 21 Nos. of existing 132kV CTs 800-400/1A-5C by 1600-800/1A, 5C at both the S/stn. (02 Nos. ICT LV bays, 01 Nos. TBC, 02 Nos Line Bays at Butibori SStn & 02 Nos Line Bays at Khapri Sstn)

MSETCL representative highlighted benefits of scheme:

- 1) The Capacity of the said corridor will be increased.
- 2) Criteria of N-1 system compliance will be addressed.
- 3) Reduction in interruptions/tripping & occurrences..
- 4) Reliability and availability of the system will be improved.
- 5) Life enhancement of existing lines.

The Estimated cost of the scheme is **Rs. 3050.26 Lakh**. This scheme will commissioned in **FY 2026-27**.

In order to meet the present & future load requirement, N-1 compliance & enhance system reliability and stability after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval.

Agenda point no. 3:

Replacement of existing conductor with High Ampacity Conductor of 132kV Manmad-Pimperkhed (Length=36.43 Ckm)

MSETCL representative proposed & presented the proposal for “Replacement of existing conductor with High Ampacity Conductor of 132kV Manmad-Pimperkhed (Length=36.43 Ckm”).

MSETCL representative highlighted that this 220/132/33kV Manmad substation is having source from 220kV Malegaon through D/C line and at 132kV level 220/132/33kV Manmad substation is connected to 132kV Chalisgaon, 132kV Pimperkhed, 132kV Chandwad and 132kV Lasalgaon s/s through S/C line and 132kV Yeola s/s through D/C line.

MSETCL representative explained that these substations are majorly catering agricultural load, Industrial area, Railway TSS, Manmad city as well as rural area. 132kV Manmad-Pimperkhed line is to be connected to 50MW Solar Power plant proposed by M/s Chordiya & Sons Builders and Developers (P) Ltd. through LILO arrangement.

MSETCL representative also added that 50MW solar generation is also proposed by M/s FPEL at nearby vicinity of 200/132kV Manmad s/s. With this proposed additional 50MW solar

generation and during N-1 contingency, 132kV Manmad-Pimperkhed line gets overloaded above its thermal capacity. As per existing situation, capacity of the 132kV Manmad-Pimperkhed line is not sufficient to sustain the load of all these areas i.e. 132kV Lasalgaon, 132kV Chandwad, 132kV Ranwad, Railway TSS and proposed RE evacuation. The max loading reached on this line in 2023 is 420 Amp.

In view of up-coming agriculture load (10% per year), proposed solar generation evacuation and Industrial growth, the strengthening of 132kV Manmad-Pimperkhed line is essential and important.

Brief scope of work:

Replacement of existing 0.2 ACSR conductor along with hardware by High Ampacity current carrying Conductor in r/o 132kV Manmad - Pimperkhed (Length=36.43 Ckm)

MSETCL representative submitted that following benefits will be received after implementation of scheme:

- 1) The Capacity of the said corridor will be increased.
- 2) Criteria of N-1 system compliance will be addressed.
- 3) Load trimming due to tripping will be eliminated.
- 4) Reduction in interruptions/tripping & occurrences..
- 5) Reliability and availability of the system will be improved.
- 6) Life enhancement of existing line.

The Estimated cost of the scheme is **Rs. 2286.37 Lakh**. The scheduled commissioning year for the scheme is **FY 2025-26**.

In order to meet the present & future load requirement, for evacuation of upcoming RE generation, to address the N-1 compliance & enhance system reliability and stability after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval.

Agenda Point No. 4:

Replacement of existing conductor with High Ampacity Conductor of 220kV Malegaon-Shivajinagar (Length=113 Ckm)

MSETCL representative placed before the MTC a proposal for “Replacement of existing conductor with High Ampacity Conductor of 220kV Malegaon-Shivajinagar (Length=113 Ckm)”.

MSETCL representative explained that the Malegaon City, rural area and industrial pockets are fed by 220kV Malegaon Substation, which has source from 400kV Dhule and 220kV Shivajinagar, which is solar generation attached Substation. Total Solar power generation at Shivajinagar is 125MW from MAHAGENCO, 100MW from M/s. Orange power, 5MW from M/s. Varroc.

MSETCL representative submitted that Upcoming solar generation at Shivajinagar is about 50MW from MAHAGENECO & 100MW from Private Generators. 220kV Malegaon-Shivajinagar line is crucial for evacuating this solar power. The 220kV Malegaon-Shivajinagar line existing conductor is 0.4 ACSR Zebra having current carrying capacity of 737 Amp at 75°C. The max load reached on this line during 2023 is 534Amp. Considering future load growth and increasing Solar and Wind Power generation, more power will be needed to evacuate at 220kV Malegaon sub-station.

MSETCL Representative added that discom authority is implementing various schemes for Agricultural & Industrial connections. This increasing trend requires adequate system strengthening.

MSETCL representative highlighted benefits of scheme:

- 1) The Capacity of the said corridor will be increased.
- 2) Criteria of N-1 system compliance will be addressed.
- 3) Reduction in interruptions/tripping & occurrences..
- 4) Reliability and availability of the system will be improved.
- 5) Life enhancement of existing line.

The Estimated cost of the scheme is **Rs. 9813.60 Lakh**. The scheduled commissioning year for the cited scheme is **FY 2025-26**.

In order to facilitate evacuation of upcoming RE generation in Shivajinagar – Gangapur – Satana - Malegaon Pocket, to address the overloading problems, enhance system reliability and stability after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval.

Agenda Point No. 5:

Replacement of existing conductor with High Ampacity Conductor of 220kV Gangapur-Satana (Length=111 Ckm)

MSETCL representative placed before the MTC a proposal for “Replacement of existing conductor with High Ampacity Conductor of 220kV Gangapur-Satana (Length=111 Ckm)”

MSETCL representative explained that wind power generation capacity is around 300MW at Gangapur S/S, 200MW at Valve S/S, 400MW at Jamde S/S. 220kV Gangapur S/S is one of the major source for 220kV Satana S/S through 220kV Gangapur-Satana line. For 220kV Gangapur-Satana line, existing conductor is 0.4 ACSR Zebra having current carrying capacity of 737 Amp at 75°C. The max loading reached on this line in 2023 is 561 Amp. Considering future load growth and increasing Solar and Wind Power generation, more capacity will be needed to evacuate RE power at 220kV Satana S/S.

MSETCL representative highlighted that DISCOM authority is implementing various schemes for Agricultural & Industrial connections. This increasing trend needs system strengthening. Therefore, considering all above aspects and in order to cater the present and future upcoming loads, the higher capacity conductor is required. Hence, the Proposal is put up for approval from the MTC Committee by MSETCL.

The estimated cost of the scheme is Rs. 9759.60 Lakh. The cited work proposes to be commissioned in FY 2025-26.

In order to facilitate evacuation of upcoming RE generation in Shivajinagar – Gangapur – Satana - Malegaon Pocket, to address the overloading problems, enhance system reliability and stability after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval.

Agenda Point No. 6 & 7:

6. Replacement of existing conductor with High Ampacity Conductor of 132kV Khadka - Juniper Solar (Tighre) Line (Length=39.58 ckm)

7. Replacement of existing conductor with High Ampacity Conductor of 132kV Malkapur - Juniper Solar (Tighre) Line (Length=10.68 ckm)

MSETCL representative placed before the MTC a proposal for “Replacement of existing conductor with High Ampacity Conductor of 132kV Khadka - Juniper Solar (Tighre) Line (Length=39.58 ckm)

&

“Replacement of existing conductor with High Ampacity Conductor of 132kV Malkapur - Juniper Solar (Tighre) Line (Length=10.68 ckm)”

MSETCL representative explained that due to the solar power projects proposed in Malkapur, Buldhana, Motala and Chikhali area, there will be overloading of 132kV Juniper solar-Varangaon tap-Khadka line. The max loading reached on this line in 2023 is 350 Amp.

MSETCL representative highlighted that following RE generation coming:

Sr No.	Solar Power Park proposed by	Solar Power Park proposed at	Proposed MW
1	M/s. FPEL Solvin (P) Ltd.	Wiwara & vicinity, Tal: -Malkapur, Dist: Buldhana	150
2	M/s. Energevo Lights LPP	Pimpalgaon Sarai, Raipur & vicinity Tal: - Chikhali, Dist: Buldhana	200
3	M/s. Kalpak Powers (P) Ltd.	Vivara Shivar & vicinity, Tal: -Malkapur, Dist.: Buldhana	30
4	M/s. Cyclic Energy Power Pvt. Ltd.	Motala, Tal: -Motala, Dist: Buldhana	100
5	M/s. Maha Solar Park	Khamgaon & vicinity Tal: -Khamgaon, Dist.: Buldhana	80
6	M/s. Energevo Saurya MH Tree LLP	Jalgaon Jamod, Rajura & vicinity Tal: - Jalgaon Jamod, Dist.: Buldhana	80
TOTAL			640MW

As per MSETCL submission, in view of upcoming solar Mahasolar and RE potential in this area and future loading of 132kV Khadka-Juniper solar line, 132kV Malkapur-Juniper solar line is necessary.

However SE, STU informed that the under the GC issued to **M/s MahaSolar (RE Developer)** Park includes the conversion of 132kV Khadka-Juniper HTLS (40km) within scope of developer & the developer has also submitted readiness to execute the same. It is thus suggested to review and remove the scheme of “132kV Khadka - Juniper Solar (Tighre) Line” from MSETCL proposal. As such only 132kV Malkapur-Juniper is to be carried out by MSETCL. MSETCL agreed to do the same.

The Cost of the Scheme for **132kV Malkapur-Juniper Solar (Tighre) Line** is ₹ 1313.15 Lakhs. The work will be commissioned in FY 2025-26.

After detailed deliberation and discussion in MTC, scheme of Replacement of existing conductor with High Ampacity Conductor of 132kV Khadka - Juniper Solar (Tighre) Line (Length=39.58 ckm) has been deferred by MTC. Further, In order to facilitate evacuation of upcoming RE generation in Malkapur Taluka Dist: Buldhana, to address the overloading problems, enhance system reliability and stability after detailed deliberation and discussion, the committee recommended the scheme of “132kV Malkapur-Juniper Solar (Tighre) Line” for submission to GCC for approval.

Agenda Point No. 8:

Replacement of existing conductor with High Ampacity Conductor of 220kV Gangapur-Shivajinagar (Length= 75 ckm)

MSETCL representative placed before the MTC a proposal for “Replacement of existing conductor with High Ampacity Conductor of 220kV Gangapur- Shivajinagar (Length= 75 ckm)”.

MSETCL representative submitted that 220kV Gangapur s/s is having existing 225MW Wind Generation connected. Recently, Grid connectivity is given for the proposed 200MW solar generation of M/s Ampyr Renewable Energy Sources Twelve Pvt. Ltd.

MSETCL representative added that max loading reached on this line in 2023 is 375 Amp. In order to resolve the overloading problem, as well as for solar generation evacuation, the

replacement proposal of existing 0.4 Zebra conductor by adequate High Performance Conductor (HPC) is proposed.

MSETCL representative highlighted benefits of scheme as follows:

- 1) The Capacity of the said corridor will be increased.
- 2) Criteria of N-1 system compliance will be addressed.
- 3) Load trimming due to tripping will be eliminated.
- 4) Reduction in interruptions/tripping & occurrences..
- 5) Reliability and availability of the system will be improved.
- 6) Life enhancement of existing line.

The cost of the scheme is ₹ 7872.01 Lakh. The scheduled commissioning year for this scheme is FY 2025-26.

SE STU mentioned that even though present loadings of the lines are seem to be well within permissible limits, in order to facilitate evacuation of upcoming RE generation in Shivajinagar – Gangapur – Satana - Malegaon Pocket, the proposed scheme is essential as entire pocket is having high RE generation potential and adequate Transmission network is essential for evacuation.

In order to facilitate the present & future RE power generation evacuation arrangements, and to address the anticipated overloading problems, enhance system reliability and stability after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval.

Agenda Point No. 9

Replacement of existing conductor with High Ampacity Conductor of 132kV Shivajinagar-Sakri –Dhule (Length= 80ckm)

MSETCL representative placed before the MTC a proposal for “Replacement of existing conductor with High Ampacity Conductor of 132kV Shivajinagar-Sakri –Dhule (Length= 80ckm)”.

MSETCL representative explained that 132kV Sakri Substation is generation attached substation with 06 numbers of 33kV wind generation feeders. At present, against 88 MW of sanctioned provision, 61.71 MW (approx.) power is being evacuated from these feeders. The max loading reached on this line in 2023 is 390 Amp. Similarly, 220kV Shivajinagar substation is also important Grid connected substation attached with 230 MW Generation (i.e. 130MW

power is evacuated from 5X33 kV solar generation feeders of MAHAGENCO and 01 no of 33kV Variac Feeder and 100MW from 02 X132kV Greenraj solar generation).

MSETCL representative highlighted that recently three Solar Power Generation Projects proposed by M/s. Hauban Pvt. Ltd, M/s. Juniper Green Field Pvt. Ltd. and M/s. Soleco solar of 70MW, 70MW and 50MW respectively are envisaged as LILO on existing 132kV Dhule-Shivajinagar (S/C) line. Further, 70MW generation is proposed by MAHAGENCO. Hence, to evacuate the solar generation, it is necessary to increase the capacity of 132kV Shivajinagar-Dhule line, the scheme for replacement of old conductor with HPC (High Performance Conductor) for 132kV Dhule-Shivajinagar Line and 132kV Shivajinagar-Sakri Line by HPC (High Performance Conductor) is necessary.

The cost of the Scheme is Rs. 6144.15 Lakh. Cited Work will be commissioned in FY 2025-26.

In order to facilitate evacuation of upcoming RE generation in Shivajinagar – Dhule – Sakri- Pocket, to address the overloading problems, enhance system reliability and stability after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval.

Agenda Point No. 10:

Replacement of existing conductor with High Ampacity Conductor of 132kV Manmad-Chalisingaon (Length=72.7 ckm)

MSETCL representative placed before the MTC a proposal for “Replacement of existing conductor with High Ampacity Conductor of 132kV Manmad-Chalisingaon (Length=72.7 ckm)”

MSETCL representative explained that 132 kV Manmad-Chalisingaon line was commissioned in the year 1967 and served for 56 years. The max loading reached on this line in 2023 is 460 Amp. 220/132kV Manmad s/s caters the load of Manmad city, Industrial area, Indian Railways and Manmad rural area along with the load of connected substation i.e 132kV Lasalgaon s/s, 132kV Chandwad s/s and 132kV Ranwad s/s,

220/132kV Manmad s/s is fed from 132kV Chalisingaon, 132kV Pimperkhed & 220kV Malegaon s/s. 132kV Manmad-Chalisingaon SC line is envisaged to be connected to proposed 100 MW Solar Power proposed by M/s Chordiya & Sons Builders and Developers (P) Ltd. through LILO

arrangement. Further, 50MW solar generation is also proposed by M/s FEPL at nearby vicinity of 200/132kV Manmad s/s.

MSETCL representative added that as per the current situation and overloading issue of 220/132kV GCR Substation, the load of 132kV Chandwad, 132kV Lasalgaon and 132V Ranwad Substation depends only on 220/132kV Manmad Substation and ultimately it comes on 132kV Manmad-Chalisingaon line being important source to 220/132kV Manmad Substation.

