



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

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MSETCL/CO/STU/Sys/MTC/

No- 4842

Date:

129 JUL 2024

To,
As per mailing list

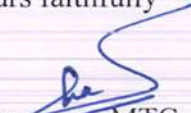
Sub: Minutes of 10th Maharashtra Transmission Committee (MTC) meeting held on 10 July, 2024.

Please find enclosed herewith minutes of the 10th Maharashtra Transmission Committee (MTC) meeting held on 10 July, 2024 at 11:00 Hrs. This meeting was hosted by MSLDC, Kalwa.

It is to be noted that the minutes of above meeting is 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	ceslde@mahatransco.in
4	MSETCL	Superintending Engineer (O&M)	Member	se1om@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	dyceetrderly@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 10th Maharashtra Transmission Committee (MTC) Meeting held on 10 July, 2024 at MSLDC, Kalwa

The 10th Maharashtra Transmission Committee (MTC) was held on 10 July, 2024 at MSLDC, Kalwa.. The Chief Engineer (STU), The Chairman of MTC, presided over the meeting through VC. Representatives of MSETCL, MSEDCL, TPC-T, AEML-T, KVTPL, BEST representative attended meeting physically, while representative of Central Railway attended meeting through VC link.

On the onset Superintending Engineer (STU), Member secretary of MTC, Welcomed all the MTC members present & & other participants in the 10th MTC meeting. After brief introduction of the participants, SE (STU) Member Secretary of MTC, informed the agenda points of 10th MTC to presented Members.

Agenda Point No. 1:

Confirmation of minutes of the 10th MTC Meeting

The SE (STU) Member Secretary of MTC, informed that minutes of the 9th MTC meeting held on 13 March, 2024 were circulated to all the members vide STU letter No. 2898 dated 30 April, 2024. However no comments are received from members and hence requested to conform the MOM of the 9th MTC Meeting. With the consent of the members present, the Minutes of the 9th MTC meeting held on 13 March, 2024 were conformed.

Agenda Point No. 2:

Replacement of 2x100 MVA, 220/132kV ICTs by 2x200 MVA, 220/132kV ICTs at 220kV Alephata Sub-Station under EHV O&M Division, Manchar

MSETCL representative placed before the MTC a proposal for the Replacement of 2x100 MVA, 220/132kV ICTs by 2x200 MVA, 220/132kV ICTs at 220kV Alephata Sub-Station under EHV O&M Division, Mancha.

MSETCL representative explained that 220kV Alephata S/s feeds, MIDC, Urban & Rural Part of Junnar, Ambegaon, Khed, Chakan Taluka, 132 kV Vighnagar Cogen & area fed by Narayangaon S/s. The cited S/s having two no. ICT. Max. loading on both ICT in the past 3 years is more than 70%.

In case of an outage/ tripping on one ICT, it is difficult to manage the load on other ICT. Due to the loading condition of the substation, MSEDCL/ EHV consumers also deny the NOC for an outage on either ICT. 220kV Alephata S/s fulfills the criteria of the augmentation scheme. Hence,

to satisfy (N-1) criteria & also to meet the future load demand, the replacement of 2x100 MVA, 220/132kV ICT to 2x200 MVA, 220/132kV ICT is proposed at 220kV Alephata S/s. The Estimated cost of the scheme is **Rs. 2689.90 Lakh**. The scheduled commissioning year of the scheme is **FY 2023-24**.

In view of the additional load requirement of MSEDCL to meet future loading requirements 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. 3:

Providing additional 1X50 MVA 220/33kV T/F alongwith HV & LV bays at 220 kV Badnera S/S under EHV O&M Division Amravati.

MSETCL representative proposed & presented the proposal for The 220 kV Badnera Substation commissioned in the year 1993. The current installed capacity of the substation at 220 kV Badnera S/S is 100 MVA, consisting of 2 No's of 50 MVA, 220/33 kV T/fs.

MSETCL representative highlighted that this substation feeds the urban area of Amravati, MIDC load, and rural and agricultural load in the areas of Amravati, Badnera, Bhatkuli, and Nandgaon Kh area. Maximum loading reached on both the T/Fs is above 80 % of installed capacity. The proposal fulfills the augmentation scheme criteria. During an outage/Breakdown of either of the T/f, the load is not managed on the 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 220 kV Badnera S/s. The Estimated cost of the scheme is **Rs. 907.84 Lakh**. The scheduled commissioning year for the scheme is **FY 2025-26**.

In view of the additional load requirement of MSEDCL to meet future loading requirements 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. 4:

Providing additional 1X25 MVA 132/33kV T/F along with HV & LV bays at 132kV Digras S/s under EHV O&M Division Yavatmal

MSETCL representative placed before the MTC a proposal for "Providing additional 1X25 MVA 132/33kV T/F along with HV & LV bays at 132kV Digras S/s under EHV O&M Division Yavatmal".

MSETCL representative explained that the 132kV Digras Substation was commissioned in 1999. The current installed capacity of the substation at 132 kV Digras S/S is 50 MVA, consisting of 2 Nos of 25 MVA, 132/33 kV T/fs. 132kV Digras substation is the only substation feeding the load in Digras Taluka.

MSETCL representative submitted that the Maximum loading reached on both the T/Fs is above 85 % of installed capacity. The proposal fulfills the augmentation scheme criteria. During an outage/Breakdown of either of the T/f, the load is not managed on the other T/f i.e. not satisfying N-1 criteria. Hence, the Proposal is put up for approval from the MTC Committee. The Estimated cost of the scheme is **Rs. 555.18 Lakh**. The scheduled commissioning year for the cited scheme is FY 2025-26.

In view of the additional load requirement of MSEDCL to meet future loading requirements 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. 5:

Replacement of 2x25 MVA,132/33kV power transformers with 2x50MVA, 132/33kV power transformers' at 132kV Pandharkawada S/Stn under EHV O&M Division, Yavatmal

MSETCL representative placed before the MTC a proposal for "Replacement of 2x25 MVA,132/33kV power transformers with 2x50MVA, 132/33kV power transformers' at 132kV Pandharkawada S/Stn under EHV O&M Division, Yavatmal".

MSETCL representative explained that the 132kV Pandharkawada Substation was commissioned in 2012. The current installed capacity of the substation at 132 kV Pandharkawada Substation is 50 MVA, consisting of 2 nos of 25 MVA, 132/33 kV T/fs. 132kV Pandharkawada substation supplies urban and rural areas of Kelapur, Ghatanji, Zari Zamni, Maregaon (partial) & Wani (partial) Taluka. Both Transformers presently operate on more than 90% average load. The maximum quantum of the load is shared by the agriculture load which is increasing at a high rate. Hence, the Proposal is put up for approval from the MTC Committee by MSETCL. The estimated Cost of the Scheme is **Rs. 1030.11 Lakh**. The cited work proposes to be commissioned in FY 2025-26.

In view of the additional load requirement of MSEDCL to meet future loading requirements, after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval.

Agenda Point No. 6:

Providing additional 1X25 MVA 132/33kV T/F alongwith HV & LV bays at 132kV Karanja S/s under EHV O&M Division Akola

MSETCL representative placed before the MTC a proposal for Providing an additional 1X25 MVA 132/33kV T/F along with HV & LV bays at 132kV Karanja S/s under EHV O&M Division Akola

MSETCL representative explained that the 132kV Karanja Substation was commissioned in the year 2010. 132kV Karanja substation is the only substation feeding the load in Digras Taluka. The average maximum loading reached on both the 25 MVAT/Fs is above 90 % of installed capacity. During an outage/Breakdown of either of the T/F, the load is not managed on the other T/F i.e. not satisfying (N-1) criteria.

In view of the above, the scheme of Providing an additional 1X25 MVA 132/33kV T/F along with HV & LV bays at 132kV Karanja S/s under EHV O&M Division Akola, proposed by MSETCL. The Cost of the Scheme is **Rs. 790.69 Lakh**. Said Work will be commissioned in **FY 2024-25**.

In view of the additional load requirement of MSEDCL to meet future loading requirements 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. 7:

Providing additional 1X50 MVA 132/33kV T/F alongwith HV & LV bays at 132kV Malegaon S/s under EHV O&M Division Akola

MSETCL representative placed before the MTC a proposal for Providing an additional 1X50 MVA 132/33kV T/F along with HV & LV bays at 132kV Malegaon S/s under EHV O&M Division Akola.