MSETCL representative highlighted that conductor used for this line is 0.2 Panther having current carrying capacity 395 Amp at 65 Deg C. The load of 132kV Manmad-Chalisingaon line is crossing 400 Amps in case of withdrawal of ELR or otherwise also average load is crossing 350 Amperes. As per existing situation, capacity of the 132kV Manmad-Chalisingaon line is not sufficient to sustain the load of all these areas i.e. 132kV Lasalgaon, 132kV Chandwad, 132kV Ranwad, Railway TSS and proposed renewable energy evacuation. Therefore it is required to replace existing conductor by High Ampacity Conductor (HPC).

The Estimated cost of the scheme is ₹ 4619.77 Lakh. The cited Scheme will be commissioned in FY 2025-26.

In order to meet the present & future load requirement, to facilitate the evacuation of upcoming RE generation, to address the overloading problems, enhance system reliability and stability after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval.

Agenda Point No. 11:

Replacement of existing conductor with High Ampacity Conductor of 132kV Pimperkhed-Chalisingaon (Length=36.80 ckm)

MSETCL representative placed before the MTC a proposal for “Replacement of existing conductor with High Ampacity Conductor of 132kV Pimperkhed-Chalisingaon (Length=36.80 ckm)”.

MSETCL representative explained that the 132kV Manmad-Chalisingaon S/C line is envisaged to be connected to proposed 100 MW Solar Power project by M/s Chordiya & Sons Builders and Developers (P) Ltd. through LILO arrangement.

132kV Manmad-Pimperkhed line is envisaged to be connected to propose 50 MW Solar Power proposed by M/s Chordiya & Sons Builders and Developers (P) Ltd. through LILO

arrangement. Further 50MW solar generation proposed by M/s FEPL at nearby vicinity of 200/132kV Manmad s/s.

MSETCL representative added that 132kV Pimperkhed s/s is having two source lines i.e. 132kV Chalisgaon- Pimperkhed and 132kV Manmamd –Pimperkhed. 132kV Chalisgaon- Pimperkhed line is the main source and during overload condition, power is available from 220/132kV Manmamd s/s through 132kV Manmamd –Pimperkhed line.

During normal situation 220/132kV Chalisgaon acts as source for 220/132kV Manmad s/s and the 220/132kV Manmad s/s cater the area itself and along with the load of connected substation i.e 132kV Lasalgaon, 132V Chanwad and 132kV Ranwad. 220/132kV Manmad s/s having three sources of supply viz. 132kV Manmad- Chalisgaon line, 132kV Manmad-Pimperkhed line & 220kV D/C Manmad-Malegaon line.

MSETCL representative highlighted that as per existing situation, capacity of the 132kV Pimperkhed-Chalisgaon line is not sufficient to sustain the load of all these areas that are connected to 220kV Manmad i.e. 132kV Lasalgaon, 132kV Chandwad and 132kV Ranwad. The max loading reached on this line in 2023 is 457 Amp. In addition to above, conductor is suffering from continuous aging effect as the commissioning of this line was done on 28.03.1994 by making LILO arrangement but the main line was commissioned on 16.02.1967 i.e more than 56 years is completed. In view of the above, MSETCL submitted proposal for “Replacement of existing conductor with High Ampacity Conductor of 132kV Pimperkhed-Chalisgaon (Length=36.80 ckm)”, for MTC recommendation.

The estimated cost of the scheme is ₹ 2332.03 Lakh. This scheduled commissioning of the cited scheme is in FY 2025-26

In order to meet the present & future load requirement, for evacuation of upcoming RE generation, to address the overloading problems, enhance system reliability and stability after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval.

Agenda Point No. 12:

Replacement of existing 0.5 ACSR Twin Moose Conductor along with insulators & hardware by Twin High-Performance conductor equivalent to 0.5 ACSR Moose Conductor & allied hardware & insulators of 400KV Babhaleshwar-Padghe ckt 1 & 2 along with bay strengthening at Padghe & Babhaleshwar s/s under Vashi & Nashik Zone respectively

MSETCL representative placed before the MTC a proposal for a scheme for “Replacement of existing 0.5 ACSR Twin Moose Conductor along with insulators & hardware by Twin High-Performance conductor equivalent to 0.5 ACSR Moose Conductor & allied hardware & insulators of 400KV Babhaleshwar-Padghe ckt 1 & 2 along with bay strengthening at Padghe & Babhaleshwar s/s under Vashi & Nashik Zone respectively”.

MSETCL representative explained that the 400kV Babhaleshwar- Padghe Ckt-I (174.92Ckm) and Ckt-II (174.89Ckm) lines are in operation since 1979 and 1981 respectively transmitting power from Babhaleshwar to Padghe substation. These lines have combined capacity of 1300 MW power transmission. These lines are strong source to 400kV Padghe substation and feed power to MMR region, Thane District and Major Industrial Consumers in Thane District.

MSETCL representative mentioned that on 18.04.2023 at 13:04 hrs, 400kV Babhaleshwar-Padghe Ckt-I line was tripped & Grid was on high alert mode with N-1 condition. Load on 400kV Babhaleshwar- Padghe Ckt-II reached to 747.22 MW. This tripping has caused overloading of remaining 400kV lines to thermal loading. Hence during peak demand 400kV Babhaleshwar- Padghe Ckt-I & Ckt-II lines should carry the bulk power from Babhaleshwar to MMR region without overloading & sustain the N-1 criteria.

The Estimated cost of the scheme is ₹ 62760.59 Lakh. The scheduled completion year of said scheme is FY 2025-26.

SE STU stated that, in order to facilitate evacuation of RE power generated around Khawda, Gujrat and connected through ISTS network, the said scheme is essential and the timelines for the execution of the scheme are to be matched with the Establishment of 765 kV Boisar (PG) & 400 kV Velgaon RS. The scheme is critically required and needed to be taken up on Priority.

In order to meet the present & future load requirement, for evacuation of RE generation through ISTS network, to address the overloading problems, enhance system reliability and stability after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval.

Agenda Point No. 13:

Scheme for the replacement of existing 0.5 ACSR Twin Moose Conductor along with insulators and hardware by Twin HTLS Conductor equivalent to 0.5 ACSR Moose Conductor & allied hardware & insulators of 400 kV Kalwa - Talegaon, Kalwa - Kharghar, Kharghar-Talegaon (DC) line and 400 kV Kalwa - Kharghar Bays at 400 kV RS Kalwa, 400 kV RS Kharghar and PGCIL Talegaon under Vashi and Pune Zone”.

MSETCL representative placed before the MTC a proposal for “Scheme for the replacement of existing 0.5 ACSR Twin Moose Conductor along with insulators and hardware by Twin HTLS Conductor equivalent to 0.5 ACSR Moose Conductor & allied hardware & insulators of 400 kV Kalwa - Talegaon, Kalwa - Kharghar, Kharghar-Talegaon (DC) line and 400 kV Kalwa - Kharghar Bays at 400 kV RS Kalwa, 400 kV RS Kharghar and PGCIL Talegaon under Vashi and Pune Zone”.

MSETCL representative explained that 400kV Kalwa-Talegaon, Kalwa-Kharghar, Kharghar-Talegaon D/C line is in operation since 31.03.1992. These Lines are the most vital / critical source to Mumbai MMR region. 400kV Kalwa - Padgha ckt 1 & 2 and 400kV Kalwa - Kharghar - Talegaon D/C lines form the primary source to Mumbai region. All these lines being grid connected are sharing nearly equal load.

MSETCL representative highlighted that loading on these lines has increased above 750 MW / 1150 Amps nearing equal to the thermal rating of the conductor. Out of these, 400kV Kalwa-Padgha 1&2 Ckts, HTLS conversion work is under progress. But all the four 400kV lines being grid connected will continue to share equal load even after HTLS conversion. Hence the criteria of stability during N-1 condition is not achieved. In view of the above, it was planned to enhance the capacity of 400 kV Kalwa - Kharghar - Talegaon D/C lines by replacing the existing 0.5 Moose conductor by HTLS Conductor.

SE STU have stated that, in view mitigate future load demand of Data Center and other categories of consumers, to strengthen Mumbai Metropolitan Region EHV network and Pune area as well the said scheme is essential and benifitial. However, while processing further, the current carrying capacity of U/G cable portions involved in the said line to be confirmed and aligned with said proposal if required.

The Estimated cost of the scheme is ₹ 50353.25 Lakh, The Scheduled commissioning year of said scheme is FY 22026-27.

In order to meet the present & future load requirement, for evacuation of upcoming RE generation, to address the overloading problems, enhance system reliability and stability after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval.

Agenda Point No. 14:

Supply, Erection, Testing and Commissioning of Outdoor GIS Switchgear as Bus-Sectionalizer for) 220kV Bus at 220kV Temghar, 220kV Kamba, 220kV Nalasopara, 220kV Wada and 100 kV Bus at 100KV Bhiwandi substations under Kalwa Circle and 220kV Bus at 220kV Pal & Anandnagar substations under Panvel Circle in Vashi Zone ii) 220kV Bus at 220kV Karkamb & Tembhorni substations under Solapur Circle in Pune Zone”

MSETCL representative placed before the MTC a proposal for “Supply, Erection, Testing and Commissioning of Outdoor GIS Switchgear as Bus-Sectionalizer for) 220kV Bus at 220kV Temghar, 220kV Kamba, 220kV Nalasopara, 220kV Wada and 100 kV Bus at 100KV Bhiwandi substations under Kalwa Circle and 220kV Bus at 220kV Pal & Anandnagar substations under Panvel Circle in Vashi Zone ii) 220kV Bus at 220kV Karkamb & Tembhorni substations under Solapur Circle in Pune Zone”.

MSETCL representative explained that the many of 220kV & 132/100kV substations under Pune & Vashi Zone have been provided with one main & auxiliary bus arrangement without the provision of bus-sectionalizer. The non-availability of Bus-Sectionalizer at these substations is grossly affecting the reliability and availability of the system.

MSETCL representative highlighted that it is very difficult to avail outages on the 220kV & 132/100kV Buses for routine maintenance and also for emergency works for want of clearance from various agencies involved. The Busbar and LBB protection schemes are provided on these Buses however for any Operation of Busbar or LBB protection, the entire Bus becomes dead which results in complete loss of supply. Hence, considering above facts, it is essential to provide the Bus-Sectionalizer for these Buses for the ease of maintenance as well as from flexibility, reliability and operation point of view. MSETCL will execute the scheme in following 9 Sub-stations:

Zone	Vashi		Pune
Circle	Kalwa	Panvel	Solapur
Substations	100 KV Bhiwandi		
	220 kV Wada	220 kV Pal	220 kV Karkambh
	220 kV Kamba	220 kV Anandnagar	220 kV Tembhorni
	220 kV Temghar		
	220 kV Nalasopara		

The Estimated cost of the scheme is ₹ 18.22 Crore. The above scheme will be commissioned in FY 2025-26.

CE,STU enquired about the compatibility of Existing Bus bar protection system with the new bus configuration ,MSETCL representative informed that the aspect has been considered and reconfiguration/procurement of relay is included as part of the scheme .In view of the System flexibility, reliability & selective protection operations, after detailed deliberation and discussion the committee recommended the scheme for submission to GCC for approval.

Agenda Point No. 15:

Installation of new 1x125MVA, 400kV Bus Reactor with allied bay and replacement of old 2x50MVA, 400kV Line reactors by 2x80MVA, 400kV switchable Line reactors for 400kV Khadka-Koradi & 400kV Khadka-Akola Lines at 400kv Khadka S/s (Dist. Jalgaon) under Nashik Zone.

MSETCL representative placed before the MTC a proposal of "Installation of new 1x125MVA, 400kV Bus Reactor with allied bay and replacement of old 2x50MVA, 400kV Line reactors by 2x80MVA, 400kV switchable Line reactors for 400kV Khadka-Koradi & 400kV Kkadka-Akola Lines at 400kv Khadka S/s (Dist. Jalgaon) under Nashik Zone".

MSETCL representative stated that 400 kV Khadka Substation is very vital sub-station under EHV O&M Circle Bhusawal. The total installed capacity of this sub-station is 1,115 MVA. 400

kV Khadka sub-station is one of the major grid-connected sub-station connecting 400 kV Deepnagar, Waluj, Akola, Koradi & Babhaleshwar sub-station & caters most of the load of Jalgaon District. 400kV Khadka S/s, being the Generation attached S/s and feeding long length 400kV Lines, there are issues of over voltages observed at this S/s.

This sub-station is attached to 2 x 500 MW Generation through 400kV Deepnagar Ckt-I & II Line. It is observed that overvoltage issues are being faced at 400kV Khadka S/s and at many instances voltage remains above the prescribed limit i.e., 420kV.

These 400kV, 2x50MVAR line reactors were in service for 38 years and completed their service life. Further, 2x50MVAR existing Line Reactors at 400kV Khadka S/S were removed with LD permission from service in Mar 2019. Therefore, replacement of existing Reactor scheme was sanctioned.

Reactors will help regulate voltage levels within the transmission network. By controlling the flow of reactive power, reactors can adjust voltage level to keep them within acceptable limits, especially when the system experiences voltage fluctuations. Therefore, by adding reactors to a power system, the reactive power balance can be adjusted improving voltage stability.

MSETCL representative submitted that the earlier scheme was approved by MERC in Aug 2020 for scheme cost of Rs.33.41 Crs. However, due to increase in cost, fresh DPR scheme of Rs.40.70 Crs. will be posed to MERC's In-Principle approval after approval of the scheme by the Board of Directors, recommendations of MTC & GCC and prudence check by STU.

The Estimated cost of the scheme is ₹ 40.70 Crore. The schedule year of commissioning of the above scheme is FY 2025-26.

As per system study report in order to control the reactive power and maintain the voltage profile, within specified limit, after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval.

Agenda Point No. 16:

Implementation of AI Based Comprehensive Infra-Secure Project (Infra Security) for Mahatransco sub-stations.

MSETCL representative placed before the MTC a proposal of “Implementation of AI Based Comprehensive Infra-Secure Project (Infra Security) for Mahatransco sub-stations”.

MSETCL representative explained that there are many crisis situations that may result in a significant disruption in the normal business of electricity supply. Such events may affect generating plants, transmission systems, power system operation systems and distribution

systems with or without loss of human life or physical injuries. The broad events that may result in crisis situations in the power sector are:

- 1) Terrorist Threats and Attacks
- 2) Bombs Threats, Hoax & Bomb Explosions
- 3) Explosion in Equipment
- 4) Crowd or Mob Attack
- 5) Threat from UAV(Drone) Attack
- 6) Strike
- 7) Sabotage
- 8) Cyber-attack
- 9) Fire

MSETCL representative highlighted that all the forms of crisis situations, terrorism happens to be the deadliest form in terms of loss of life and damage to the property. Acts of terrorism have grown over a period of time. Power generating plants, dams, substations, transmission lines and Load Despatch Centres are among the prime targets for terrorist attacks. The power transmission and distribution networks system is very vulnerable to terror attacks as it spans over length and breadth of the country and is mostly unguarded. Any coordinated attacks by terrorists could disrupt the entire power system of the country as the electric grid is now interconnected for a longer period of time. Therefore, power establishments need to be protected against acts of terrorism.

MSETCL wants to Supply, Installation and Commissioning of AI Based Comprehensive Infrasecure Project for MSETCL 400 kV following substations

Zone	Vashi	Pune	Nashik
400 kV	Kalwa	Lonikand	Babhaleshwar
Substations	Padghe		
	Kharghar		

Estimated cost of scheme is ₹ 122.88 Crore.