MSETCL representative submitted that The 132kV Malegaon Substation was commissioned in the year 1977. 132 kV Malegaon substation is the substation feeding the load of urban and rural areas in Malegaon Tehsil and nearby rural areas.

The Substation has two T/Fs and the Maximum loading reached on both T/Fs is above 85 % of installed capacity. During an outage/Breakdown of either of the T/F, the load is not managed on the other T/F i.e. not satisfying (N-1) criteria. Hence considering the present loading condition, outage constraints and to satisfy (N-1) criteria addition of T/F is proposed at 132kV Malegaon S/s. The cost of the scheme is ₹ 714.58 Lakh. The scheduled commissioning year for this scheme is FY 2025-26.

In view of the substation feeding urban and rural load requirement of MSEDCL in Malegaon area 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. 8:

Providing additional 1X25 MVA 132/33kV T/F alongwith HV & LV bays at 132kV Mangrulpir S/s under EHV O&M Division Akola

MSETCL representative placed before the MTC a proposal for The 132kV Mangrulpir Substation was commissioned in the year 1999.

MSETCL representative submitted that the 132 kV Mangrulpir substation is the substation feeding the load of urban and rural areas in Mangrulpir Taluka. This S/s has two T/F each 25 MVA. Maximum loading reached on both the T/Fs is above 85 % of installed capacity. The proposed scheme fulfills the augmentation scheme criteria. During an outage/Breakdown of either of the T/F, the load is not managed on the other T/F i.e. not satisfying (N-1) criteria. Hence considering the present loading condition, outage constraints and to satisfy N-1 criteria addition of T/F is proposed at 132kV Mangrulpir S/s. The estimated cost of the scheme is Rs. 654.29 Lakh. Scheme scheduled to be commissioned in FY 2025-26.

In view of the substation feeding urban and rural load requirement of MSEDCL in Mangrulpir area 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. 9

Replacement of 2X25 MVA, 132/33kV T/Fs by 2X50MVA, 132/33kV T/Fs along with HV & LV bays at 132kV Dusarbid S/S under EHV O&M Division Buldhana

MSETCL representative placed before the MTC a proposal for Replacement of 2X25 MVA, 132/33kV T/Fs by 2X50MVA, 132/33kV T/Fs along with HV & LV bays at 132kV Dusarbid S/S under EHV O&M Division Buldhana

MSETCL representative explained that the 132kV Dusarbid Substation was commissioned in 1992. 132kV Dusarbid substation is the substation feeding the load in Sindkhedraja and Lonar taluka. This S/s has two No. 25 MVA T/F. The average maximum loading reached on both the T/Fs is about 70% of the installed capacity. The land is not available for additional T/F hence proposed for replacement.

During an outage/Breakdown of either of the T/F, the load is not managed on the other T/F i.e. not satisfying (N-1) criteria. Hence considering the present loading condition, and outage constraints to satisfy (N-criteria replacement of T/Fs is proposed at 132kV Dusarbid S/s. The cost of the Scheme is **Rs. 971.31 Lakh**. Cited Work will be commissioned in **FY 2024-25**.

In view of the substation feeding urban and rural load requirement of MSEDCL in Dusarbid area, non-availability of land 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. 10:

Providing additional 1X25 MVA 132/33kV T/F alongwith HV & LV bays at 132kV Buldhana S/s under EHV O&M Division Buldhana.

MSETCL representative placed before the MTC a proposal for providing an additional 1X25 MVA 132/33kV T/F along with HV & LV bays at 132kV Buldhana S/s under EHV O&M Division Buldhana.

MSETCL representative explained that the 132 kV Buldhana Substation was commissioned in the year 1993. This substation feeds the urban and rural areas of Buldhana Taluka and nearby rural areas. Maximum loading reached on both the T/Fs is about 80 % of installed capacity. During outage/tripping of any one of the T/F, the load is not managed on other T/F i.e. not satisfying (N-1) criteria.

The proposed scheme fulfills the augmentation scheme criteria. Hence considering the present loading condition, and outage constraints and to satisfy (N-1) criteria additional T/F is proposed at 132kV Buldhana S/s. The Estimated cost of the scheme is **₹ 531.09 Lakh**. The cited Scheme will be commissioned in **FY 2024-25**.

In view of the substation feeding urban and rural load requirement of MSEDCL in Buldhana area, 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. 11:

Providing additional 1X50MVA 132/33kV T/F alongwith HV & LV bays at 132kV Khamgaon S/s under EHV O&M Division Buldhana

MSETCL representative placed before the MTC a proposal for Providing an additional 1X50MVA 132/33kV T/F along with HV & LV bays at 132kV Khamgaon S/s under EHV O&M Division Buldhana.

MSETCL representative explained that the 132 kV Khamgaon Substation was commissioned in 1987. This substation feeds the urban and rural areas of Khamgaon & Shegaon taluka through 2 nos of 50MVA, 132/33kV T/Fs. Maximum loading reached T/F No. 1 is more than 90 % of installed capacity. As per MSEDCL load growth for the year 2023-24, 33kV Kanarkhed S/s(5MVA), 33kV Parkhed S/s(5 MVA) & 33kV Umra Phata S/s(5 MVA) are proposed by MSEDCL.

The proposed scheme fulfills the augmentation criteria. During outage/tripping of any one of the T/F, the load is not managed on other T/F i.e. not satisfying (N-1) criteria. In view of the above, an additional 50 MVA T/F is proposed at 132kV Khamgaon S/s. The estimated cost of the scheme is ₹ 662.37 Lakh. This scheduled commissioning of the cited scheme is in FY 2025-26

In view of the substation feeding urban and rural load requirement of MSEDCL in Khamgaon area, 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. 12:

Providing additional 1X50 MVA 220/33kV T/F alongwith HV & LV bays at 220kV Chikhali S/s under EHV O&M Division Buldhana

MSETCL representative placed before the MTC a proposal for a Scheme for Providing additional 1X50 MVA 220/33kV T/F along with HV & LV bays at 220kV Chikhali S/s under EHV O&M Division Buldhana.

MSETCL representative explained that the Substation was commissioned in the year 1987. This substation feeds the urban and rural areas of Chikhali Taluka, through 2 nos of 50MVA, 220/33kV T/Fs. Maximum loading reached for both Transformers is more than 70 % of installed capacity.

During the outage/tripping of any one of the T/F, the load is not managed on other T/F i.e. not satisfying (N-1) criteria. In view of the above, additional T/F is proposed at 220 kV Chikhali S/s. The Estimated cost of the scheme is ₹ 658.49 Lakh. The scheduled completion year of said scheme is FY 2025-26.

In view of the substation feeding urban and rural load requirement of MSEDCL in Chikhali area, 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. 13:

Providing additional 1X50 MVA 132/33kV T/F alongwith HV & LV bays at 132kV Mehkar S/s under EHV O&M Division Buldhana

MSETCL representative placed before the MTC a proposal for “Providing additional 1X50 MVA 132/33kV T/F along with HV & LV bays at 132kV Mehkar S/s under EHV O&M Division Buldhana”

MSETCL representative explained that 132kV Mehkar Substation was commissioned in the year 1987. 132 kV Mehkar substation is the only substation feeding the load of urban and rural areas in Mehkar & Lonar taluka. Maximum loading reached on both the T/Fs is above 70 % of installed capacity.

MSETCL representative highlighted that presently total of 33kV MSEDCL’s commissioned S/s having installed capacity 123.15 MVA against our installed capacity of $50 \times 2 = 100$ MVA are being fed through 7 nos of 33kV feeders emanating from 132kV Mehkar s/s. If agricultural load shedding is withdrawn our Transformers will not be able to feed the load. According to the estimate of total load growth of MSEDCL during 2023-24 will be approximately 10 MVA, submitted by the EE, MSEDCL, Khamgaon vide. No.3666; dt.13.09.23.

Load on both the T/Fs at 132kV Mehkar S/s for the last 3 years are rising in trend. During an outage/Breakdown of either of the T/F, the load is not managed on the other T/F i.e. not satisfying (N-1) criteria. Hence considering the present loading condition, and outage constraints and to satisfy (N-1) criteria addition of T/F is proposed at 132kV Mehkar S/s The Estimated cost of the scheme is ₹ 653.83 Lakh, The Scheduled commissioning year of said scheme is FY 2025-26.

In view of the substation feeding urban and rural load requirement of MSEDCL in Mehkar & Lonar Taluka, 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. 14:

Replacement of existing 2X25 MVA, 220/33kV T/Fs by 2X50 MVA, 220/33kV T/Fs at 220 kV Dhamangaon S/s under EHV (O&M) Division Amravati

MSETCL representative placed before the MTC a proposal for Replacement of existing 2X25 MVA, 220/33kV T/Fs by 2X50 MVA, 220/33kV T/Fs at 220 kV Dhamangaon S/s under EHV (O&M) Division Amravati.

MSETCL representative explained that the 220 kV Dhamangaon Substation was commissioned in the year 2000. The current installed capacity of the substation at 220 kV Dhamangaon S/S is 50 MVA, consisting of 2 Noes of 25 MVA, 220/33 kV T/fs. The only substation that supplies power to the Dhamangaon and Chandur Railway Taluka areas is Dhamangaon. Maximum loadings reached on both the T/Fs are above 80 % of installed capacity. The proposal fulfills the augmentation scheme criteria. During an outage/Breakdown of either of the T/f, the load is not managed on the 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 220 kV Dhamangaon S/s. The Estimated cost of the scheme is ₹ 1351.31 Lakh. The above scheme will be commissioned in FY 2025-26.

In view of the substation feeding urban and rural load requirement of MSEDCL in Dhamangaon and Chandur Taluka areas, 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. 15:

Replacement of existing 3X105 MVA, 400/220/33kV ICT by 3X167 MVA, 400/220/33kV ICT along with replacement of spare 1X105 MVA, 400/220/33kV ICT unit by 1X167 MVA, 400/220/33 kV ICT unit at 400/220/33kV ICT at 400kV Akola S/s under EHV PC (O&M) zone, Amravati

The present load demand of Pune District is about 3000MW, which is expected to be increased at the rate of about 80MW to 100MW every year. At present, there are 3Nos. of 500MVA, 400/220/33kV ICTs in service at 400kV Jejuri S/s, having average loading of more than 80%.

In addition to that, caters the load of Rajewadi TSS-I & II which is around 9MW is nearing to the completion. Also, 220kV Lonand I & II lines charged on 11.01.2024 with 120MW additional load on ICTs of 400kV Jejuri 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, additional 3x167 MVA, 400/220/132kV ICT is proposed at 400kV Jejuri S/s. Estimated cost of scheme is ₹ 4501.66 Lakh. This scheme will commissioned in FY 2025-26.

In view of the requirement to fulfill MSEDCL demand in Pune District, 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. 17:

Providing additional 1x50MVA, 220/33kV T/F along with HV & LV Bays at 220kV Jejuri S/s under EHV (O&M) Division, Baramati.

MSETCL representative placed before the MTC a proposal for Providing an additional 1x50MVA, 220/33kV T/F along with HV & LV Bays at 220kV Jejuri S/s under EHV (O&M) Division, Baramati.

MSETCL representative added that 220/33kV Jejuri S/s was commissioned on 27.03.1992. 220/33kV Jejuri S/s having installed capacity of 2X50MVA, 220/33kV along with 08 Nos. of 33kV Feeders feeding Purandar Taluka. MSEDCL has proposed 02 Nos. of switching 33/22kV substation at Belsar & Dive village in Purandar Taluka.

MSETCL representative highlighted that one 33kV Express feeder is sanctioned under the Gunjavani Lift Irrigation scheme at 220/33kV Jejuri S/s. In case of outage/tripping of any of the T/F, the load cannot be managed on other T/F. i.e. not satisfying (N-1) criteria. The proposed scheme satisfies augmentation criteria. Hence, to satisfy (N-1) criteria & also to meet the future load demand, an additional 1x50MVA, 220/33kV T/F along with HV & LV Bays is proposed at 220/33kV Jejuri S/s. The estimated cost of the scheme is Rs. 833.48 Lakhs. The cited scheme will commissioned in FY 2025-26.

In view of the requirement to fulfill MSEDCL demand in Jejuri, Belsar & Dive village in Purandar Taluka, enhance system reliability, and present N-1 non compliance, after

MSETCL representative placed before the MTC a proposal of “Replacement of existing 3X105 MVA, 400/220/33kV ICT by 3X167 MVA, 400/220/33kV ICT along with replacement of spare 1X105 MVA, 400/220/33kV ICT unit by 1X167 MVA, 400/220/33 kV ICT unit at 400/220/33kV ICT at 400kV Akola S/s under EHV PC (O&M) zone, Amravati”

MSETCL representative stated that 400kV Akola Substation is commissioned in the year 2009. The current installed capacity of the substation at 400kV Akola Substation is 1130 MVA, consisting of 3X105 MVA 400/ 220/ 33kV ICT-1, 1X 315 MVA 400/220/33kV ICT-2 and 3X167 MVA 400 / 220/ 33kV ICT-3. 400kV Akola substation supplies 220kV grid in Akola, Washim, Buldhana, and part of Jalna District. Maximum loadings reached on ICT I and ICT II are above 75 % of installed capacity. The space is not available for additional ICT and hence proposed for replacement. During the outage/Breakdown of 3X 167 MVA, 400/220/33kV ICT, the load is not managed on the other two ICTs i.e. not satisfying N-1 criteria. Hence considering the present loading condition, and outage constraints and to satisfy N-1 criteria replacement of ICT is proposed at 400kV Akola S/s.

The Estimated cost of the scheme is ₹ 3839.40 Lakh. The schedule year of commissioning of the above scheme is FY 2025-26.

In view of the substation feeding urban and rural load requirement of MSEDCL in Akola, Washim, Buldhana, and part of Jalna District, 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. 16:

Providing additional 3X167 MVA 400/220/33kV ICT along with HV & LV bays at 400 kV Jejuri S/s under Pune Zone

MSETCL representative placed before the MTC a proposal of “Providing additional 3X167 MVA 400/220/33kV ICT along with HV & LV bays at 400 kV Jejuri S/s under Pune Zone”.

MSETCL representative explained that 400kV Jejuri S/s was commissioned on 31.10.2004. This substation caters the load of Pune District through 220kV Phursungi, 220kV Jejuri, 220kV Baramati, 220kV Lonand & 220kV Kondhwa S/stns.

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

Agenda Point No. 18:

Providing additional 1X25MVA, 132/33kV T/F along with HV & LV Bays and shifting of 33kV PT-I bay at 132kV Someshwarnagar S/s under EHV (O&M) Division Baramati

MSETCL representative placed before the MTC a proposal for Providing additional 1X25MVA, 132/33kV T/F along with HV & LV Bays and shifting of 33kV PT-I bay at 132kV Someshwarnagar S/s under EHV (O&M) Division Baramati

MSETCL representative mentioned that 132/33kV Someshwarnagar S/s was commissioned on 14.09.2010 having a capacity of 2X25MVA, 132/33kV T/Fs & 6 nos. of 33kV MSEDCL Feeders. It is catering load of Someshwarnagar & Purandar Taluka (Ag domain feeders).

The average max load for peak 03 months in a year on both the existing T/Fs is more than 85% of their capacity. 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 proposed scheme satisfies augmentation criteria. Hence, to satisfy (N-1) criteria & also to meet the future load demand, the addition of 1X25MVA, 132/33kV T/F is proposed at 132/33kV Someshwarnagar S/s. The estimated cost of the scheme is ₹ 562.85 Lakh. The scheduled completion year for said scheme is 2025-26.

In view of the requirement to fulfill MSEDCL demand in Someshwarnagar & Purandar 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. 19:

Providing additional 1X50 MVA, 132/33kV T/F along with bus extension and HV & LV Bays at 132kV Ranwad Sub-Station under EHV (O&M) Division, Nashik

MSETCL representative placed before the MTC a proposal for Providing additional 1X50 MVA, 132/33kV T/F along with bus extension and HV & LV Bays at 132kV Ranwad Sub-Station under EHV (O&M) Division, Nashik.

MSETCL representative mentioned that the 132kV Ranwad Substation under EHV O&M Division, Nashik was commissioned on 26.07.1977. 132kV Ranwad Substation caters to the load of Niphad & Chandwad Taluka under Nashik District. 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 Ranwad Substation fulfills the augmentation criteria. Hence, to satisfy (N-1) criteria & also to meet the future load demand, an additional 1X50MVA, 132/33kV TF along with bus extension and HV & LV Bays is proposed at 132kV Ranwad substation. The Estimated cost of the scheme is Rs. 639.64 Lakh. The scheduled commissioning year of the cited scheme is FY 2024-25.