TPC-T, AEML-T, STU , MSLDC representatives pointed out that that Proof of Concept of the said project should be done before implementing of scheme. Further the Operational expense cost must be ascertain in such projects, and integration of earlier sanctioned CCTV project, with AI Based Comprehensive Infra-Secure Project (Infra Security) for MSETCL sub-stations, is to be confirmed.

In view of the compliance of the advance Infra security systems requirements, within already identified critical establishments of MSETCL, after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval.

Agenda Point No. 17:

Providing additional 1X100MVA, 220/132kV ICT along with HV & LV Bays with reorientation of 220kV Tower of 220kV Shivajinagar-Malegaon line at 220kV Shivajinagar S/s under EHV (O&M) Division, Dhule”.

MSETCL representative placed before the MTC a proposal for “Providing additional 1X100MVA, 220/132kV ICT along with HV & LV Bays with reorientation of 220kV Tower of 220kV Shivajinagar-Malegaon line at 220kV Shivajinagar S/s under EHV (O&M) Division, Dhule”.

MSETCL representative submitted that 220/132/33kV Shivajinagar Substation is one of the important generation (Solar) attached substation in Dhule District. The said substation was commissioned in the year 2013. At present, 100MW of solar generation of M/s. Greenraj & 70MW of solar generation of M/s Huoban at 132kV level.

MSETCL representative mentioned that grid connectivity is granted by STU for 100MW solar generation of M/s. Huoban out of which 70MW is already commissioned & 30 MW is expected in near future. In case of tripping/outage on 1 No. of ICT, load cannot managed on other ICT i.e. Not fulfil the (N-1) criteria. Hence, to satisfy (N-1) criteria & for evacuation of RE generation, additional 1X100MVA, 220/132kV ICT along with HV & LV Bays is proposed at 220kV Shivajinagar S/s.

The estimated cost of the scheme is **Rs. 744.43 Lakhs**. The cited scheme will commissioned in **FY 2024-25**.

In order mitigate the evacuation of upcoming RE generation, to address the overloading problems, enhance system reliability and stability and address the present N-1 non

compliance, after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval.

Agenda Point No. 18:

Replacement of 2x100MVA, 220/132kV ICTs by 2X200MVA, 220/132kV ICTs at 220kV Manmad S/s under EHV (O&M) Division, Nashik

MSETCL representative placed before the MTC a proposal for Replacement of 2x100MVA, 220/132kV ICTs by 2X200MVA, 220/132kV ICTs at 220kV Manmad S/s under EHV (O&M) Division, Nashik

MSETCL representative mentioned that 220kV Manmad Substation was commissioned in 2019 (132kV substation commissioned on 16.02.1967). 220kV Manmad Substation caters the load of Yeola, Nandgaon, Chandwad, Lasalgaon & Malegaon Talukas in Nashik District.

MSETCL representative highlighted that 220kV Manmad Substation has three sources, from 220kV Malegaon, 220kV Chaliswaon & 220kV Kopargaon S/stns. In case of tripping/outage on 1 No. of ICT, load cannot be managed on other ICT i.e. Not fulfil the (N-1) criteria. 220kV Manmad Substation also fulfills the augmentation criteria.

Hence, to satisfy (N-1) criteria & also to meet the future load demand, replacement of existing 2X100MVA, 220/132kV ICTs by 2X200MVA, 220/132kV ICTs is proposed at 220kV Manmad Substation. The estimated cost of the scheme is ₹ 2451.41 Lakh. The scheduled completion year for said scheme is 2024-25.

In view of the requirement to fulfill MSEDCL demand in Yeola, Nandgaon, Chandwad, Lasalgaon & Malegaon Talukas, enhance system reliability, and address present N-1 non compliance, after detailed deliberation and discussion the committee recommended the scheme for submission to GCC for approval.

Agenda Point No. 19:

Addition of 1 x 100 MVA, 220/132 kV ICT along with HV & LV bays, extension of 132 kV Main & Auxiliary Bus and allied civil works at 220 kV Malegaon(Zodga) S/s in EHV (O&M) Division, Akola under EHV PC (O&M) zone, Amravati

MSETCL representative placed before the MTC a proposal for Addition of 1 x 100 MVA, 220/132 kV ICT along with HV & LV bays, extension of 132 kV Main & Auxiliary Bus and allied civil works at 220 kV Malegaon(Zodga) S/s in EHV (O&M) Division, Akola under EHV PC (O&M) zone, Amravati

MSETCL representative mentioned that The 220 kV Malegaon(Zodga) Substation is commissioned on 10.08.2017. The current installed capacity of the substation at 220 kV Malegaon(Zodga) Substation is 300 MVA, consisting of 3X100 MVA 220/132kV ICTs. 220kV Malegaon (Zodga) substation supplies 132kV MSETCL substations (132kV Washim, 132kV Malegaon, 132kV Mangrulpir & 132kV Karanja S/s) through 3X 100MVA, 220/132kV ICTs.

MSETCL representative highlighted that average loadings reached on ICT I, ICT-II and ICT III are about 70 % of installed capacity. During outage/Breakdown of one of the ICT, load is not managed on other two ICTs i.e. not satisfying N-1 criteria. Hence considering the present loading condition, outage constraints and to satisfy N-1 criteria addition of ICT is proposed at 220kV Malegaon (Zodga) S/s.

The Estimated cost of the scheme is **Rs. 1071.06 Lakh**. The scheduled commissioning year of the cited scheme is **FY 2025-26**.

In view of the requirement to fulfill MSEDCL demand in Washim, Malegaon, Mangrulpir & Karanja Taluka, enhance system reliability and address present N-1 non compliance, after detailed deliberation and discussion the committee recommended the scheme for submission to GCC for approval.

Agenda Point No. 20:

Addition of 1 X 50MVA, 132/33 kV T/F along with HV and LV bays and allied civil works at 132 kV Amgaon S/s under EHV (O&M) Division Bhandara

MSETCL representative placed before the MTC a proposal for “Addition of 1 X 50MVA, 132/33 kV T/F along with HV and LV bays and allied civil works at 132 kV Amgaon S/s under EHV (O&M) Division Bhandara

MSETCL representative submitted that the 132 kV Amgaon Substation is commissioned in the year 1999. Present installed capacity of 132kV Amgaon S/s is 100 MVA consisting of 2 nos of 2X50 MVA, 132/33 kV T/Fs which are operating independently. This substation feeds the part of Amgaon, Deori and Gondia under Gondia District covering residential and agricultural load along with Amgaon TSS. Average maximum loading reached on both the T/Fs are above 73.82 % of installed capacity.

MSETCL representative highlighted that during outage/tripping of any one of the T/F, load is not managed on other T/F i.e. not satisfying (N-1) criteria. Hence considering the present loading condition, outage constraints and to satisfy (N-1) criteria additional T/F is proposed at 132kV Amgaon S/s. Further, MSEDCL has conveyed requirement of 33kV feeder for Proposed

33/11 kV new s/stn under DDUGJY within nearby area of Amgaon S/stn with futuristic load requirement to tune of 15 MVA.

The Estimated cost of the scheme is **Rs. 645.55 Lakh**. The scheduled year of completion for the cited scheme is **FY 2025-26**.

In view of the requirement to fulfill present & future MSEDCL demand in Amgaon, Deori and Gondia area under Gondia District, enhance system reliability, and address present N-1 noncompliance, after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval.

Agenda Point No. 21:

Addition of 1 X 25 MVA, 132/33 kV T/F along with HV and LV bays, 33kV twin bus extension and completion of existing 2nos of 33kV incomplete bays and allied civil works at 132 kV Lakhandur S/s under EHV (O&M) Division Bhandara

MSETCL representative placed before the MTC a proposal for “Addition of 1 X 25 MVA, 132/33 kV T/F along with HV and LV bays, 33kV twin bus extension and completion of existing 2nos of 33kV incomplete bays and allied civil works at 132 kV Lakhandur S/s under EHV (O&M) Division Bhandara

MSETCL representative mentioned that 132kV Lakhandur Substation is commissioned in the year 2012. Present installed capacity of 132kV Lakhandur S/s is 50 MVA consisting of 2 nos of 2X25 MVA, 132/33 kV T/Fs which are operating parallel. This substation feeds the load of Lakhandur taluka, some part of Morgaon Arjuni and Walsa/Kurkheda taluka covering residential and agricultural load. Average maximum loading reached on both the T/F's are above 80 % of installed capacity. During outage/tripping of any one of the T/F, load is not managed on other T/F i.e. not satisfying (N-1) criteria. Hence considering the present loading condition, outage constraints and to satisfy (N-1) criteria additional T/F is proposed at 132kV Lakhandur S/s.

The Estimated cost of the scheme is **₹ 612.66 Lakh**. The scheduled year of commissioning of said scheme is **FY 2025-26**.

In view of the requirement to fulfill present & future MSEDCL demand in Lakhandur taluka, Morgaon Arjuni and Walsa/Kurkheda taluka, enhance system reliability, and present N-1 non compliance, after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval.

Agenda Point No. 22:**Addition of 1 X 50 MVA, 132/33 kV T/F along with HV and LV bays, 132kV Bus extension, reorientation of 33kV PT bay and allied civil works at 132 kV Sakoli S/s under EHV (O&M) Division Bhandara**

MSETCL representative placed before the MTC a proposal for “Addition of 1 X 50 MVA, 132/33 kV T/F along with HV and LV bays, 132kV Bus extension, reorientation of 33kV PT bay and allied civil works at 132 kV Sakoli S/s under EHV (O&M) Division Bhandara”.

MSETCL representative submitted that The 132kV Sakoli Substation is commissioned in the year 2006. Present installed capacity of 132kV Sakoli S/s is 100 MVA consisting of 2 nos of 2X50 MVA, 132/33 kV T/fs which are operating parallel or independently as per loading condition.. This substation feeds load of Sakoli and Deori covering residential and agricultural load. Average maximum loading reached on both the T/Fs are about 70 % of installed capacity.

MSETCL representative highlighted that during outage/tripping of any one of the T/F, load is not managed on other T/F i.e. not satisfying (N-1) criteria. Hence considering the present loading condition, outage constraints and to satisfy (N-1) criteria additional T/F is proposed at 132kV Sakoli S/s.

The Estimated cost of the scheme is ₹ 698.80 Lakh. The scheduled year of commissioning of the cited scheme is FY 2025-26.

In view of the requirement to fulfill present & future MSEDCL demand in Sakoli and Deori, enhance system reliability, and present N-1 noncompliance, after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval.

Agenda Point No. 23:**Replacement of existing 2X 25 MVA, 132/33kV T/F by 2X 50 MVA, 132/33kV T/Fs at 132kV Ambhora S/s under EHV (O&M) Division Nagpur**

MSETCL representative placed before the MTC a proposal for the Replacement of existing 2X 25 MVA, 132/33kV T/F by 2X 50 MVA, 132/33kV T/Fs at 132kV Ambhora S/s under EHV (O&M) Division Nagpur

MSETCL representative explained that the The 132kV Ambhora Substation was commissioned in the year 2002. Present installed capacity of 132kV Ambhora S/s is 50 MVA, consisting of 2

nos of 2X25 MVA, 132/33 kV T/fs. This substation is feeding the part of Kuhi Taluka under Nagpur District covering industrial and agricultural load.

MSETCL Representative highlighted that Average maximum loading reached on both the T/Fs are above 70 % of installed capacity. During outage/tripping of any one of the T/F, load is not managed on other T/F i.e. not satisfying (N-1) criteria. Hence considering the present loading condition, outage constraints and to satisfy (N-1) criteria replacement of T/Fs is proposed at 132kV Ambhora S/s.

The Estimated cost of the scheme is ₹ 974.14 Lakh. The scheduled year of commissioning is FY 2025-26.

In view of the requirement to fulfill present & future MSEDCL demand in Kuhi Taluka, enhance system reliability, Space constraints, and present N-1 noncompliance, after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval.

Agenda Point No. 24:

Addition of 1 X 25 MVA, 132/33 kV T/F along with HV and LV bays and allied civil works at 132 kV Sengaon S/s under EHV (O&M) Division Parbhani

MSETCL representative placed before the MTC a proposal for Addition of 1 X 25 MVA, 132/33 kV T/F along with HV and LV bays and allied civil works at 132 kV Sengaon S/s under EHV (O&M) Division Parbhani

MSETCL representative submitted that The 132 kV Sengaon Substation is commissioned in the year 2018. Present installed capacity of 132kV Sengaon S/s is 50 MVA consisting of 2 nos of 2X25 MVA, 132/33 kV T/fs. This substation feeds the urban, rural & agricultural load demand of Sengaon Taluka.

MSETCL Representative highlighted that average maximum loading reached on both the T/Fs are above 80 % of installed capacity. The proposed scheme fulfills the augmentation scheme criteria. During outage/tripping of any one of the T/F, load is not managed on other T/F i.e. not satisfying (N-1) criteria. Hence considering the present loading condition, outage constraints and to satisfy (N-1) criteria additional T/F is proposed at 132kV Sengaon S/s.

The Estimated cost of the scheme is ₹ 524.38 Lakh. The scheduled commissioning year for said scheme is FY 2025-26

In view of the requirement to fulfill present & future MSEDCL demand, enhance system reliability, and present N-1 non compliance, after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval.

Agenda Point No. 25:

Addition of 1 X 50 MVA, 132/33 kV T/F along with HV and LV bays and allied civil works at 132 kV Hingoli S/s under EHV (O&M) Division Parbhani

MSETCL representative placed before the MTC a proposal for “Addition of 1 X 50 MVA, 132/33 kV T/F along with HV and LV bays and allied civil works at 132 kV Hingoli S/s under EHV (O&M) Division Parbhani.

MSETCL representative mentioned that the 132kV Hingoli Substation is commissioned in the year 1994. Present installed capacity of 132kV Hingoli S/s is 100 MVA consisting of 2 nos of 2X50 MVA, 132/33 kV T/fs. This substation feeds the urban, rural & agricultural load demand of Hingoli District.

MSETCL representative highlighted that average maximum loading reached on both the T/Fs are above 60 % of installed capacity. Furthermore, 2 Nos of 33 kV feeders are proposed for the substation with expected load of 5 MVA each. MSEDCL is proposing to install additional 5 MVA transformers at the 33 kV substations in Adgaon, Pangri, Masod, and Basamba S/s each. During outage/tripping of any one of the T/F, load is not managed on other T/F i.e. not satisfying (N-1) criteria. Hence considering the present loading condition, future load, outage constraints and to satisfy (N-1) criteria additional T/F is proposed at 132kV Hingoli S/s.

The Estimated cost of the scheme is ₹ 635.96 Lakh. The scheduled commissioning year for said scheme is FY 2025-26.

In view of the requirement to fulfill present & future MSEDCL demand, enhance system reliability, and present N-1 non compliance, after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval.

Agenda Point No. 26:

Addition of 1 X 50 MVA, 132/33 kV T/F along with HV and LV bays and allied civil works at 132 kV Parbhani S/s under EHV (O&M) Division Parbhani

MSETCL representative placed before the MTC a proposal for the Addition of 1 X 50 MVA, 132/33 kV T/F along with HV and LV bays and allied civil works at 132 kV Parbhani S/s under EHV (O&M) Division Parbhani

MSETCL representative submitted that the The 132kV Parbhani Substation is commissioned in the year 1996. Present installed capacity of 132kV Parbhani S/s is 100 MVA consisting of 2 nos of 2X50 MVA, 132/33 kV T/fs.

MSETCL representative highlighted that this substation feeds the urban, rural and agriculture load of Parbhani District. Average maximum loading reached on both the T/Fs are above 80 % of installed capacity. The proposed scheme fulfills the augmentation scheme criteria. During outage/tripping of any one of the T/F, load is not managed on other T/F i.e. not satisfying (N-1) criteria. Hence considering the present loading condition, outage constraints and to satisfy (N-1) criteria additional T/F is proposed at 132kV Parbhani S/s.

The Estimated cost of the scheme is ₹ 615.43 Lakh. The scheduled commissioning year of the cited scheme is FY 2025-26.

In view of the requirement to fulfill present & future MSEDCL demand, enhance system reliability, and present N-1 non compliance, after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval.

Agenda Point No. 27

Addition of 1 X 25 MVA, 132/33 kV T/F along with HV and LV bays and allied civil works at 132kV Kagzipura S/s

MSETCL representative placed before the MTC a proposal for the Addition of 1 X 25 MVA, 132/33 kV T/F along with HV and LV bays and allied civil works at 132kV Kagzipura S/s

MSETCL representative mentioned that the 132kV Kagzipura Substation was commissioned in the year 1999. Present installed capacity of 132kV Kagzipura S/s is 50 MVA, consisting of 2 nos of 2X25 MVA, 132/33 kV T/fs.

MSETCL representative highlighted that this substation is situated near the most precious tourist places of Chhatrapati Sambhajnagar District.viz. Daulatabad Fort, Allora Caves, Ghreshwar temple, Bhadra Maruti Temple. As such there is substantial business growth in hotel and hospitality business. Average maximum loading reached on both the T/Fs are above 80 % of installed capacity. The proposed scheme fulfills the augmentation scheme criteria. During outage/tripping of any one of the T/F, load is not managed on other T/F i.e. not satisfying (N-1) criteria. Hence considering the present loading condition, outage constraints and to satisfy (N-1) criteria additional T/F is proposed at 132kV Kagzipura S/s.

The Estimated cost of the scheme is ₹ 485.89 Lakh. The scheduled commissioning year for the cited scheme is FY 2025-26.

In view of the requirement to fulfill present & future MSEDCL demand, enhance system reliability, and present N-1 non compliance, after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval.

Agenda Point No. 28:

Addition of 1 X 25 MVA, 220/33 kV T/F along with HV and LV bays and allied civil works at 220 kV Hingoli S/s under EHV (O&M) Division Parbhani

MSETCL representative placed before the MTC a proposal for “Addition of 1 X 25 MVA, 220/33 kV T/F along with HV and LV bays and allied civil works at 220 kV Hingoli S/s under EHV (O&M) Division Parbhani”

MSETCL representative submitted that the The 220kV Hingoli Substation was commissioned in the year 2011. Present installed capacity of 220kV Hingoli S/s is 50 MVA, consisting of 2 nos of 2X25 MVA, 220/33 kV T/fs. This substation forms a link between Vidarbha and Marathwada region of Maharashtra State. 220 kV Hingoli Substation feed supply to urban, MIDC as well as rural & agriculture load.

Average maximum loading reached on both the T/Fs are above 90 % of installed capacity. The proposed scheme fulfills the augmentation scheme criteria. During outage/tripping of any one of the T/F, load is not managed on other T/F i.e. not satisfying (N-1) criteria. Hence considering the present loading condition, outage constraints and to satisfy (N-1) criteria additional T/F is proposed at 220kV Hingoli S/s.

The Estimated cost of the scheme is Rs. 664.64 Lakh. The scheduled commissioning of the cited scheme is in FY 2025-26.

In view of the requirement to fulfill present & future MSEDCL demand, enhance system reliability, and present N-1 non compliance, after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval.

Agenda Point No. 29:

Addition of 1 X 25 MVA, 132/33 kV T/F along with HV and LV bays, 33kV Bus extension and allied civil works at 132 kV Kinwat S/s under EHV (O&M) Division Nanded

MSETCL representative placed before the MTC a proposal for the “Addition of 1 X 25 MVA, 132/33 kV T/F along with HV and LV bays, 33kV Bus extension and allied civil works at 132 kV Kinwat S/s under EHV (O&M) Division Nanded

MSETCL representative mentioned that the 132kV Kinwat Substation was commissioned in the year 2007. Present installed capacity of 132kV Kinwat S/s is 50 MVA, consisting of 2 nos of 2X25 MVA, 132/33 kV T/fs.

The load of 132 kV Kinwat Substation is of mixed nature comprising of Urban, Agriculture as well as rural load. Average maximum loading reached on both the T/Fs are about 80 % of installed capacity. The proposed scheme fulfills the augmentation scheme criteria. During outage/tripping of any one of the T/F, load is not managed on other T/F i.e. not satisfying (N-1) criteria. Hence considering the present loading condition, outage constraints and to satisfy (N-1) criteria additional T/F is proposed at 132kV Kinwat S/s.

The Estimated cost of the scheme is **Rs. 490.54 Lakhs**. The scheduled commissioning of the cited scheme is in **FY 2026-27**.

In view of the requirement to fulfill present & future MSEDCL demand, enhance system reliability, and present N-1 non compliance, after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval.

Agenda Point No. 30:**Providing additional 1X50 MVA, 220/33kV Power Transformer along with HV & LV Bays at 220kV Vita Sub-Station under EHV O&M Division, Sangli**

MSETCL representative placed before the MTC a proposal for Providing additional 1X50 MVA, 220/33kV Power Transformer along with HV & LV Bays at 220kV Vita Sub-Station under EHV O&M Division, Sangli

MSETCL representative mentioned that There are 2X50MVA, 220/33kV T/Fs at 220kV Vita S/S & average max load for peak 03 months in a year on both the existing T/Fs is more than 80% of their capacity. Agriculture load demand is increasing due to Maharashtra Krishna khore Valley Development Corporation's water irrigation scheme i.e. Tembhu LIS.

MSETCL representative highlighted that in case of tripping/outage on 1 No. of T/F load cannot managed on other T/F i.e. Not fulfil the (N-1) criteria. Hence, to satisfy (N-1) criteria & also to meet the future load demand, addition of 1X50MVA, 220/33kV T/F is proposed at 220kV Vita S/s.

The Estimated cost of the scheme is ₹ 744.01 Lakh. The scheduled commissioning year of the cited scheme is FY 2025-26.

In view of the requirement to fulfill present & future MSEDCL demand, enhance system reliability, and present N-1 non compliance, after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval.

Agenda Point No. 31:**Replacement of 1X25 MVA, 132/33kV T/F by 1X50 MVA, 132/33kV T/F at 132kV Kudal Sub-Station under EHV O&M Division, Ratnagiri**

MSETCL representative placed before the MTC a proposal for Replacement of 1X25 MVA, 132/33kV T/F by 1X50 MVA, 132/33kV T/F at 132kV Kudal Sub-Station under EHV O&M Division, Ratnagiri

MSETCL representative mentioned that the 132/33kV Kudal S/s was commissioned on 11.12.1978. There are 1x50MVA, 132/33KV T/F & 1x25MVA, 132/33KV T/F at 132/33kV Kudal S/s. The maximum load at 132/33kV Kudal S/s is more than 70%. Also, there is additional demand from MSEDCL for 2 new 33kV feeders (33kV Adeli & 33kV MIDC Kudal)

along with supply for the Airport Chipi through the 33kV Malwan feeder. In case of tripping/outage on 50MVA T/F load cannot managed on 25MVA T/F i.e. the S/s does not fulfil the (N-1) criteria. The substation fulfils the criteria of augmentation.

Hence, to satisfy (N-1) criteria & also to meet the future load demand, replacement of 1X25 MVA, 132/33kV T/F by 1X50 MVA, 132/33kV T/F is proposed at 132kV Kudal Sub-Station

The Estimated cost of the scheme is ₹ 486.99 Lakh. The scheduled commissioning of the cited scheme is FY 2026-27.

In view of the requirement to fulfill present & future MSEDCL demand, enhance system reliability, and present N-1 non compliance, after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval.

Agenda Point No. 32:

Replacement of 2X25 MVA, 110/33kV T/Fs by 2X50 MVA, 132-110/33kV T/Fs at 110kV Dighanchi Sub-Station under EHV O&M Division, Sangli

MSETCL representative placed before the MTC a proposal for “Replacement of 2X25 MVA, 110/33kV T/Fs by 2X50 MVA, 132-110/33kV T/Fs at 110kV Dighanchi Sub-Station under EHV O&M Division, Sangli”.

MSETCL representative submitted that there are 02 nos. of 25MVA, 110/33 kV T/Fs at 110kV Dighanchi S/s & average max load for peak 03 months in a year on both the existing T/Fs is almost 80% of their capacity. Additional Load demand of 25 MVA for new proposed MSEDCL substations & 25 MVA by augmentation of 33/11 kV T/Fs at existing substations is submitted by MSEDCL S/Dn Atpadi.

MSETCL representative highlighted that in case of tripping/outage on 1 No. of T/F load cannot managed on other T/F i.e. not fulfil the (N-1) criteria. The substation fulfils the criteria of augmentation. Space is not available for additional T/Fs at 110kV Dighanchi S/s. Hence, to satisfy (N-1) criteria & also to meet the future load demand, replacement of 2X25MVA, 110/33kV T/Fs by 2X50MVA, 132-110/33kV T/Fs is proposed at 110kV Dighanchi S/s.

The Estimated cost of the scheme is ₹ 1001.65Lakh. The scheduled commissioning of the cited scheme is FY 2027-28

In view of the requirement to fulfill present & future MSEDCL demand, enhance system reliability, space constraints and present N-1 non compliance, after detailed deliberation

and discussion, the committee recommended the scheme for submission to GCC for approval.

Agenda Point No. 33:

Replacement of 2X25 MVA, 132/33kV T/Fs by 2X50 MVA, 132-110/33kV T/Fs at 132kV Kundal Sub-Station under EHV O&M Division, Sangli

MSETCL representative placed before the MTC a proposal for the Replacement of 2X25 MVA, 132/33kV T/Fs by 2X50 MVA, 132-110/33kV T/Fs at 132kV Kundal Sub-Station under EHV O&M Division, Sangli

MSETCL representative submitted that there are 02 nos. of 25MVA, 132/33kV T/Fs running in parallel at 132kV Kundal S/s & average max. load in peak three months in a year on both the existing T/Fs is more than 85% of their capacity. Additional Load demand of 35MVA for new proposed MSEDCL substations & 35 MVA by augmentation of 33/11 kV T/Fs at existing substations is submitted by MSEDCL S/Dn. Palus.

MSETCL representative explained that in case of tripping/outage on 1 No. of T/F load cannot managed on other T/F i.e. Not fulfil the (N-1) criteria. The substation fulfils the criteria of augmentation. Space is not available for additional T/F at 132kV Kundal S/s. Hence, to satisfy (N-1) criteria & also to meet the future load demand, replacement of 2X25MVA, 132/33kV T/Fs by 2X50MVA, 132/33kV T/Fs is proposed at 132kV Kundal S/s.

The Estimated cost of the scheme is ₹ 487.98 Lakh. The scheduled commissioning of the cited scheme is FY 2025-26.

In view of the requirement to fulfill present & future MSEDCL demand, enhance system reliability, space constraints and present N-1 non compliance, after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval.

Agenda Point No. 34:

Replacement of 1X25 MVA, 132/33kV T/F by 1X50 MVA, 132-110/33kV T/F at 132kV Wai Sub-Station under EHV O&M Division, Sangli

MSETCL representative placed before the MTC a proposal for the Replacement of 1X25 MVA, 132/33kV T/F by 1X50 MVA, 132-110/33kV T/F at 132kV Wai Sub-Station under EHV O&M Division, Sangli.

MSETCL representative mentioned that There are 1X50MVA, 132/33kV & 1X25MVA, 132/33kV T/Fs in service at 132kV Wai S/S & average max. load in peak three months in a year is more than 55 % & 65 % respectively.

MSETCL representative highlighted that 132kV Wai S/S feeds supply to Mahabaleshwar and Pachgani tourist area. Also, most of the load fed by 132 kV Wai S/S is Industrial & Urban. There is no any alternative source/arrangement for management of load; which causes unrest among consumers of MSEDCL & leads to revenue loss / affects availability. Space is not available for additional T/F at 132kV Wai S/s.

MSETCL representative added that in case of tripping/outage on 50MVA, 132/33kV T/F, load cannot managed on 25MVA, 132/33kV T/F i.e. Not fulfil the (N-1) criteria. The substation fulfils the criteria of augmentation. Hence, to satisfy (N-1) criteria & also to meet the future load demand, replacement of 1X25MVA, 132/33kV T/Fs by 1X50MVA, 132/33kV T/Fs is proposed at 132kV Wai S/S.

The Estimated cost of the scheme is ₹ 487.98 Lakh. This scheme will commissioned in FY 2025-26.

In view of the requirement to fulfill present & future MSEDCL demand, enhance system reliability, space constraints and present N-1 non compliance, after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval.

Agenda Point No. 35:

Providing additional 1X50 MVA, 132-110/33kV T/F along with 110kV Bus Extension, HV & LV Bays at 110kV Shirolu Sub-Station under EHV O&M Division, Kolhapur

MSETCL representative placed before the MTC a proposal for Providing additional 1X50 MVA, 132-110/33kV T/F along with 110kV Bus Extension, HV & LV Bays at 110kV Shirolu Sub-Station under EHV O&M Division, Kolhapur

MSETCL representative submitted that there are 2X50MVA, 110/33kV T/Fs at 110kV Shirolu S/s & average max load for peak 03 months in a year on both the existing 50MVA T/Fs is around 75% & 55% of their capacity. 110kV Shirolu Substation feeds supply to Shirolu urban & MIDC area.

MSETCL representative highlighted that in case of tripping/outage on 1 No. of T/F load cannot managed on other T/F i.e. Not fulfil the (N-1) criteria. The substation fulfils the criteria of

augmentation. Hence, to satisfy (N-1) criteria & also to meet the future load demand, addition of 1X50MVA, 132-110/33kV T/F is proposed at 132kV Shirol S/s.

The Estimated cost of the scheme is ₹ 676.93 Lakh. This scheme will be commissioned in FY 2025-26.

In view of the requirement to fulfill present & future MSEDCL demand, enhance system reliability, space constraints and present N-1 non compliance, after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval.

Agenda Point No. 36:

Providing additional 1x50MVA, 132/33kV T/F along with HV & LV Bays at 132kV Sinner Old Substation under EHV O&M Division, Nashik. MSETCL representative placed before the MTC a proposal for Providing additional 1x50MVA, 132/33kV T/F along with HV & LV Bays at 132kV Sinner Old Substation under EHV O&M Division, Nashik.

MSETCL representative explained that presently 220kV GCR (Eklahare) – Babhaleswar Ckt-I & Ckt-II line are two main sources of power supply feeding power to 220 kV GCR Sub-Station from 400kV Babhaleswar Sub-station.

MSETCL representative submitted that 132kV Sinner old Substation was commissioned in the year of 1984. At present the installed capacity of 132kV Sinner old S/s is 135MVA & caters industrial, urban, rural and agricultural load under Sinnar Taluka of Nashik District.