In view of the requirement to fulfill MSEDCL demand in Niphad & Chandwad 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. 20:

Providing additional 1X50 MVA, 132/33kV T/F along with HV & LV Bays at 132kV Shevgaon Sub-Station under EHV (O&M) Division, Babhaleshwar

MSETCL representative placed before the MTC a proposal for “Providing additional 1X50 MVA, 132/33kV T/F along with HV & LV Bays at 132kV Shevgaon Sub-Station under EHV (O&M) Division, Babhaleshwar”.

MSETCL representative highlighted that 132kV Shevgaon Substation under EHV O&M Division, Babhaleshwar was commissioned on 06.09.1994. 132kV Shevgaon Substation caters to the load of Shevgaon Taluka under Ahmednagar District. The load of Shevgaon is catered by 2X50 MVA 132/33kV TF. The additional load of 4.75MVA Tajnapur LIS approval is in process. A 5 MVA transformer is proposed on the existing 33kV feeder by DISCOM. The total load growth of 20MVA (including above 4.75MVA + 5MVA=9.75MVA)

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 Shevgaon Substation fulfills the augmentation criteria. Hence, to satisfy (N-1) criteria & also to meet the future load demand, an additional 1X50MVA, 132/33kV TF along with HV & LV Bays is proposed at 132kV Shevgaon Substation. The Estimated cost of the scheme is Rs. 654.72 Lakh. The scheduled year of completion for the cited scheme is FY 2024-25.

In view of the requirement to fulfill present & future MSEDCL demand in Shevgaon 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. 21:**Providing additional 1X50 MVA, 132/33kV T/F along with HV & LV Bays at 132kV Wadzire Sub-Station under EHV (O&M) Division, Babhaleshwar.**

MSETCL representative placed before the MTC a proposal for “Providing additional 1X50 MVA, 132/33kV T/F along with HV & LV Bays at 132kV Wadzire Sub-Station under EHV (O&M) Division, Babhaleshwar”.

MSETCL representative mentioned that the 132kV Wadzire Substation under EHV O&M Division, Babhaleshwar was commissioned on 05.12.2018. 132kV Wadzire Substation caters to the load of Parner Taluka under Ahmednagar District.

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 Wadzire Substation 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, an additional 1X50MVA, 132/33kV TF along with HV & LV Bays is proposed at 132kV Shevgaon Substation. The Estimated cost of the scheme is ₹ 723.18 Lakh. The scheduled year of commissioning of said scheme is FY 2024-25.

In view of the requirement to fulfill present & future MSEDCL demand in Parner 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:**Providing additional 1X50 MVA, 132/33kV T/F along with HV & LV Bays at 132kV Karjat Sub-Station under EHV (O&M) Division, Babhaleshwar.**

MSETCL representative placed before the MTC a proposal for “Providing additional 1X50 MVA, 132/33kV T/F along with HV & LV Bays at 132kV Karjat Sub-Station under EHV (O&M) Division, Babhaleshwar”.

MSETCL representative submitted that 132kV Karjat Substation under EHV O&M Division, Nashik was commissioned on 15.03.1995. 132kV Karjat Substation caters to the load of Karjat and part of Shrigonda Taluka under Ahmednagar District. 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, an additional 1X50MVA, 132/33kV TF along with HV & LV Bays is proposed at 132kV Karjat Substation. The Estimated cost of the scheme is ₹ 607.01 Lakh. The scheduled year of commissioning of the cited scheme is FY 2024-25.

In view of the requirement to fulfill present & future MSEDCL demand in Karjat and part of Shrigonda 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. 23:

Replacement of existing 2x25MVA 132/33kV T/Fs by 2x50 MVA 132/33kV T/Fs at 132kV Chandwad Substation under EHV O&M Division, Nashik

MSETCL representative placed before the MTC a proposal for the Replacement of existing 2x25MVA 132/33kV T/Fs by 2x50 MVA 132/33kV T/Fs at 132kV Chandwad Substation under EHV O&M Division, Nashik

MSETCL representative explained that the 132kV Chandwad Substation was commissioned on 07.02.2009 having 2x25MVA, 132/33kV T/Fs catering to the load of Chandwad Taluka. MSEDCL has proposed a 33KV Tisgaon feeder from the 132KV Chandwad substation. Chandwad is famous, particularly for the belt of crops such as onions, wheat, marigold flowers, maize, soybean, bajra, etc. 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 Chandwad Substation fulfills the augmentation criteria.

Hence, to satisfy (N-1) criteria & also to meet the future load demand, the replacement of 2x25MVA, 132/33kV T/Fs by 2x50MVA, 132/33kV T/Fs are proposed at 132kV Chandwad Substation. The Estimated cost of the scheme is ₹ 992.29 Lakh. The scheduled year of commissioning is FY 2024-25.

In view of the requirement to fulfill present & future MSEDCL demand in Chandwad Taluka, 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. 24:

Providing additional 2X50MVA, 220/22kV T/Fs along with HV & LV Bays, 12 Nos. of 22kV GIS Bays, 2 Nos. of PT GIS Bays, 1 No. of 22kV Bus sectionalizer GIS Bay, 1 No. of Bus PT and allied civil works at 220kV Century Enka S/s under Pune Zone

MSETCL representative placed before the MTC a proposal for Providing additional 2X50MVA, 220/22kV T/Fs along with HV & LV Bays, 12 Nos. of 22kV GIS Bays, 2 Nos. of PT GIS Bays, 1 No. of 22kV Bus sectionalizer GIS Bay, 1 No. of Bus PT and allied civil works at 220kV Century Enka S/s under Pune Zone.

MSETCL representative submitted that the 220kV Century Enka S/s is commissioned in 1993 in the Bhosari MIDC area for feeding EHV consumer M/s Century Enka through 2 nos. of 220kV Bays. This S/s is running unmanned as there are no transformers. 220kV Bhosari-I, 220kV Bhosari-II & 220kV Telco S/Stns are situated in the vicinity of Bhosari which feeds load of industrial, commercial & residential areas.

MSETCL representative highlighted that at present, 220/22kV Bhosari-I S/s caters to the load of the Bhosari MIDC area. The installed capacity of 220/22kV Bhosari-I S/s is 235MVA. There are 27 Nos. of 22kV Feeders emanating from 220/22kV Bhosari-I S/s. Also, this substation caters to the load of Mahametro load along the old Mumbai-Pune road. The future load requirement on this substation is 25MVA approximately. Thus, the total maximum load will be raised up to 169MVA against capacity of 235MVA.

Considering load growth of approximately 10% per annum, the future load is approximately 25MVA in the next 3-4 years due to which maximum demand will be more than 70% in the next 3 years. To meet the current and future demand, the existing capacity of 220/22kV Bhosari-I S/s is insufficient. There is no scope for capacity enhancement at 220/22kV Bhosari-I S/s and no space for the erection of new 22kV feeder bays.

Outgoing 22KV feeders emanating from 220/22kV Bhosari-I S/s have radial network. The existing load to be diverted from 220/22kV Bhosari-I S/s to 220/22kV Century Enka S/s will be 41MVA approximately & the future upcoming load of fast-growing Bhosari MIDC will also be supplied from this proposed new EHV substation which is 25MVA. So, the total load of 220/22kV Century Enka S/s will be 66MVA. 220/22kV Century Enka S/s is commissioned for HT consumer M/s Century Enka having a sanctioned load of 33360 KW. Sufficient land is available for installation of 2X50MVA, 220/22kV T/Fs at 220/22kV Century Enka S/s.

The Estimated cost of the scheme is ₹ 3221.91 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:

Replacement of existing 80MVA, 220/132kV ICT by 100MVA, 220/132kV ICT at 220kV Hinganghat S/s under EHV O&M Division Nagpur

MSETCL representative placed before the MTC a proposal for “Replacement of existing 80MVA, 220/132kV ICT by 100MVA, 220/132kV ICT at 220kV Hinganghat S/s under EHV O&M Division Nagpur

MSETCL representative mentioned that the 220 kV Hinganghat Substation was commissioned in the year 2006. The current installed capacity of the substation at 220kV Hinganghat S/S is 180 MVA, consisting of 1 nos. of 80 MVA, 220/132 kV ICT, and 1 no of 100 MVA, 220/132 kV ICT. 220kV Hinganghat Substation caters to the load of Wardha District through a 132kV level network.