MSETCL representative highlighted that load growth around 20MVA in upcoming three years is expected in region due to ongoing major projects like Mumbai Nagpur Samruddhi Highway, Nashik-Pune High speed railway and ever-growing industry.

MSETCL representative added that both 132/11kV transformers are under loaded and peak load reached at 11kV level is below 15 MVA. Therefore, considering increasing load demand at 33kV level, redundancy, shifting of 11kV load on MSEDCL substations and scarcity of space available at 132kV Sinnar old, it is proposed to install 1x50MVA, 132/33kV T/F in place of 1x10MVA, 132/11kV T/F.

In case of tripping/outage on 1 No. of T/F, load cannot be managed on other T/F i.e. Not fulfil the (N-1) criteria. Hence, to satisfy (N-1) criteria & also to meet the future load demand, replacement of 1x10MVA, 132/11kV T/F by 1x50MVA, 132/33kV T/F is proposed at 132kV Sinner Old Substation.

The Estimated cost of the scheme is ₹ 609.24 Lakhs. This scheme will commissioned in FY 2024-25.

In view of the requirement to fulfill present & future load requirement, to address the overloading problems, enhance system reliability and present N-1 non compliance, after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval.

Agenda Point No. 37:

Providing additional 1x25MVA, 132/33kV T/F along with HV & LV Bays at 132kV Newasa Substation under EHV O&M Division, Babhaleshwar

MSETCL representative placed before the MTC a proposal for Providing additional 1x25MVA, 132/33kV T/F along with HV & LV Bays at 132kV Newasa Substation under EHV O&M Division, Babhaleshwar

MSETCL representative explained that 132kV Newasa substation is commissioned in the year 1979 having 2x50MVA, 132/33kV Power T/Fs and caters agricultural & rural load of Newasa Taluka.

MSETCL representative added that loading of existing 2x50MVA, 132/33kV T/Fs is more than 75% in the peak demand in the year 2023-24. Also, MSEDCL proposed new 07 no's of 33kV substation which will be feed from the 132kV Newasa substation. In case of tripping/outage on 1 No. of T/F, load cannot be managed on other T/F i.e. Not fulfil the (N-1) criteria. 132kV Newasa Substation fulfills the augmentation criteria. Hence, to satisfy (N-1) criteria & also to meet the future load demand, addition of 1x25MVA, 132/33kV T/F is proposed at 132kV Newasa Substation.

The Estimated cost of scheme is ₹ 525.21 Lakh. This scheme will commissioned in FY 2024-25.

In view of the requirement to fulfill present & future load requirement, to address the overloading problems, enhance system reliability and present N-1 non compliance, after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval.

Agenda Point No. 38:

Replacement of existing 1x25MVA 132/33kV T/F by 1x50 MVA 132/33kV T/F at 220kV Manmad Substation under EHV O&M Division, Nashik

MSETCL representative placed before the MTC a proposal for “Replacement of existing 1x25MVA 132/33kV T/F by 1x50 MVA 132/33kV T/F at 220kV Manmad Substation under EHV O&M Division, Nashik”.

MSETCL representative explained that 220kV Manmad Sub-station having 2X50MVA, 132/33kV and 1X25MVA, 132/33kV T/Fs feeding Manmad urban, rural and area of Yeola, Nandgaon, Chandwad, Lasalgaon & Malegaon Talukas in Nashik District.

MSETCL representative highlighted that DISCOM is likely to be eliminate the existing 11kV level by shifting load of peak demand 15.6 MW on nearby 33/11kV S/s which will be catered by 220kV Manmad Sub-station. 03 no’s of 33/11kV S/s of DISCOM under RDSS scheme are in construction phase and will soon be connected to 33kV Bus of 220kV Manmad Sub-station.

MSETCL representative added that additional load of 35 MVA is anticipated in this area as per the rate of load growth of 8-10 % per year in the next three years. In case of tripping/outage on 1 No. of T/F, load cannot be managed on other T/F i.e. not fulfil the (N-1) criteria. 220kV Manmad Substation fulfils the augmentation criteria

The Estimated cost of cited scheme is ₹ 496.11 Lakh. This Scheme will be commissioned in FY 2024-25.

In order to meet the present & future load requirement, to address the overloading problems, enhance system reliability and stability, after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval.

Agenda Point No. 39:

Providing additional 1x25MVA, 132/33kV T/F along with HV & LV Bays at 132kV Ramache Pimplas substation under EHV O&M Division, Nashik

MSETCL representative placed before the MTC a proposal for “Providing additional 1x25MVA, 132/33kV T/F along with HV & LV Bays at 132kV Ramache Pimplas substation under EHV O&M Division, Nashik”

MSETCL representative submitted that 132kV Ramache Pimplas S/s was commissioned on Dt. 28.06.2007. It is the most important substation feeding the supply to Niphad urban and rural area of Sinnar & Dindori Taluka.

MSETCL representative highlighted that the loading of existing 3x25MVA, 132/33kV T/Fs is more than 70% in the peak demand in the year 2023-24. In case of tripping/outage on 1 No. of T/F, load cannot be managed on other T/F i.e. Not fulfil the (N-1) criteria.

MSETCL representative added that 132kV Ramache Pimplas S/s fulfills the augmentation criteria vide Circular No. MSETCL/DIR (OP)/ 4044 dtd. 14.06.2023. Hence, to satisfy (N-1) criteria & also to meet the future load demand, addition of 1x25MVA, 132/33kV T/F is proposed at 132kV Ramache Pimplas Substation.

The Estimated cost of Scheme is **Rs. 489.64 Lakh**. This scheme will be commissioned in **FY 2025-26**.

In view of the requirement to fulfill present & future load requirement, to address the overloading problems, enhance system reliability and present N-1 non compliance, after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval.

Agenda Point No. 40:

Scheme identified in MSKVY 2.0 for Augmentation of T/F / ICT works in 16 EHV S/s in various Zones of MSETCL (132kV Gunj, 132kV Ausa, 132kV Chakur, 132kV Pishor, 220kV Deogaon Rangari, 132kV GCR Parli, 110kV Mayani, 220kV New Satara MIDC, 132kV Talegaon, 132kV Kharada, 132kV Rahuri, 132kV Shrigonda, 220 kV Babhaleshwar, 220kV Kopergaon, 132kV Manegaon, 132kV Mandrup)

MSETCL representative placed before the MTC a proposal for scheme identified in MSKVY 2.0 for Augmentation of T/F / ICT works in 16 EHV S/s in various Zones of MSETCL (132kV Gunj, 132kV Ausa, 132kV Chakur, 132kV Pishor, 220kV Deogaon Rangari, 132kV GCR Parli, 110kV Mayani, 220kV New Satara MIDC, 132kV Talegaon, 132kV Kharada, 132kV Rahuri, 132kV Shrigonda, 220 kV Babhaleshwar, 220kV Kopergaon, 132kV Manegaon, 132kV Mandrup)

MSETCL representative explained that Revised data received from MSEDCL regarding Solar Projects in 33/11 kV Substations in MSEDCL & EHV substations (132 kV and above) under MSKVY 2.0. MSEDCL has submitted the district wise Data of MSKVY 2.0 Generation (9169 MW) on dated 10/05/2024 for 28 Districts in Maharashtra. Based on the data submitted by

MSEDCL and load flow study; STU section has identified source EHV substations for the 33 kV MSEDCL feeder for districts forwarded by MSEDCL and simulated Load flow study for each substation.

MSETCL representative highlighted that CE(STU) vide O.N. 739 dated 23.08.2024 has asked to process the scheme identified under "MSKVY" of Govt of Maharashtra on priority basis for smooth evacuation of proposed solar power.

The MSETCL has submitted details of S/s, with scope of works and cost as follows:

Sr.No	Name of Substation	Scope	Year of inclusion in STU Plan	Estimated Cost
1	132kV Gunj	Addition of 1x25MVA, 132/33kV T/F (Existing T/F Capacity:2x50MVA, 132/33kV T/F)	2026-27	Rs 573.81 Lakhs
2	132kV AUSA	Addition 1x50MVA, 132/33kV T/F (Existing T/F Capacity:2x50MVA, 132/33kV T/F)	2025-26	Rs 883.79 Lakhs
3	132kV Old GCR Parli	Replacement of existing 1 x25 MVA 132/33kV T/F by 1 X 50 MVA 132/33kV T/F (Existing T/F Capacity:1x50MVA, 132/33kV T/F,1x25MVA, 132/33kV T/F)	2026-27	Rs 620.21 lakhs
4	132kV Pishor	Replacement of existing 1 x25 MVA 132/33kV T/F by 1 X 50 MVA 132/33kV T/F (Existing T/F Capacity:1x50MVA, 132/33kV T/F,1x25MVA, 132/33kV T/F)	2026-27	Rs 853.36 Lakhs
5	220kV Devgaon Rangari	Addition of 1x50MVA, 220/33kV T/F (Existing T/F Capacity:2x50MVA, 220/33kV T/F)	2025-26	Rs 1055.61 Lakhs
6	132kV Chakur	Addition of 1x25MVA, 132/33kV T/F (Existing T/F Capacity:2x25MVA,	2024-25	Rs 453.28 Lakhs

		132/33kV T/F)		
7	110kV Mayani	Addition of 1X50 MVA, 110/33kV T/F (Existing T/F Capacity:2x25MVA, 110/33kV T/F, 1x50MVA, 110/33kV T/F, 2x25MVA, 110/32kV T/F)	2025-26	Rs 670 Lakhs approx.
8	132kV Talegaon	Addition of 1x25MVA, 132/33kV T/F (Existing T/F Capacity:2x25MVA, 132/33kV T/F)	2025-26	Rs 788.73 Lakhs approx.
9	132kV Kharda	Addition of 1x25MVA, 132/33kV T/F (Existing T/F Capacity:2x25MVA, 132/33kV T/F)	2025-26	Rs 653.02 Lakhs
10	132kV Rahuri	Addition of 1x50MVA, 132/33kV T/F (Existing T/F Capacity:2x50MVA, 132/33kV T/F)	2025-26	Rs 700.00 Lakhs Approx.
11	132kV Shrigonda	Addition of 1x25MVA, 132/33kV T/F (Existing T/F Capacity:2x50MVA, 132/33kV T/F, 1X25MVA, 132/11kV T/F)	2025-26	Rs 629.70 Lakhs
12	220kv Babhaleshwar	Addition of 1x50MVA, 220/33kV T/F (Existing T/F Capacity:4x50MVA, 220/33kV T/F)	2025-26	Rs 826.95 Lakhs
13	220kV Kopargaon	Addition of 1x50MVA, 220/33kV T/F (Existing T/F Capacity:2x50MVA, 220/33kV T/F)	2025-26	Rs 826.00 Lakhs approx.
14	132kV Manegaon	Addition of 1x50MVA, 132/33kV T/F (Existing T/F Capacity:2x50MVA, 132/33kV T/F)	2025-26	Rs 830.00 Lakhs approx.
15	132kV Mandrup	Addition of 1x50MVA, 132/33kV T/F (Existing T/F Capacity:2x50MVA, 132/33kV T/F)	2025-26	Rs 826.95 Lakhs approx.

16	400 kV Lonikand II	Addition of 1x200 MVA, 220/132kV ICT	2025-26	Rs.2675.00 Lakhs
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In view of the requirement to fulfill present & future load requirement, to address the overloading problems, enhance system reliability and present N-1 non compliance, after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval.

Agenda Point No. 41:

Establishment of 132/33 kV Sawana s/s at Village Sawna, Tal. Sengaoon, Dist. Hingoli

MSETCL representative placed before the MTC a proposal for, a “Establishment of 132/33 kV Sawana s/s at Village Sawna, Tal. Sengaoon, Dist. Hingoli

MSETCL representative submitted that 33 kV Kokalgaon ,33kv Goregaon feeders emanating from 132/33kv Sengaoon s/s and 33 kV Goregaon feeder from 132 kC /33 kV Hingoli s/s has low VR and tail end voltage. Further around 1195 MW RE Generation applications for Grid Connectivity have been received in the area. The existing EHV network in the area seems insufficient to evacuate the upcoming generation. Therefore, 132/33 kV Sawana S/s required.

MSETCL representative highlighted objective of said scheme is as follows:

- 1) RE power evacuation in Hingoli District.
- 2) To bring source nearer to load pockets of Sengaoon Taluka
- 3) To Reduce line length of 33 kV feeders and solve low voltage problem by improving Voltage Regulation.

The estimated cost for the subject project is ₹ 70.23 Crores. This scheme will be execute in FY 2026-27.

Considering the additional load requirement of MSEDCL, re-orientation of existing load and voltage Regulation improvement, after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval.

Agenda Point No. 42:**Establishment of 220/132/33 kV Bhabhulgaon s/s, Dist. Yawatmal**

MSETCL representative placed before the MTC a proposal for, a “Establishment of 220/132/33 kV Bhabhulgaon s/s, Dist. Yawatmal

MSETCL representative submitted that at present, the supply of Babhulgaon Taluka is fed by 33 kV Babhulgaon Feeder emanating from 220 kV Yawatmal s/s. Maximum, Average and Minimum load observed at substation which are feeding proposed substation area and surrounding area:

Sr. No.	Name of EHV substation	Installed Capacity MVA	Maximum load MVA	% loading
1	220 kV Yawatmal	150 (3x50)	112.25	74.83
2	220 kV Dhamangaon	50 (2x25)	36.73	73.46
3	132/33 kV Yawatmal	50 (2x25)	38	76
4	220/33 kV Ner	50 (2x25)	22	44.40

Further, there is no space for additional 33 kV feeder bays at 220/132/33kV Yawatmal s/s. At present 220 kV Ner S/s is connected to 220 kV Badnera S/s with 220 kV SCDC line. 100 MW solar project by M/s. Avaada MH Solar Pvt. Ltd. is connected at 220 kV level at Ner S/s. Now, various Solar IPPs have proposed their plants in Yawatmal district in the vicinity of Ner and Babhulgaon Taluka. About 800 MW Solar Plants are proposed in the Ner-Babhulgaon corridor.

MSETCL representative added that any tripping / breakdown on any one line results in Back down of generation as well as overloading of these lines, which in turn increases commercial & system losses. Creation of 132 kV level in near future and 220 kV & 132 kV interconnection lines from Babhulgaon S/s will help in strengthening of 220 kV & 132 kV network in Yawatmal district. This will also be helpful in interconnecting two district grids of Amravati and Yawatmal.

MSETCL representative mentioned that with this present & upcoming power scenario as stated above, it is utmost essential to establish 220 kV substation at Babhulgaon, which will not only

provide reliable & quality supply to end consumers in Babhulgaon Taluka, but also facilitate the evacuation of RE power from upcoming Solar IPPs in Ner and Babhulgaon Taluka

MSETCL representative highlighted objective of said scheme is as follows:

- 1) Evacuation of RE power from upcoming solar projects in Ner & Babhulgaon Taluka.
- 2) After establishment of 220/132/33 kV Babhulgaon S/s the voltage profile nearby will be improved due to reduction in line lengths.
- 3) EHV network in Yavatmal District will be strengthened.
- 4) The future load demand of MSEDCL/HT/EHV consumer can be met.
- 5) Restoration time in case of breakdown will get reduced. The system availability will be increased.
- 6) Reliable and quality of power supply will be achieved.
- 7) Saving in Losses.

The estimated cost for the subject project is ₹ 32534.01 Lakhs. This scheme will be execute in FY 2027-28.

Considering the additional load requirement of MSEDCL, to address the overloading problems, for evacuation of RE power, enhance system reliability, after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval.

Agenda Point No. 43:

Establishment of 220/132/33kV Substation at Kesurdi MIDC, Tal. Khandala, Dist. Satara

MSETCL representative placed before the MTC a proposal for Establishment of 220/132/33kV Substation at Kesurdi MIDC, Tal. Khandala, Dist. Satara

MSETCL representative highlighted that The MIDC has proposed development of Kesurdi Phase-II. The EHV consumers and HT consumers will come up in this area. The Kesurdi MIDC is expected to be developed rapidly. It is near to Pune and National Highway-4 the prospective load demand of 91 MVA in Kesurdi MIDC area.

MSETCL representative mentioned that at Present the area near Kesurdi is fed from 132kV Shirwal S/s. 42MVA load from 132kv Shirwal s/s is to be diverted on proposed 220/132/33kv Kesurdi s/s. The installed capacity of 132kV Shirwal s/s is 150 MW. There are 09 Nos. of 33 kV & 08 Nos. of 22kV feeders emanating from 132kV Shirwal substation. There is no alternate

provision at existing 132/33/22kV Shirwal s/s to meet the upcoming load demand and to get load relief at existing Shirwal s/s. Establishment of EHV s/s at Kesurdi MIDC is essential.

MSETCL representative highlighted that the length of 22kV Khandala feeders emanating from 132kV Shirwal s/s is 70 Kms and voltage regulation is 15.69% which is very high as specified by MERC.

MSETCL representative explained that presently, 220kV Lonand s/s and 220kV Phursungi s/s are connected through 132kV Veer Hydr-Nipro-Iljin-Shirwal-Bhatghar-Kamthadi line grid. The 132kv network load of more than 90 MW is mainly fed by 220 kV Lonand s/s. In case of tripping /outage on any source line, the total load of the network cannot be catered on single source and loading constraint at source substations. To maintain uninterrupted power supply to EHV consumers and MIDC, 132kV level is essential at proposed 220kV Kesurdi s/s.

132kV Wai s/s mainly feeding tourists places, Industrial and urban area having only sources of 220kV Lonand s/s. To provided alternat source, LILO on 132kV Wai – Lonand line is proposed. Hence, for maintaining uninterrupted power supply to EHV consumers and MIDC area, tourist places ,132 kV level is essential at proposed 220 kV Kesurdi MIDC s/s.

MSETCL representative highlighted benefits as below:

- 1) After establishment of 220/132/33kV Kesurdi MIDC S/s the voltage profile nearby will be improved due to reduction in line lengths.
- 2) EHV network in Satara District will be strengthened.
- 3) The future load demand of MSEDCL/HT/EHV consumer can be met easily.
- 4) Redundancy to 132kV network in Kesurdi MIDC area, Pachgani and Mahabaleshwar commercial pocket can be achieved. So that uninterrupted & quality power supply to EHV consumers & MIDC, tourists area can be provided.
- 5) Restoration time in case of breakdown will get reduced. The system availability will be increased.

The estimated cost for the subject project is ₹ 151.58 Crores. This scheme will be execute in FY 2027-28.

Considering the additional load requirement of MSEDCL, to address the overloading problems, enhance system reliability, after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval.

Agenda Point No. 44:

Establishment of 220/132 KV Narsi S/S, Dist: Nanded

MSETCL representative placed before the MTC a proposal for Establishment of 220/132 KV Narsi S/S, Dist: Nanded

MSETCL representative highlighted that at present, 132 kV Narsi & Degloor S/s are radially connected and are fed through a SC line (length — 67 kms) from 220/132 kV Waghala s/s. Also 132 kV Kundalwadi & Mukhed s/s have only one source i.e. 220 kV Waghala s/s. Therefore, to provide another source to 132 kV Mukhed, Kundalwadi, Narsi & Degloor S/s. 132 kV level creation at 220 kV Krishnoor was proposed along with LILO on 132 kV Mukhed - Kundalwadi and 132 kV Narsi - Degloor at 132 kV Krishnoor.

MSETCL representative added that establishment of 220/132 kV Narsi S/s will help in providing a strong and alternate source (apart from 220 kV Waghala) to 132 kV Kandhar. Mukhed, Kundalwadi, Narsi & Degloor S/s.

Establishment of 220/132 kV Narsi S/s is more beneficial as it helps to meet future load demand, improvement of overall availability & reliability to 132 kV Kandhar, Mukhed, Kundalwadi, Narsi & Degloor S/s there by reducing loading of ICT's at 220 kV Waghala S/s.

The estimated cost for the subject project is ₹ 9746.59 Lakhs. This scheme will be execute in FY 2026-27.

To provide alternative source to to 132 kV Kandhar. Mukhed, Kundalwadi, Narsi & Degloor S/s, enhance system reliability, after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval.

Agenda Point No. 45:

Establishment of 132/33kV s/s Shirsoli, Tal. & Dist.- Jalgaon

MSETCL representative placed before the MTC a proposal for Establishment of 132/33kV s/s Shirsoli, Tal. & Dist.- Jalgaon

MSETCL representative submitted that load of Jalgaon Area is mainly MIDC & Residential. These areas of Jalgaon Taluka is fed mainly from 132kV Old MIDC & 132kV New MIDC s/stns.

MSETCL representative highlighted that 132kV Jalgaon OLD MIDC s/s, 132kV Dharangaon s/s, 132kV Erandol s/s & Jain irrigation s/s has source from 220/132/33kV (250MVA) Bambhori s/s. 132kV Jalgaon NEW MIDC s/s is connected to 132kV Deepnagar s/s & 132kV Jalgaon OLD MIDC through SC line.

MSETCL representative added that Jalgaon NEW MIDC s/s has 33kV x 13 nos. of feeders with installed capacity is 149.76 MVA. Maximum demand reached is 107 MW. New 33kV s/stns. & addition of capacities are proposed with capacity 41 MVA.

Total installed capacity at Jalgaon NEW MIDC s/s will rise to 190.76 MVA against existing 150 MVA. New 33kV lines not feasible due to Urbanisation of surrounding Jalgaon (Old) and Jalgaon (MIDC) S/s, new. After implement, Load of 132/33kV Jalgaon NEW MIDC s/s will be shifted on proposed 132/33kV Shirsole s/s. After commissioning of 132/33kV Shirsole s/s and shifting of all the proposed feeders by MSEDCL to be meticulously adhered.

MSETCL representative highlighted objective of scheme:

- 1) To improve voltage profile at DISCOM interface of Jalgaon area
- 2) Load relief to existing 132kV New MIDC, Jalgaon s/s
- 3) To provide reliability & availability at consumer end

The estimated cost for the subject project is ₹ 66.98 Crores. This scheme will be execute in FY 2027-28.

Considering the additional load requirement of MSEDCL, to address the overloading problems, improvement of voltage Regulation, enhance system reliability, after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval.

Agenda Point No. 46:

Establishment of 132/33kV s/s Lavale Dist.-Pune.

MSETCL representative placed before the MTC a proposal for Establishment of 132/33kV s/s Lavale Dist.-Pune.

MSETCL representative submitted that The Bhugaon-Bhukum area currently fed on the 22 KV Energia Skyi feeder, extending 25 kilometers from the 220/22 KV Pirangut EHV Substation. This area is undergoing rapid development, leading to a continuous increase in power demand.

MSETCL representative added that MSEDCL has informed that total load demand of 120MW from various upcoming projects in the Lavale, Bhugaon & Bhukum area namely M/s. Knowledge City Lavale - 60MW, M/s. Kelidoscope -25 MW, M/s. Forest Trails -20 MW, M/s. Raheja Viva-6 MW and M/s. Energai Skyi -10 MW. The existing EHV s/s does not have the capacity to accommodate the projected additional load of 120 MVA.

MSETCL representative mentioned that to address the escalating power demand and ensure a reliable power supply for both existing consumers and future developments, it is imperative to establish a new 132/22 kV substation in Knowledge City Lavale.

MSETCL representative highlighted that objectives of scheme as follows:

- To cater existing and additional future increasing load demand in Bhugaon - Lavale – Bhukum area.
- To give load relief to existing 220/22 kV Pirangut S/s.
- There will be saving in losses to the tune of 1 MW.

The estimated cost for the subject project is ₹ 10569.78 Lakhs. This scheme will be execute in FY 2027-28.

Considering the additional load requirement of MSEDCL, enhance system reliability, after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval.

Agenda Point No. 47:

Establishment of 220/22 kV Talegaon, MIDC Ph-II s/s

MSETCL representative placed before the MTC a proposal for Establishment of 220/22 kV Talegaon, MIDC Ph-II s/s

MSETCL representative submitted that Load of Talegaon Area is mainly industrial. 220/22kV Talegaon (Ambi) s/s (2x50MVA) is feeding DISCOM & Industrial load at the 22kV level. Talegaon (Ambi) s/s has 22kV x 08 nos, feeders with installed capacity is 86.41 MVA. Maximum demand reached is 65 MVA. MSEDCL has proposed new 6 x 22kV feeders with demand of 50 MVA.

MSETCL representative highlighted that total installed capacity at Ambi s/s will rise to 136.4 MVA against existing 100 MVA. Due to space constraints at Talegaon (Ambi), addition of power T/f & 22 kV Bay is not feasible. With Proposed 220kV Talegaon MIDC phase-II s/s, EHV network grid of Talegaon and Chakan MIDC area will become stronger. Therefore, In case of line tripping, the load will not be affected.

Additionally, there will be a strong 400kV Talegaon PGCIL source to both prop. 220kV Talegaon Phase-II & 220kV Chakan Phase-II s/stns. Benefit in catering to the load demand of Talegaon MIDC, Chakan MIDC, as well as the nearby Pimpri-Chinchwad area.

MSETCL representative highlighted benefits of the scheme:

- 1) Existing 220kV Talegaon MIDC phase-II s/s will get relief of existing 10 MVA + prop. 50 MVA.
- 2) It will cater upcoming load demand of EHV consumers in Talegaon MIDC, Chakan MIDC, as well as the nearby Pimpri-Chinchwad area
- 3) EHV network grid of Talegaon and Chakan MIDC area will become stronger.
- 4) Strong source from the 400kV Talegaon PGCIL s/s to both prop. Talegaon Phase-II & Chakan Phase-II s/stns. will be provided.

The estimated cost for the subject project is ₹ 9945.73 Lakhs. This scheme will be execute in FY 2025-26.

Considering the additional load requirement of MSEDCL, to address the overloading problems, enhance system reliability, after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval.

Agenda Point No. 48:

Establishment of 220/33 kV s/s at Manor, Tal. Palghar, Dist. Palghar

MSETCL representative placed before the MTC a proposal for Establishment of 220/33 kV s/s at Manor, Tal. Palghar, Dist. Palghar

MSETCL representative submitted that At present, the supply to Manor, Vikramgad, Wada and Hamrapur located in Dist. Palghar is being fed from 132/33 kV Palghar substation.

Palghar is fast growing and developing town. It is the administrative capital of the newly formed palghar district. There is tremendous population growth & load growth. There is an upcoming and ongoing projects like CIDCO, HDIL Residential Park, Tata housing project and Mahindra Housing Project in palghar area totaling to 180.01 MVA.

132/33 kV Palghar S/s- IC: 150 MVA , Max Load:110.88 MVA with 09 nos. of 33kV Bays, No of Diverted feeder : 1 Nos with 1 HTC consumer . Capacity of diverted feeder -41.04 MVA.

The length of 33kV Manor feeder emanating from 132/33kV Palghar EHV s/s is 52.3km and voltage regulation on this lengthy feeder is 35.29%. Due to this consumers are facing low voltage issue.

MSETCL representative highlighted that there are many upcoming projects at Mumbai Ahmedabad Highway such as KGN Enterprises, Sanjay G. Ranawat, Heritage pvt Ltd, Shelter Group of Hotels & Resorts Pvt. Ltd etc, which is to be fed by proposed Manor GIS s/s. The expected load of these projects is 11.32 MVA. Hence, to improve the voltage regulation and cater the future expected load, establishment of 220/33kV Manor GIS substation is necessary.

After establishment of 220/33kV Manor GIS substation the length of 33kV feeder will reduce and it will help to provide reliable and quality supply to consumers

The estimated cost for the subject project is ₹ 20988.06 lakhs. This scheme will be execute in FY 2026-27.

Considering the additional load requirement of MSEDCL, to address the overloading problems, for improving voltage Regulations, enhance system reliability, after detailed

deliberation and discussion, the committee recommended the scheme for submission to GCC for approval.

Agenda Point No. 49:

Establishment of 132/33 kV Shiradwad S/s

MSETCL representative placed before the MTC a proposal for Establishment of 132/33 kV Shiradwad S/s.

MSETCL representative submitted that the Ichalkaranji Town & nearby area is fed from 220 kV Tilwani & 110 kV Ichalkaranji s/s. However load demand is continuously rising due to urbanization, growth of power loom industries etc. The power loom industries which is dominant, the load of this area requires 24x7 Hrs continuous supply.

MSETCL representative highlighted that to meet the current and future demand, the existing capacity of Kurundwad and Ichalkaranji EHV substation are insufficient. The capacity augmentation or addition power transformers at this existing EHV substation is not possible due to space constraints. Hence, to avoid the problem of overloading of existing EHV substation and to get reliable and quality supply, it is necessary to establish new EHV substation in this area. This will help in strengthening the network and avoiding the interruptions, overloading problems.

MSETCL representative added that in order to meet the rising Load demand & to provide the reliable good supply to the consumers, MSEDCL has submitted the proposal for establishment of s/s at Shiradwad. The said scheme was already Recommended in 10th MTC (Agenda No. AD9). Post recommendation, Cost revised, hence resubmitted. By MSETCL.

MSETCL representative highlighted benefits of scheme:

- 1) It will cater future load growth.
- 2) Voltage will be improve at the bus to Ichalkaranji s/s , 10/33kv Kurundwad s/s & 220kv Tilwani s/s
- 3) Will provide the reliable and quality supply to consumers.

The Estimated cost of scheme is **₹ 7064.35 Lakhs**. The Scheduled Commission year for scheme is **FY 2026-27**.

Considering the additional load requirement of MSEDCL, re-orientation of existing load and voltage Regulation improvement, after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval.

Agenda Point No. AD1 :

Providing additional 1x200MVA, 220/132kV ICT along with HV & LV bays at 400kV Lonikand-II S/s.

MSETCL representative placed before the MTC a proposal for the “Providing additional 1x200MVA, 220/132kV ICT along with HV & LV bays at 400kV Lonikand-II S/s”.

MSETCL representative submitted that 400kV Lonikand-II S/s is critical MSETCL substation in grid & commissioned on 26.03.2012. It cater the load of 132kV Pune Ring Main. 400kV Lonikand-II S/s connects to 220kV Bhosari, VSNL, Ranjangaon & 400kV Lonikand-I S/stns through interconnector.

MSETCL representative highlighted that at present, 400kV Lonikand-II S/s caters the load of 132kV Sanaswadi & 132kV Markal S/stn because it is not possible to manage load of all four 132kV substations on existing 2x100MVA, 220/132kV ICTs. The maximum load of 132kV Sanaswadi & 132kV Markal S/stn is 175MW, which is more than 75% of total capacity of existing ICTs. Also, the load of 132kV Theur & 132kV Sanaswadi cannot managed on existing ICTs.