The present maximum loading on ICT 2 is above 60 % of the installed capacity. 220KV Hinganghat S/s is feeding power to 132kV Jam S/s and 132kV ISMT (Now OMSAIRAM) CPP substations. Generally, at 220kV Hinganghat substation 220/132kV 100MVA ICT-2 is on load and 220/132kV 80MVA ICT-1 is kept on no load. 80MVA ICT-1 is put on load whenever there is any tripping, breakdown, or Shutdown on 220/132kV 100MVA ICT-2. Considering the loading condition of 220kV Hinganghat S/s of the last three years 2020-21 to 2023-24, it is observed that the load of approx. 10MW increased on 132kV.

MSETCL representative submitted that 220kV Hinganghat substation is attached with 40MW CPP generation of M/s ISMT (Now company name changed to OMSAIRAM Power Ltd.) on 132kV level. If this generation plant is under shutdown, it again adds an extra 40MW burden on this ICT. Also, the existing 200/132kV 80MVA ICT-1 is very old and completed its service more than 40 years after the initial commissioning.

As of now, 80 MW solar projects by M/s Ravindra Energy Ltd at 132kV Jam S/s and 100 MW Solar projects by M/s Utrayan Energy Brunswick Pvt.Ltd at 220kV Hinganghat S/s is sanctioned. If these solar projects are considered there will be overloading of 80 MVA, 220/132 kV under the contingency of 100 MVA, 220/132 220/132 kV ICT.

During an outage/Breakdown of either of the ICTs, the load is not managed on other ICTs i.e. not satisfying N-1 criteria. Considering the present loading condition, outage constraints and to satisfy N-1 criteria replacement of ICT is proposed at 220kV Hinganghat S/s. The Estimated cost of the scheme is ₹ 207.48 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:

Replacement of existing 50MVA, 220/132kV ICT by 100MVA, 220/132kV ICT at 220kV Gadchiroli S/s under EHV O&M Division Ballarshah

MSETCL representative placed before the MTC a proposal for the Replacement of existing 50MVA, 220/132kV ICT by 100MVA, 220/132kV ICT at 220kV Gadchiroli S/s under EHV O&M Division Ballarshah.

MSETCL representative mentioned that the 220kV Gadchiroli Substation was commissioned in 2004. The current installed capacity of the substation at 220kV Gadchiroli S/S is 150 MVA, consisting of 1 of 50 MVA, 220/132 kV ICT and 1 no. of 100 MVA, 220/132 kV ICT.

220kV Gadchiroli substation caters to the load of Gadchiroli and Chandrapur districts through the 132kV network. Previously 132kV Bramhapuri S/s was fed through the link line from 132kV Asgaon S/s. But after the commissioning of the 132kV Bramhapuri-Sindewahi link line same is fed from 220kV Gadchiroli S/s instead of 132KV Asgaon S/s, considering 220KV Gadchiroli S/s is the strong source.

MSETCL representative highlighted that If any major shutdown or any tripping occurred on 100MVA, 220/132kV ICT it is very difficult to manage the load of 132kV network through 50MVA, 220/132KV ICT-1 at Gadchiroli substation. There may be chances of overloading of 50MVA, 220/132KV ICT-1.

In case of failure of the 132KV Virur-Ashti circuit from the 220KV Virur substation due to any tripping or major breakdown, a complete load of 132kV substations (Allapalli, Ashti, Chamorshi, Mul, Sindewahi, Bramhapuri) will be fed through 220KV Gadchiroli substation via 100MVA, 220/132kV ICT-II. Hence there is the possibility of overloading of said 100MVA,220/132kV ICT. Further in the same situation, if 100MVA, 220/132KV ICT-II is not available or under shutdown then 50MVA,220/132kV ICT-1 cannot cater to the complete load. Hence 50MVA, 220/132kV ICT is needs to be replaced with 100MVA, 220/132kV ICT at 220kV Gadchiroli S/s

MSETCL representative further highlighted that 220KV Gadchiroli substation is attached with 10MW Biomass generation of M/s Vayunandana power Ltd. on 132kV level. If this generation plant is under shutdown, it again adds an extra 10MW burden on this ICT. Also, the load cannot be bifurcated on both ICTs as only a single 132kV Mul feeder is emanating from 220kV Gadchiroli S/s. Hence complete load is shared by single 100MVA,220/132kV 100MVA ICT at 220kV Gadchiroli S/s.

The average Maximum loading on 100 MVA, 220/132kV ICT 2 is above 70 % of its capacity. During outage/Breakdown of 100 MVA, 220/132kV ICT 2 load is not managed on 50MVA, 220/132kV ICT i.e. not satisfying N-1 criteria.

Considering the present loading condition, outage constraints and to satisfy N-1 criteria, the replacement of ICT is proposed at 220kV Gadchiroli S/s. The Estimated cost of the scheme is ₹ 256.55 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

Replacement of existing 2 X (200-100) MVA, 220/132 kV ICTs at 220kV Butibori S/s under EHV (O&M) Division Nagpur

MSETCL representative placed before the MTC a proposal for the Replacement of existing 2 X (200-100) MVA, 220/132 kV ICTs at 220kV Butibori S/s under EHV (O&M) Division Nagpur

MSETCL representative mentioned that the Butibori Substation was commissioned in the year 1994. The current installed capacity of the substation at 220 kV Butibori S/S is 200 MVA, consisting of 2 nos. of 100 MVA, 220/132 kV ICTs. The 220kV Butibori II S/s caters to urban, MIDC, and Rural areas of Nagpur City. Also, 2 X100 MVA, 220/132kV ICTs at 220 kV Butibori I substation are feeding Nagpur Ring main via 132kv Butibori – Khapari Ckt 1 & 2.

The average maximum loading on all the ICTs is above 85 % of installed capacity. During an outage/Breakdown of either of the ICTs, the load is not managed on other ICTs i.e. not satisfying (N-1) criteria. Considering the present loading condition, outage constraints and to satisfy N-1 criteria replacement of ICTs is proposed at 220kV Butibori-1 S/s. The Estimated cost of the scheme is ₹ 2443.30 Lakh. The scheduled commissioning year for the cited scheme is FY 2024-25.

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, conversion of 33kV bus into twin bus by 0.4 twin conductor and 33 kV Bus sectionaliser at 220 kV Umred S/s under EHV (O&M) Division Nagpur

MSETCL representative placed before the MTC a proposal for the Addition of 1 X 25 MVA, 220/33 kV T/F along with HV and LV bays, conversion of 33kV bus into twin bus by 0.4 twin conductor and 33 kV Bus sectionaliser at 220 kV Umred S/s under EHV (O&M) Division Nagpur.

MSETCL representative submitted that the 220kV Umred Substation was commissioned in the year 2007. The current installed capacity of the substation at 220kV Umred S/S is 50 MVA, consisting of 2 nos of 25 MVA, 220/33 kV T/Fs. 220kV Umred S/s substation caters to the load of Part of Nagpur District covering Umred/ Bhiwapur/Kuhi Tehsils through 2 nos. of 25 MVA 220/33kV T/Fs. Maximum loading on both the T/Fs is above 90 % of installed capacity. The proposed scheme fulfills the augmentation scheme criteria. During an outage/Breakdown of either of the T/F, the load is not managed on the other T/F i.e. not satisfying N-1 criteria.

Considering the present loading condition, future load, and outage constraints and to satisfy N-1 criteria, the addition of T/F is proposed at 220 kV Umred S/s. The Estimated cost of the scheme is Rs. 706.49 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 50 MVA, 132/33 kV T/F along with HV and LV bays and allied civil works at 132kV Mouda S/s under EHV (O&M) Division Nagpur

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 132kV Mouda S/s under EHV (O&M) Division Nagpur”

MSETCL representative mentioned that the 132 kV Mouda Substation was commissioned in the year 1989. The current installed capacity of the substation at 132kV Mouda S/S is 100 MVA, consisting of 2 nos. of 50 MVA, 132/33 kV T/Fs. 132kV Mouda Substation caters to the load of the industrial, rural, and agricultural of Mouda Tehsil and part of Nagpur District through 2 nos. of 50 MVA, 132/33 kV T/Fs. Also, 132kV Mouda S/s is supplying power to major 132kV EHV consumers like Reliance, Hindalco (Aditya Birla), NTPC and 33 kV EHV consumers like Visaka, Haldirams, DPL, 33kV Mouda S/s, 33kV Gumthala S/s, 33 kV Wadoda S/s, 33 kV Chafegadi S/s, 33kV Chirwa S/s.