MSETCL representative added that the scheme in respect of augmentation by replacement of existing 2x100 MVA, 220/132kV ICT by 2x200 MVA, 220/132kV ICT at 400kV Lonikand-II substation is already approved vide BR No. 166/22 dtd. 19.01.2024. But considering the existing load & future upcoming load at 132kV level, this scheme completion will not fulfilled the N-1 criteria of augmentation at 400kV Lonikand-II S/s.

Hence, to satisfy (N-1) criteria & also to meet the future load demand, additional 1x200 MVA, 220/132kV ICT is proposed at 400kV Lonikand II S/s by CE, EHV PC(O&M) zone, Pune.

The Estimated cost of the scheme is ₹ **2675 Lakh**. The Scheduled Commission year for scheme is **FY 2025-26**.

In view of the requirement to fulfill present & future load requirement, to address the overloading problems, enhance system reliability and present N-1 non compliance, after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval

Agenda Point No. AD2:

Replacement of 2x100MVA, 220/132kV ICTs by 2x200MVA, 220/132kV ICTs at 220kV Kumbhari S/s.

MSETCL representative placed before the MTC a proposal for the Replacement of 2x100MVA, 220/132kV ICTs by 2x200MVA, 220/132kV ICTs at 220kV Kumbhari S/s.

MSETCL representative submitted that the 220kV South Solapur S/s was commissioned on 07.06.2012. At present, there are 2Nos. of 100MVA, 220/132kV ICTs are in service at 220kV South Solapur S/s, operating parallel feeding load of 132kV South Solapur-Bale & 132kV South Solapur- Akkalkot lines, 132kV DC line of Gokul Sugar Co-gen (10MW generation) & 132kV Chetak Solar Generation (12MW generation) plants are connected with 132kV South Solapur-Akkalkot line by making LILO arrangement. In addition to that, new 132kV South Solapur-MIDC line proposed, will increase the load demand at 220kV South Solapur S/s. It is difficult to manage the load in case of tripping/outage on any of the ICTs i.e. Not fulfill N-1 criteria.

Hence, to satisfy (N-1) criteria & also to meet the future load demand, replacement of 2x100 MVA, 220/132kV ICTs by 2x200 MVA, 220/132kV ICTs is proposed at 220kV South Solapur S/s.

The Estimated cost of scheme is ₹ 2315 Lakhs. The Scheduled Commission year for scheme is FY 2025-26.

In view of the requirement to fulfill present & future load requirement, to address the overloading problems, enhance system reliability and present N-1 non compliance, after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval

Agenda Point No. AD3:

Providing additional 1x50MVA, 220/22kV T/F along with HV & LV bays at 220kV Chakan-II S/s.

MSETCL representative placed before the MTC a proposal for the “Providing additional 1x50MVA, 220/22kV T/F along with HV & LV bays at 220kV Chakan-II S/s”.

MSETCL representative submitted that the 220/132/22kV Chakan Phase-II Sub-Station was commissioned on Dt. 06.03.2016. 220kV Chakan-II S/s is very important & critical S/s in Chakan MIDC area. Maximum load on existing 2x50MVA, 220/22KV T/Fs is 90MVA i.e.; 90% of installed capacity. It feeds the Chakan MIDC, 4 Nos of EHV Consumers having 3 no. of

oxygen production plants, Chakan MIDC Phase-2, Talegaon MIDC Phase-2, Urban & Rural Part of Chakan/Ambethan/Varule/Rajgurunagar and nearby villages of Pait, Kadus, Karanjvihare.

MSETCL representative highlighted that it is difficult to manage the load in case of tripping/outage on any of the T/Fs i.e. Not fulfill N-1 criteria. The proposed scheme fulfils the augmentation criteria.

Hence, to satisfy (N-1) criteria & also to meet the future load demand, additional 1x50 MVA, 220/33kV T/F is proposed at 220kV Chakan-II S/s by CE, EHV PC(O&M) zone, Pune.

The Estimated cost of the scheme is ₹ 1522 Lakh. The Scheduled Commission year for scheme is FY 2026-27.

In view of the requirement to fulfill present & future load requirement, to address the overloading problems, enhance system reliability and present N-1 non compliance, after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval

Agenda Point No. AD4:

Replacement of 1x25MVA, 132/22kV T/F by 1x50MVA, 132/22kV T/F at 132kV Markal S/s.

MSETCL representative placed before the MTC a proposal for the Replacement of 1x25MVA, 132/22kV T/F by 1x50MVA, 132/22kV T/F at 132kV Markal S/s.

MSETCL representative submitted that 132kV Markal substation commissioned on dtd. 21/12/2001 to cater the power supply of Markal MIDC, residential & commercial load of Alandi, Dhanore & Markal area.

MSETCL representative highlighted that the technical feasibility is sanctioned for 22kV PMPML & PMAY of load 4.5MVA & 3.363MVA respectively from 132kV Markal S/Stn and these 22kV PMPML & PMAY will be charged within few months. It is difficult to manage the load in case of tripping/outage on any of the T/Fs i.e. Not fulfill N-1 criteria.

Hence, to satisfy (N-1) criteria & also to meet the future load demand, replacement of 1x25 MVA, 220/22kV ICTs by 1x50 MVA, 220/22kV T/Fs is proposed at 132kV Markal S/s by CE, EHV PC(O&M) zone, Pune.

The Estimated cost of scheme is ₹ 464 Lakh. The Scheduled Commission year for scheme is FY 2025-26.

In view of the requirement to fulfill present & future load requirement, to address the overloading problems, enhance system reliability and present N-1 non compliance, after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval

Agenda Point No. AD5:

Providing additional 1x50MVA, 220/33kV T/F along with HV & LV bays at 220kV Kurkumbh S/s.

MSETCL representative placed before the MTC a proposal for “Providing additional 1x50MVA, 220/33kV T/F along with HV & LV bays at 220kV Kurkumbh S/s”.

MSETCL representative submitted that 220kV Kurkumbh S/s is commissioned in 2007 & caters the load of Kurkumbh MIDC, Shirsai LIS & part of Daund & Baramati Taluka through 2x50MVA, 220/33kV T/Fs. There is requirement of load of MSEDCL at 220kV Kurkumbh S/s i.e. new Kurkumbh Patas MIDC with 10MVA & Roti with 05MVA load.

MSETCL representative highlighted that It is difficult to manage the load in case of tripping/outage on any of the T/F i.e. Not fulfill N-1 criteria. Hence, to satisfy (N-1) criteria & also to meet the future load demand, additional 1x50 MVA, 220/33kV T/F is proposed at 220kV Kurkumbh S/s by CE, EHV PC(O&M) zone, Pune.

The Estimated cost of the scheme is ₹ 945 Lakhs. The Scheduled Commission year for scheme is FY 2026-27.

In view of the requirement to fulfill present & future load requirement, to address the overloading problems, enhance system reliability and present N-1 non compliance, after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval.

Agenda Point No. 50:

Upgradation and Augmentation of existing 110 kV Powai RSS by creation of 220 kV level: 220 kV AEML Chandivali-TPC-T Powai D/C line

TPC-T representative placed before the MTC a proposal for “Upgradation and Augmentation of existing 110 kV Powai RSS by creation of 220 kV level: 220 kV AEML Chandivali-TPC-T Powai D/C line”.

TPC-T representative submitted that MMRDA has applied to STU for the 110 kV load @ 57 MVA for proposed Metro Station. Consequently, TPC-D has applied to STU for 33 kV load @ 90 MVA. The existing Firm Transformation (90 MVA) of S/s and Source capacity (150 MVA) is not adequate to cater this load demand. Further TPC-T representative informed that Hon. MERC has also opined to upgrade existing TPC-T 110 kV Stations to 220 kV level in view of long-term transmission planning.

Therefore, to meet the existing and future load requirement it will be necessary to augment the existing 110 kV Powai RSS at 220 kV level with additional 220 kV / 33 kV Transformer. TPC-T has proposed for a double circuit line from 220kV AEML-T Chandivali to upgraded 220kV Powai considering the short length of line.

The Estimated cost of scheme is ₹ 480.91 Crore. This scheme will be commissioned in FY 2026-27.

M/s AEML-T informed that a space for only one bay is available at the upcoming 220 kV Chandivali (AEML) substation due to space constrains. In view of this Chairman, MTC suggested TPC-T verify the feasibility of LILO on Salsette-Saki or Vikhroli (KVTPL)-Saki at 220 kV Powai S/s along with a single source from Chandivali. This arrangement would also enhance reliability of the system with added interconnection. After this technical feasibility is verified a joint system study by TCP-T & STU to be carried out with this option to finalise the sources at 220 kV Powai S/s.

Agenda Point No. 51:

Installation of 110 kV /22 kV S/s Kailash Nagar, Wagle Estate, Thane

TPC-T representative placed before the MTC a proposal for “Installation of 110 kV /22 kV S/s Kailash Nagar, Wagle Estate, Thane”.

TPC-T representative submitted that the Superintending Engineer, Thane Urban Circle had submitted a requirement on 16.01.2024 for establishment of new 110/22 kV sub-station at Kailash Nagar , Wagle Estate on priority considering the critical load growth in near future.

Tata Power Transmission expressed interest and briefed about the plan of installation of station at Wagle Estate, Thane. Further Tata Power submitted expression of interest to SE, Thane Urban Circle on 17.01.2024

TPC-T representative highlighted that subsequent to Tata Power’s expression of interest of establishing EHV substation at Wagle Estate, Kailash Nagar; Superintending Engineer, Thane

Urban Circle submitted proposal to CE (Dist), MSEDCL regarding establishment of new 110 / 22 kV S/s at Kailash Nagar in order to cater existing and future load growth in Wagle Estate and adjoining area. Therefore, to meet Load demand of MSEDCL of @ 175 MVA in the Wagle Estate, Thane, this scheme is necessary.

The Estimated cost of scheme is ₹ 350 Crore. This scheme will be commissioned in FY 2026-27.

SE-STU informed the forum that the requirement for 110 kV /22 kV S/s Kailash Nagar, Wagle Estate is not yet received by STU from MSEDCL. Further the committee opined that considering the load requirement in Thane area, TPC-T should explore the feasibility of a 220kV Substation instead of 110kV which has been proposed. TPC-T informed that 110Kv Kolshet –Salsette circuits are passing through the area hence it would be more feasible to setup a 110kV substation, however committee suggested TPC-T to verify the feasibility of 220kV substation either through upgradation of existing corridor or tapping a nearby 220kV source. MTC would consider the proposal in line with above only after the receipt of MSEDCL requirement in the area.

Agenda Point No. 52:

Centralized Grid Connected Battery Energy Storage System (BESS) of 200 MW at Trombay S/s for Grid support in Mumbai Transmission System

TPC-T representative placed before the MTC a proposal for Centralized Grid Connected Battery Energy Storage System (BESS) of 200 MW at Trombay S/s for Grid support in Mumbai Transmission System

TPC-T representative submitted that from historic Power blackout i.e. 12th October Mumbai Blackout, (On 12th October Mumbai Blackout, even after operation of islanding scheme, can be attributed to very steep rate of drop in frequency after grid disturbance.

TPC-T representative added that conventional generating stations, though changed over automatically to speed control mode, could not respond in desired timeframe and as a result, frequency dropped to very low value in the range of 47 – 45 Hz resulting in trip out of generators), it was learnt that need for frequency regulation /stabilization to enable safe islanding Need to have continuity of power incase of prolonged black out outside Mumbai Island or on the incoming transmission network.

Further IIT-Bombay study recommended that

1. BESS may be provided as a single device at one 110 kV bus or as distributed devices for better reliability. Bidirectional capability is preferable so that if over-shedding of load has been done, the device can help by absorbing some power.
2. Thereafter the fast injection can control frequency variations due to loads like railway trains/ metros.

TPC-T Representative explained benefits of BESS as follows:

BESS can provide relief during contingency in MMR network, also support Load levelling / peak saving, Network congestion mgmt., Voltage / Frequency regulation, Spinning reserve, Black start capability. This scheme will be commissioned in **FY 2025-26**.

Chairman MTC directed SE,STU to form a Joint study committee (STU, TPC-T & AEML-T) to verify a joint requirement BESS in Mumbai region in line with the recommendation of the various committees. The Joint Study committee will have as time mandate of 60 days to submit their report along with detailed roadmap to MTC .

Agenda Point No. 53:

33 kV AIS to GIS at Aarey, Versova and Ghodbunder EHV S/s.

AEML-T representative placed before the MTC a proposal for 33 kV AIS to GIS at Aarey, Versova and Ghodbunder EHV S/s.

AEML-T representative submitted that AEML-T operates 3 AIS EHV SubStations (Aarey, Versova and Ghodbunder) commissioned around 1995 and 5 GIS EHV Stations (Goregaon, Saki, Chembur, Gorai, Borivali) commissioned around FY 2011/ 2012/ 2013.

On 26.02.2019 MERC approved Capex scheme, replacement of 07 Nos. of 33kV Indoor AIS boards to GIS boards (Aarey, Versova and Ghodbunder), Commissioned in FY2021. AEML shared details w.r.t. balance 4 nos. of AIS Board remaining at Aarey (2 nos. since 2005), Versova (1 no. since 2005) and Ghodbunder (1 no. since 1999) stating that technology obsolescence, OEM support and spare related issues.

AEML-T highlighted that 04 nos. of AIS boards were installed long back and are in operation over/around 20 years. Over the period, the network at Aarey, Versova and Ghodbunder EHV Station has grown, rising fault levels wrt operating limits of mentioned AIS boards.

AEML-T Mentioned that , 33kV AIS boards have maximum Short Circuit Current (ISC) of 26.3 kA for 3 sec which was manufactured and best available during commissioning period of these 33kV AIS boards.

Proposed scheme will establish required margin in terms of fault level of system as per CEA Planning criteria (Clause No. 5.1.5) *“The maximum short-circuit level on any new substation bus should not exceed 80% of the rated short circuit capacity of the substation equipment. The 20% margin is intended to take care of the increase in short-circuit levels as the system grows ...”*

Therefore, AEML-T proposed to replace old AIS 33kV Boards by New GIS Boards with Short Circuit Current of 31.5 kA.

The Estimated cost of above scheme is ₹ 79 crore. This scheme will completed in FY 2027-28.

In view of the technology obsolescence, spare related issues and breach of fault levels , after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval.

Agenda Point No. 54:

Augmentation of OH line with HTLS/twin Conductor (DTPS-Boisar-Ghodbunder-Gorai-Versova-Aarey-Borivali OH lines)

AEML-T representative placed before the MTC a proposal for Augmentation of OH line with HTLS/twin Conductor (DTPS-Boisar-Ghodbunder-Gorai-Versova-Aarey-Borivali OH lines)

AEML-T representative submitted that out of total 573 ckt kms, ~500 ckt kms is overhead lines within AEML system, in operation since around 30 years, AAAC Zebra conductor, with power transfer capacity around 267 MW per ckt. As per future plan, under 400kV Velgaon scheme, DTPS/Boisar- Versova, DTPS-Ghodbunder lines (4 ckts) will be LILO. Upcoming Kandivali, Uttan, Malad-East & future Metro connectivity likely to be on OH lines. Hence, load on existing OH line is estimated to increase further. Load flow indicates, various scenarios under which load on OH lines rises.