MSETCL representative submitted that currently, MSEDCL has operating various schemes such as additional Infra II, DDUGJY, East Vidarbha Infra I, and IPDS. Hence there is the possibility of an increase in the 33 kV Bus load. The present maximum loading on both the T/Fs is about 70 % of the installed capacity. During an outage/Breakdown of either of the T/F, the load is not managed on the other T/F i.e. not satisfying N-1 criteria. The proposed scheme fulfills the augmentation scheme criteria. Considering the present loading condition, outage constraints and to satisfy (N-1) criteria additional T/F is proposed at 132kV Mouda S/s. The Estimated cost of the scheme is Rs. 642.17 Lakhs. 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. 30:

Replacement of existing 2 X 25 MVA, 220/33 kV T/Fs by 2 X 50 MVA, 220/33 kV T/Fs at 220kV Kanhan S/s under EHV (O&M) Division Nagpur

MSETCL representative placed before the MTC a proposal for Replacement of existing 2 X 25 MVA, 220/33 kV T/Fs by 2 X 50 MVA, 220/33 kV T/Fs at 220kV Kanhan S/s under EHV (O&M) Division Nagpur.

MSETCL representative mentioned that The 220kV Kanhan Substation was commissioned in the year 1988. The 220kV Kanhan S/s caters to an industrial and rural load of Kanhan & Mouda Tehsil through 2 x 25 MVA 132/33kV T/Fs. The average maximum loading on all the T/Fs is about 65 % of the installed capacity.

Currently, MSEDCL has operating various schemes such as additional Infra II, DDUGJY, East Vidarbha Infra-I, and IPDS. Hence there is the possibility of an increase in the 33 kV bus load.

During an outage/Breakdown of either of the T/F, the load is not managed on the other T/F i.e. not satisfying (N-1) criteria. Considering the present loading condition, outage constraints and to satisfy N-1 criteria replacement of T/Fs is proposed at 220kV Kanhan S/s. The Estimated cost of the scheme is ₹ 982.12 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:

Additional 50MVA,132/33kV T/F alongwith HV & LV bays, conversion of 33kV bus into twin twin bus and 33 kV Bus sectionaliser at 132kV Saoner S/s under EHV O&M Division Nagpur

MSETCL representative placed before the MTC a proposal for an additional 50MVA,132/33kV T/F along with HV & LV bays, conversion of 33kV bus into twin bus and 33 kV Bus sectionaliser at 132kV Saoner S/s under EHV O&M Division Nagpur.

MSETCL representative mentioned that the 132kV Saoner Substation was commissioned in the year 2000. The current installed capacity of the substation at 132kV Saoner S/s is 100 MVA, consisting of 2 of 50 MVA, 132/33 kV T/Fs. 132kV Saoner substation caters to the part of Nagpur District covering Saoner Tehsil by 33 kV feeders i.e. 33kV Saoner-1, 33kV GTn (Cotton Mill), 33kV Saoner-3, 33kV Patansawangi, 33kV Khapa, 33kV Umari, 33 kV Kelod, 33kV Saoner MIDC, 33kV Mohapa, 33kV Nanda, 33 kV Gati (Adani feeder). As major industrial loads are connected on 132kV Saoner S/s, this substation is very crucial for Saoner Taluka under Nagpur District.

MSETCL representative highlighted that there are various schemes operated by MSEDCL such as additional Infra-II, DDUGJY, East Vidarbha, infra 1 & IPDS, and 2 no. 33 kV spare bay available that can be charged in the future. This will result in an increase in 33 kV bus loading at the sub-station. In case of outage/breakdown of any one of the T/F loads is not managed on another 50MVA, 132/33kV T/F i.e. not satisfying N-1 criteria.

Considering the present loading condition, and outage constraints, to satisfy N-1 criteria and to cope with the future load demand, the addition of T/F is proposed 132kV Saoner S/s. The Estimated cost of the scheme is ₹ 689.53 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, 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 existing 2X25MVA, 132/33kV T/Fs by 2X50MVA, 132/33kV T/Fs at 132kV Seloo S/s under EHV O&M Division Wardha

MSETCL representative placed before the MTC a proposal for “replacement of existing 2X25MVA, 132/33kV T/Fs by 2X50MVA, 132/33kV T/Fs at 132kV Seloo S/s under EHV O&M Division Wardha”.

MSETCL representative mentioned that the 132 kV Seloo Substation was commissioned in 1985. The current installed capacity of the substation at 132kV Seloo S/s is 50 MVA, consisting of 2 nos. of 25 MVA, 132/33 kV T/Fs.

During the month of October to March period when there is an Agriculture schedule, both the transformers get critically loaded above 80%, however, MVAR drawl is within acceptable limit (less than 30%). At 132kV Seloo S/stn presently total of 8 Nos. of 33kV feeders bays are available. Out of which 06 Nos. of bays are utilized for 1)33kV Seloo, 2) 33kV Dattpur, 3) 33kV Shri Sainath, 4) 33kV Higani, 5) 33kV Seldoh, 6) 33kV Wardha feeders & 2 Nos. of 33kV bays are spare.

Further, as informed by the MSEDCL, Wardha, 01 No. 33kV bay is required for 33kV Kotamba S/stn (1X5MVA) of MSEDCL proposed under the RDSS scheme.

MSETCL representative highlighted that as space is not available for installation of 3rd 25MVA,132/33kV T/F at 132kV Seloo S/stn, it is decided to replace both 25MVA, T/Fs with 50MVA. The proposal fulfills the augmentation scheme criteria. In case of an outage/breakdown of either of the T/F, the load is not managed on the other T/F i.e. not satisfying N-1 criteria. Considering the present loading condition, and outage constraints, to satisfy N-1 criteria and to cope with the future load demand replacement of T/Fs is proposed at 132kV Seloo S/s. The Estimated cost of the scheme is ₹ 995.19 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. 33:

Replacement of old existing 0.4 ACSR conductor by High Performance Conductor (HPC) along with suitable hardware, accessories for 220 kV Chinchwad-2-Chakan Line and 220 kV Bhosari 1-Chakan Line along with strengthening of bays at 220 kV Chinchwad-2, 400 kV Chakan and 220 kV Bhosari-I S/Stn by replacement of 0.4ACSR single conductor by HPC & allied equipment, hardware under EHV O&M Division, Pimpri Chinchwad, Pune

MSETCL representative placed before the MTC a proposal for the Replacement of the old existing 0.4 ACSR conductor by High-Performance Conductor (HPC) along with suitable hardware, accessories for 220 kV Chinchwad-2-Chakan Line and 220 kV Bhosari 1-Chakan Line along with strengthening of bays at 220 kV Chinchwad-2, 400 kV Chakan and 220 kV Bhosari-I S/Stn by replacement of 0.4ACSR single conductor by HPC & allied equipment, hardware under EHV O&M Division, Pimpri Chinchwad, Pune.

MSETCL representative explained that Bhosari is the most developing industrial area. It is one of the biggest MIDCs in Pune region. Due to industrialization, load growth is at its peak. Recently data center of Microsoft Company is getting established in Bhosari industrial area. Data centre load is around 155MW+74MW

MSETCL representative mentioned that Microsoft intends to establish more data centers which may need a power demand around 1GW. Therefore strengthening the source line is very essential to meet the further load requirement at Bhosari, hence strengthening of 220kV Bhosari 1- Chakan Line by HPC stringing should be done to cater to the power flow. EHV lines are mainly in the most developing area of Pimpri Chinchwad Municipal Corporation and Hinjewadi IT Hub. Also, these lines feed power in one of the biggest MIDCs in Bhosari etc. At present, development is at full speed under PCMC. there is consistent increase in demand year on year basis. At present, the 220 kV Chinchwad - Urse line is one of the main source lines for 220 kV Chinchwad 1 S/s. It is a heavily loaded line and has frequent overloading online. In the month of May 2023, Max MW/Amp was 260MW /766 Amp.

Due to this overloading problem, DLS needs to be implemented as per system conditions. For e.g. in the last summer season, a DLS of 60 MW was implemented on 22.05.2023. Due to the overloading of the 220 kV Chinchwad Urse line, there are frequent LTS operations at Chinchwad 1 S/s to avoid the tripping of the line. For controlling the load on the 220 kV Urse- Chinchwad line, it is daily practice to hand trip 220 kV Chinchwad- Hinjewadi 1 line. Due to this, all EHV S/Stns in the Hinjewadi pocket and Pirangut S/Stn (total 180 MW) are fed radially. 220 kV Chakan-Chinchwad 2 will act as a strong source to 220 kV Chinchwad 1, Telco, 132 kV Rahatani, Varasgaon & NCL S/Stns, and Hinjewadi IT pocket. In view of the above aspects, the replacement of the existing conductor of the 220 kV Chinchwad 2- Chakan line by HPC is proposed.

The SE, SLDC(Operations), highlighted that said lines existing towers (Up to Bus cross-arm) are of M.S. As the work is to be carried out with HPC, therefore, we are expecting more than 25 years of life of the line from the present year, then, the present condition of existing towers to be examined.

However, through E-mail dated 23 July, 2024, MSETCL informed that Those towers are 40 years old, however as the HPC conductor is having similar weight as of 0.4 ACSR conductor, the existing towers are capable to sustain the load of proposed HPC conductor. The bottom section of those towers is of MS material, so some of them are rusted, however efforts are taken to avoid further rusting. The stub strengthening's are provided to the required towers. In such ways the healthiness of towers, stubs and foundations are maintained.

In view of the upgradation of the source line to mitigate the present & future load requirement of Data Centers, to address the overloading problems, minimizing the frequent LTS operations, enhance system reliability and stability, after detailed deliberation and discussion, the MTC recommended the scheme for submission to GCC for approval, subject to the further verification and strengthening /replacement of the existing deteriorated towers.

Agenda Point No. 34:

Replacement of existing twin conductor, insulators, all accessories & hardwares by High Ampacity twin HPC conductor equivalent to 0.5 Moose conductor along with insulators & suitable hardwares & accessories of 400 kV Talegaon (PG) to Chakan line (17.8km) along with associated bay strengthening work at 400 kV Chakan R.S. under Pune Zone.

MSETCL representative placed before the MTC a proposal for the Replacement of the existing twin conductor, insulators, all accessories & hardware by High Ampacity twin HPC conductor equivalent to 0.5 Moose conductor along with insulators & suitable hardware & accessories of

400 kV Talegaon (PG) to Chakan line (17.8km) along with associated bay strengthening work at 400 kV Chakan R.S. under Pune Zone.

MSETCL representative mentioned that 400 kV Chakan R.S. is having two transmission lines, i.e. 400 kV Talegaon (PG) to Chakan & 400 kV Lonikand to Chakan line. Both lines have been in service since dtd. 23/03/1992.

The thermal limit of 0.5 ACSR Twin Moose Conductor of both lines is 1600A. After serving for more than 30 years, due to the aging effect, and continuous heavy loading conditions, the sag of the conductor of both lines increased in many spans. It also resulted in rusting/erosion of the socket balls of existing disc insulators & ultimately it also resulted in the tripping of lines a number of times. The peak loading observed in the recent condition of 400 kV Talegaon (PG) to Chakan is around 1350 A. In case of breakdown on the 400 kV Lonikand to Talegaon PG line, the loading of 400 kV

Talegaon (PG) to Chakan R.S. exceeds 1400 A & LTS operates. Industrialization and urbanization of Pune is at its peak and the transmission system does not have the capacity to catch up with this rising demand or future demand. In view of the above, it has been decided to carry out the replacement of the existing 0.5 Moose conductor with a High Ampacity Conductor with less sag along with its associated hardware as well as Accessories, etc. The Estimated cost of the scheme is ₹ 6724.34 Lakh.

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

Agenda Point No. 35:

Accord of Administrative Approval for the scheme of Second Circuit Stringing on a) 132kV Mandrup – Karajgi, b) 132kV Akkalkot – Karajgi, c) 132kV Jeur-Parewadi d) 220 kV Lamboti- Vairag SCDC lines along with construction of associated end bays under Pune zone

MSETCL representative placed before the MTC a proposal for Accord of Administrative Approval for the scheme of Second Circuit Stringing on a) 132kV Mandrup – Karajgi, b) 132kV

Akkalkot – Karajgi, c) 132kV Jeur-Parewadi d) 220 kV Lamboti- Vairag SCDC lines along with construction of associated end bays under Pune zone

a) 132kV Mandrup – Karajgi line

&

b) 132kV Akkalkot – Karajgi line

132kV Karajgi Substation commissioned on dt: 14.12.2012, having installed capacity of 2x25MVA 132/33kV T/F i.e. 50 MVA at present. This substation is fed through the 132kV Akkalkot-Karajgi SCDC line from 132kV Akkalkot Substation & 132kV Mandrup-Karajgi SCDC line from 132kV Mandrup Substation.

At present 230 MW, 50 MW & 88.5 MW RE generation is connected to 132 kV Akkalkot, 132 kV Karajgi & 132 kV Mandrup substations respectively. Furthermore, the 132kV Wagdari substation, which is fed from the 132kV Akkalkot source, is also located in the same renewable energy (RE) corridor. It is associated with 230 MW of RE generation.

This generation has two paths for incorporation into the grid: namely, the 132kV Wagdari-Akkalkot-Gokul Sugar-Kumbari-Bale route or the 132kV Akkalkot-Karajgi-Manrup route. In the event of a tripping or outage of the 132kV Akkalkot-Gokul Sugar line, the entire flow of this RE generation is rerouted through the Akkalkot-Karajgi-Manrup corridor. Any tripping/breakdown of any of the lines within the Akkalkot-Karajgi-Manrup RE corridor results in the backing down of RE generation.

Due to the lack of available transmission margin and overloading of the existing transmission network, grid connectivity for these new upcoming RE generation projects is currently on hold... Hence, to address the current transmission constraints and enable power evacuation from the RE projects, MSETCL mentioned that STU has recommended giving top priority to the completion of the DCDC line work.

c) 132kV Jeur-Parewadi line:

MSETCL representative submitted that the 132kV Parewadi Substation was commissioned in June 2000, with an installed capacity of 2x25 MVA 132/33kV transformers, totaling 50 MVA. Currently, this substation is supplied through the 132kV Jeur-Parewadi SCDC line from the 220kV Jeur Substation.

Situated in a remote area, the substation lacks an alternative power source in case of a breakdown or outage of the 132kV Jeur-Parewadi line, thus failing to meet the N-1 criteria.

The 132kV Parewadi Substation serves a portion of Karmala Taluka, primarily catering to agricultural loads located on the banks of the Ujani Dam backwater.

The maximum load recorded at the substation during 2018-19 was 26.65 MW.

Furthermore, grid connectivity for a railway traction substation on a radial feeder from the 132kV Parewadi Substation has been sanctioned. To provide a second power source, it is necessary to carry out a second circuit stringing on the existing 132kV Jeur-Parewadi SCDC line.

d) 220 kV Lamboti- Vairag line :

MSETCL representative explained that the 220kV Vairag Substation has an installed capacity of 2x25 MVA 220 kV/ 33kV transformers, totaling 50 MVA. Currently, it is supplied through the 400kV Lamboti Substation via the 220kV Lamboti-Vairag Ckt-I. The substation is situated in a remote area, with no alternative power source available in case of a breakdown or outage of the 220kV Lamboti-Vairag line, thus not meeting the N-1 criteria.

The substation serves parts of Barshi, Madha, and North Solapur Taluka, primarily catering to agricultural loads. The maximum load recorded at the substation during 2021-22 was 40.00 MW. In addition, a 100 MW solar generator from M/s Avada Solar was commissioned on August 3, 2022, and connected to the 220kV Vairag Substation through a 220kV radial line. M/s Avada Solar is planning for solar power extension, which will further increase renewable energy (RE) evacuation at the 220kV Vairag Substation. M/s Avada has already been approved for 100 MW of solar generation, and they have proposed an additional 40 MW. **The Estimated cost of the scheme is ₹ 3232.11 Lakh.**

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. 36:

Replacement of old existing 0.4 deer ACSR conductor by equivalent CCC HTLS conductor along with suitable hardware, accessories, porcelain long rod insulator and equipment for 220kV GCR (Eklahare) - Babbleshwar Ckt-1 (Line length -83.57km) & Ckt-2 (Line length -83.57km) along with end bay work at 220kV GCR SS & 400kV Babbleshwar SS under EHV PC O & M Zone, Nashik

MSETCL representative placed before the MTC a proposal for the Replacement of the old existing 0.4 deer ACSR conductor by an equivalent CCC HTLS conductor along with suitable hardware, accessories, porcelain long rod insulator, and equipment for 220kV GCR (Eklahare) -

Babhleshwar Ckt-1 (Line length -83.57km) & Ckt-2 (Line length -83.57km) along with end bay work at 220kV GCR SS & 400kV Babhleshwar SS under EHV PC O & M Zone, 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.