HLC Report, Feb 2021, recommendations vide Chapter 6: Enhancement of Transmission System: Planning & Operational Aspects,

iv. *“In the MMR area, there are hurdles in constructing EHV lines in the new corridor due to Right of Way (ROW) problems. Therefore, the existing line corridor can be used for capacity*

enhancement either by reconductoring the lines through High Temperature Low Sag (HTLS) conversion or upgradation of the lines to a higher voltage level. “

Hence, AEML-T proposed scheme to convert existing conductors by HTLS Conductor in AEML System (viz; DTPS – Boisar – Versova, DTPS – Ghodbunder, Ghodbunder – Gorai – Versova, Versova – Aarey – Borivali OH corridor lines)..

The Estimated cost of above scheme is ₹ 483 Crore. This scheme will be implemented in FY 2027-28.

MTC opined that in view of the LILO of these circuits at upcoming 400kV Velgaon substation and depletion of Dahanu generation this corridor needs to be strengthen to bring in more power to the Mumbai system. Thus to meet future load demand, mitigate severe ROW issues and to enhance system reliability and stability this corridor strengthening is essential .Thus detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval.

Agenda Point No. 55:

Augmentation of cable links between AIS & GIS installation AEML at MSETCL-Borivali

AEML-T representative placed before the MTC a proposal for “Augmentation of cable links between AIS & GIS installation AEML at MSETCL-Borivali”.

AEML-T submitted that MSETCL raised concern vide mail dated 19.04.2024 on full load rating capacity of 1200 sq mm cable system connecting AIS (MSETCL system) to GIS system (AEML) at MSETCL Borivali EHV S/s.

AEML-T explained that there are 2 cables per phase laid in single trench, limiting its operating capacity to 1378 Amps. (689 Amps per circuit), and actual loading is approaching operating limits. Load flow study also indicates overloading under few system contingencies.

Therefore it is need to take preventive action to avoid a major incident which may lead to curtailment of load in Mumbai system. Hence, AEML-T proposed scheme to replace existing

cables with new ones by 2 x 2500 sq.mm., which will upgrade the current carrying capacity of said section to 1584 Amp (792 A each circuit).

The Estimated cost of scheme is ₹ 14.15 Crore. This scheme will be implemented in FY 2025-26.

MTC opined that the upgradation of cable links between AIS & GIS installation AEML at MSETCL-Borivali is essential to avoid transmission constrain during contingencies which would result in load curtailment in Mumbai system. Thus to avoid network constraints & enhance system reliability and stability, after detailed deliberation and discussion the committee recommended the scheme for submission to GCC for approval.

Agenda Point No. 56:

Replacement of 220 kV GIS Bays (Tr-5) w.r.t. space constraints and short circuit level issues at Aarey EHV

AEML-T representative placed before the MTC a proposal for “Replacement of 220 kV GIS Bays (Tr-5) w.r.t. space constraints and short circuit level issues at Aarey EHV”

AEML-T representative submitted that AEML mention short circuit Fault Current Carrying Capacity issues with existing 220kV GIS Bays at Aarey, commissioned in 2007 (designed – 40kA, for Transformer No. 5 + Incomer bays). Also observed short circuit Fault level indicates non-compliance w.r.t. CEA Planning Criteria. Other 220kV GIS Bays at Aarey EHV S/s have been installed under 220kV AIS to GIS scheme with 50 kA Fault Current Carrying Capacity recently.

In view of upcoming schemes, 4 new 220kV GIS bays are to be commissioned at Aarey (2 nos. for 2nd feed BKC scheme, recently approved by MERC, 2 nos. For 2nd feed Chandivali scheme recently recommended by MTC). Further, there are space constraints, as new GIS extension usually consumes space for adapter. Therefore, AEML-T proposes to replace existing TR-5 220kV GIS Bay with new bays along with upcoming commissioning of 2nd feed BKC scheme, under NDPR scheme.

The Estimated cost of scheme is ₹ 17 Crore. This scheme will be implemented in FY 2026-27.

MTC opined that in view of space constrains ,maintaining parity of the short circuit capacity of the new and old switch gear and enhance system reliability and stability the proposal of AEML-T may be considered. After detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval.

Agenda Point No. 57:

Procurement of critical spare for AEML-T

AEML-T representative placed before the MTC a proposal for “Procurement of critical spare for AEML-T”

AEML-T representative submitted that on 28.05.2024, flashover in Gorai Busbar module 789 A, for which immediate restoration could not be pursued because of unavailability of associated critical spares.

AEML-T representative highlighted that due to fault, 125MVA Transformer kept out for almost ~70 days. AEML-T revisited availability of critical spares. Looking at recent Gorai incidence, in order to ensure reliable power supply, Critical Spares are required to be procured. OEM specify spares with shelf life, which need replenishment post expiry. Many spare needs to be imported from overseas vendors. Such sourcing of spares, need significant lead time in terms of Procurement / manufacturing/ transportation 6-12 months

AEML-T representative mentioned that AEML operates 03 AIS S/s commissioned around 1995 - 1997, 5 GIS S/s commissioned around 2011 - 2012. Year 2014 onwards, New schemes are being planned with initial spares @ **certain % value** of Equipment/line, under CAPEX as per provision in MYT Regulations (2015/2019/2024), whereas, old schemes didn't not have such provision

In view of above, AEML-T has proposed DPR under CAPEX scheme to procure critical spares.

The Estimated cost of scheme is ₹ 32.70 Crore. This scheme will be completed in FY 2025-26.

The MTC members discussed the issue in detail. All the other transmission licensees to expressed a similar issue. The Chairman MTC opined that issue does not comes under the perview of MTC and transnission licensees can directly approach Hon.MERC for the same. However in view of the suggestions and request of members MTC shall apprise the issue to GCC during the ensuing GCC meeting for seeking their direction in the matter.

Agenda Point No. 58:

Observation about rise in short circuit level w.r.t. Bus fault at Gorai EHV S/s on 28.05.2024

AEML-T representative placed before the MTC a proposal for Observation about rise in short circuit level w.r.t. Bus fault at Gorai EHV S/s on 28.05.2024

AEML-T representative explained that AEML mentioned that on 28th May 2024, 220 kV Bus-1 & Bus-2 at AEML Gorai EHV Substation tripped due to Three Phase fault. Operation of 220 kV Bus Bar Protection lead to Tripping of 125 MVA Transformer-1 & 125 MVA Transformer-2 at 17:59 Hrs resulting in total blackout of Gorai EHV Sub Station. This caused major interruption to consumers connected to distribution network of a Licensee connected fed from these Transformers. Fault current of magnitude 58.6 kA was observed, with Heavy voltage dip was experienced by the system. And load loss of 491.5 MW was observed (including actual load loss of around 100 MW at Gorai EHV S/s).

AEML-T representative highlighted that as per CEA Planning criteria 2023, (Ch. 5 : Substation Planning), “the maximum short-circuit level on any new substation should not exceed 80% of the rated short circuit capacity of substation equipment...”

AEML-T representative added that The fault current rated designed capacity 50KA, which has been exceeded as observed during recent fault. On 30.05.2024 Grid Event Report : Mumbai Region (No. 01063) received from SLDC. On 11.06.2024 AEML submitted Analysis Report on Tripping of 220kV Main Bus -1 & 2 at AEML Gorai on 28.05.2024 to SLDC.

On 05.07.2024 AEML submitted Letter to STU, regarding High fault level in MMR system observed during Bus fault at Gorai EHV S/s. 10th MTC discussion & Joint site visit on 31.07.24. On 07.10.2024, AEML letter to STU for System study & remedial measures.

AEML-T representative further mentioned that network complexities are increasing due to rising load and network expansion. And that the impact of fault levels in the system is not confined to one particular licensee. Hence, requested for system study for remedial measures. Regarding short term solution, on 14.10.2024, joint discussion was done including AEML and STU for joint studies with MSLDC. Accordingly, on 15.10.2024, joint system studies were conduct with M-SLDC, STU and AEML. Result of which were discussed during 11th MTC.

As per joint Load flow studies carried by MSLDC, STU and AEML, bunching of lines shall reduce the fault level upto 49 kA. However, bus split arrangement at Gorai EHV Station is more effective as it reduces the fault level up to 42 kA.

Based on Joint study carried out by STU,AEML-T & SLDC, as a short term measure it has been suggested to operate the 220kV bus at Gorai in split bus arrangement for reduction of fault levels as it is envisaged that maintaining continuity between Gorai - Borivali and Ghodbunder-Borivali is essential from network point of view. Chairman,MTC stressed on the need for long term measures in this respect and review of fault levels at substations under MMR and Mumbai region through a comprehensive fault level study considering connections of additional 400kV sources in the network.

SE(System),STU to coordinate for these studies and complete the same within time bound manner.

Agenda Point No. AD6:

Additional 765/400 kV, 1500 MVA ICT each at 765/400 kV Tiroda substation

MEGPTCL representative placed before the MTC a proposal for “Additional 765/400 kV, 1500 MVA ICT each at 765/400 kV Tiroda substation”.

MEGPTCL representative submitted that MEGPTCL was granted transmission license by Hon'ble commission for installing 2nd ICT at Tiroda substation and submit the DPR to commission for in-principle approval in accordance with guidelines for capital investment. Presently there is only 1 x 1500 MVA 765/400kV ICT at Tiroda Substation.

Requirement of additional ICT at 765/400kV Tiroda Substation to meet N-1 and N-1-1/N-2 contingencies. Joint study carried out by STU and MEGPTCL indicated 400 kV Tiroda-Warora S/C line gets overloaded during contingency of other parallel circuit and ICT at Tiroda (N-1-1) under peak load conditions. Further considering events of tower collapse in recent past, in the case of outage of both the circuit (N-2 contingency) of Tiroda-Warora line the ICT will be loaded to 1890 MW which is nearly 120% of its rated capacity. With 2nd ICT at Tiroda both N-1-1 & N-2 contingencies all lines and ICT flows are within limit. Hence, MEGPTCL submitted proposal for Installation of additional 765/400kV ICT & associated bays at Tiroda substation of MEGPTCL.

The Estimated cost of cited scheme is ₹ 363.71 Crore.

In view of the requirement to fulfill present & future load demand, enhance system reliability, and present N-1-1/ N-2 non compliance for 765 kV level and the scheme already included in the License of MEGPTCL ,after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval and directed MEGPTCL to submit DPR to STU.

Agenda Point No. AD7:

Additional 765/400 kV, 1500 MVA ICT each at 765/400 kV Akola substation

MEGPTCL representative placed before the MTC a proposal for “Additional 765/400 kV, 1500 MVA ICT each at 765/400 kV Akola substation”.

MEGPTCL representative submitted that presently there is only 1 x 1500 MVA 765/400kV ICT at Akola Substation. There is requirement of additional ICT at 765/400kV Akola Substation to meet N-1 and N-1-1/N-2 contingencies.

MEGPTCL representative highlighted that Joint study carried out by STU and MEGPTCL indicated 765/400kV Akola ICT gets overloaded during N-1-1/N-2 contingency of 765kV Akola II Aurangabad III D/C Line. Further in case of tripping of remaining ICT the 765kV system will collapse and there will be no path available for evacuation of 2 x 600 MW generation of Adani. With 2nd ICT at Akola both N-1-1 & N-2 contingencies all lines and ICT flows are within limit.

The Estimated cost of cited scheme is ₹ 275.44 Crore.

In view of the requirement to fulfill present & future load demand, enhance system reliability, and present N-1-1/ N-2 non compliance for 765 kV level and the scheme already included in the License of MEGPTCL , after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval and directed MEGPTCL to submit DPR to STU.

Agenda Point No. AD8:

Proposal for delta type suspension type tower strengthening of MEGPTCL 765 kV Tiroda – Koradi – Akola – Ektuni transmission lines

MEGPTCL representative placed before the MTC a proposal for Proposal for delta type suspension type tower strengthening of MEGPTCL 765 kV Tiroda – Koradi – Akola – Ektuni transmission lines

MEGPTCL representative submitted that 765 kV S/C Tiroda – Koradi – Akola – Aurangabad (Ektuni) transmission lines transfer the bulk amount of power from Northeastern Maharashtra to critical load centres of Maharashtra like Mumbai, Pune & Aurangabad which was commissioned in Feb. 2014.

The transmission system of MEGPTCL comprises of 1868 no. of 765 kV Wind Zone-2 delta type design towers. Since last few years, MEGPTCL is facing issue of 765 kV tower collapse, incidents as under:

MEGPTCL representative highlighted that in the event of breakdown in any of these lines the Maharashtra state grid enters in the red alert (Critical) mode due to absence of N-1 contingency. Hence, there is need for strengthening of towers due to revised guidelines as per the revised IS

802 code & the climate change effects resulting into temperature rise and increased frequency of the localized cyclonic storms in Maharashtra region.

MEGPTCL representative submitted that they have carried out route cause analysis with third party consultant & also obtained PGCIL inputs on tower design. MEGPTL Tower collapse incidences were also discussed in 39th and 42nd NRPC meeting. NRLDC highlighted tower collapsed incidences of recent past years for the same design type of towers in Wind Zone 2.

MSETCL representative mentioned that PGCIL has revised/ upgraded/ strengthened the 765 kV suspension delta type tower design due to persistent failure of delta type suspension towers.

MSETCL representative added that as per CEA (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations, 2022 Clause 85, Sub clause (j) *mentioned that the "Delta configuration towers shall not be used for 765 kV single circuit line"*.

Considering the criticality of line & repeated nature of tower collapse incidents, MEGPTCL studied of the delta type towers and tower collapse incidents. It is also observed that their need for strengthening of Delta type towers in similar incidents faced by PGCIL. Further, MEGPTCL has also come across Order/ Report with respect to failure of EHV Transmission Line towers.

MEGPTCL representative submitted that based on the analysis of CERC Order and CEA report, it is observed that there is issue with the delta type of towers and many incidents had happened of tower collapse. The Estimated cost of cited scheme is ₹ 110 Crore.

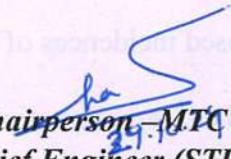
Considering the criticality of the 765 kV Line corridor of Maharashtra Grid for North-Eastern Maharashtra to critical load centres Mumbai, Pune & Aurangabad the availability of corridor is very essential. Thus the strengthening of the delta type towers for 765 kV line of MEGPTCL are required to be carried out, after detailed deliberation and discussion, the committee recommended the scheme for submission .

Points for discussion:

Review of Projects under STU Plan

The Chairman, MTC informed the forum that as per MEGC-2020 MTC is mandated to monitor and review the progress of all projects under STU plan and approved by MTC. It has already been decided that licensees have to submit the quarterly progress of projects included in STU Plan for review during MTC meetings. The Progress report is to be submitted on or before 5th of each Quarter Month. However it is observed that licensees are not following the same. He therefore requested all licensees to scrupulously follow and submit the progress in timely manner hence forth.

SE (STU), Member Convener, MTC offered the vote of thanks to all the MTC members and other participants and concluded the 11th MTC Meeting.


Chairperson, MTC
Chief Engineer (STU)

Minutes of Meeting

Review of Projects under STU Plan

The Chairman MTC informed the forum that as per MEGC-2020 MTC is mandated to monitor and review the progress of all projects under STU plan and approved by MTC. It has already been decided that licensees have to submit the quarterly progress of projects included in STU plan for review during MTC meeting. The progress report is to be submitted on or before 5th of each Quarter Month. However it is observed that licensees are not following the same. He therefore requested all licensees to scrupulously follow and submit the progress in timely manner hence forth.