The 220kV GCR-Babhaleswar Ckt-I & Ckt-II play a very important role in maintaining of supply to the 132 kV ring main grid of Nashik District, also it exports power to Mumbai. 220kV GCR (Eklahare) –Babhaleswar Ckt-I has completed more than 45 years and 220kV GCR (Eklahare) –Babhaleswar Ckt-II has completed more than 33 years. Due to higher power demand, the line is continuously supplying 700 Amp to Nashik and sometimes it goes up to 110 % of its capacity, the current carrying capacity of the conductor is 800 Amperes.

Therefore, MSETCL proposed the Replacement of old existing 0.4 deer ACSR conductor by equivalent CCC HTLS conductor along with suitable hardware, accessories, porcelain long rod insulator and equipment for 220kV GCR (Eklahare) - Babhleshwar Ckt-1 (Line length -83.57km) & Ckt-2 (Line length -83.57km) along with end bay work at 220kV GCR SS & 400kV Babhleshwar SS under EHV PC O & M Zone, Nashik. The Estimated cost of the scheme is ₹ 15735.60 Lakhs.

In order to meet the present & future load requirement, to address the overloading problems, Non N 1 compliance of the circuits enhance system reliability and stability, after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval. Further MTC also noted that the work plan for the same should be worked out in detail and should utilize ERS to minimize outages and interruptions during execution.

Agenda Point No. 37:

Scheme of replacement of old existing 0.4 ACSR conductor by High Performance Conductor (CCC type HTLS conductor) along with suitable hardware, accessories of 220kV Bhosari-I- Bhosari-II, 220kV Bhosari-II-Telco, 220kV Bhosari-I- Century Enka, 220kV Century Enka-Khadki, 220kV Khadki-VSNL, 220kV VSNL-Lonikand-II & 220kV Bhosari-I-Lonikand-II lines along with strengthening of bays at respective substation & allied equipment, hardware under EHV O&M Circle, Pune

MSETCL representative placed before the MTC a proposal for Scheme of replacement of old existing 0.4 ACSR conductor by High Performance Conductor (CCC type HTLS conductor) along with suitable hardware, accessories of 220kV Bhosari-I- Bhosari-II, 220kV Bhosari-II-Telco, 220kV Bhosari-I- Century Enka, 220kV Century Enka-Khadki, 220kV Khadki-VSNL,

220kV VSNL-Lonikand-II & 220kV Bhosari-I-Lonikand-II lines along with strengthening of bays at respective substation & allied equipment, hardware under EHV O&M Circle, Pune

MSETCL representative placed before the MTC a proposal for Scheme of replacement of old existing 0.4 ACSR conductor by High Performance Conductor (CCC type HTLS conductor) along with suitable hardware, accessories of 220kV Bhosari-I- Bhosari-II, 220kV Bhosari-II-Telco, 220kV Bhosari-I- Century Enka, 220kV Century Enka-Khadki, 220kV Khadki-VSNL, 220kV VSNL-Lonikand-II & 220kV Bhosari-I-Lonikand-II lines along with strengthening of bays at respective substation & allied equipment, hardware under EHV O&M Circle, Pune

MSETCL representative explained that 400kV Talegaon(PG), Chakan, Lonikand-I & Lonikand-II substations are feeding power supply to the 220kV network of the Pune Ring Main transmission system.

220kV Urse-Chinchwad, 220kV Chinchwad II-Chakan, 220kV Chakan-Bhosari-I & 220kV Lonikand-Bhosari-I are the main trunk lines of power supply to Pune ring main. These lines are continuously operating in critical conditions due to the increase in loading in Pune District.

220kV Urse-Chinchwad is one of the main source lines to 220kV Chinchwad S/s carrying approx. 260MW continuously. It has frequent LTS operations at Chinchwad-I s/s to avoid the tripping of this line. Due to the overloading problem, distress load shedding needs to be implemented as per system conditions. For controlling the loading on the 220kV Urse-Chinchwad line, it is required to hand trip the 220kV Chinchwad-Hinjewadi -I line. Due to this all EHV s/s under Hinjewadi MIDC pocket & Pirangut s/s are fed radially through 220kV Kandlagaon s/s.

The work of the 220kV Chinchwad-Urse S/C line into the M/C line is in progress. For this work completion, there is a shutdown constraint on the 220kV Chinchwad-Urse line as a load of around 260MW could not be managed on the 220kV Chinchwad-Chakan line and other lines in the Pune Ring main.

Similarly, the 220kV Chakan-Bhosari-I S/C line & Lonikand II-Bhosari-I S/C line also act as the main power source line to the Pune Ring Main network. Any tripping or breakdown on either of the above line, results in an increase in loading on the 220kV Urse-Chinchwad line or 220kV Chinchwad-Chakan line.

Hence, to avoid the overloading of the Pune Ring Main network LTS is implemented on 220kV Chinchwad-Urse, 220kV Chinchwad-Chakan, 220kV Chakan-Bhosari-I & 220kV Lonikand-Bhosari-I line.

Further, M/s. Microsoft Corporation & STT Global data center's load demand is coming in the near future which will be fed through 220kV Bhosari-1, Centruty Enka & VSNL substations under PRM Network which will increase the loading of EHV lines of Pune Ring Main Network.

The rapid urbanization & industrialization of Pune city & nearby areas are at their peak and the present transmission system is stretched beyond its capacity to match the rising load demand.

Considering the present loading constraints & to cope with increased load demand it is required the conversion of the existing conductor of 220kV lines under PRM by a high-performance conductor.

The SE, SLDC (Operations), opined that the present condition of existing towers is to be re-verified before the execution of the replacement of the old conductor by HPC. The Estimated cost of scheme is ₹ 9000 Lakh.

In view of the upgradation of the source line to mitigate the present & future load requirement of Data Centers, to address the overloading problems, minimizing the frequent LTS operations, enhance system reliability and stability, after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval, subject to the further verification and strengthening /replacement of the existing deteriorated towers.

Agenda Point No. 38:

Scheme

for:

- 1) Work of replacement of existing 0.4 ACSR Conductor by equivalent High-Performance conductor of 220KV Kalwa-Colorchem, 220kv Kalwa-Temghar & 220kv Colorchem-Temghar Line under EHV O&M Division Kalwa under EHV O&M Circle Kalwa.
- 2) Bay strengthening work of 220Kv Temghar - Kalwa, 220KV Temghar – Colourchem line and 220kV Kalwa- Temghar bays at 220/22 kv Temghar substation, 220kV Colorchem Substation, 400kV Kalwa Substation and 220kV Kalwa Substation under EHV O&M Circle Kalwa.

MSETCL representative placed before the MTC a proposal for the scheme

- 1) Work of replacement of existing 0.4 ACSR Conductor by equivalent High-Performance conductor of 220KV Kalwa-Colorchem, 220kv Kalwa-Temghar & 220kv Colorchem-Temghar Line under EHV O&M Division Kalwa under EHV O&M Circle Kalwa.

2) Bay strengthening work of 220Kv Temghar - Kalwa, 220KV Temghar – Colourchem line and 220kV Kalwa- Temghar bays at 220/22 kv Temghar substation, 220kV Colorchem Substation, 400kV Kalwa Substation and 220kV Kalwa Substation under EHV O&M Circle Kalwa.

a) Kalwa-Colorchem line:

MSETCL representative submitted that the 220kV Kalwa- Temghar line was commissioned in 1969 and has been in operation for 50 years. The (LILO) connection at the Colourchem substation was established in 1994, making it LILO portion 25 years old. Consequently, the life of the main line conductor is now exhausted.

The load growth in the Thane, Kalyan, and Bhiwandi areas has been consistently increasing. Most transformers are experiencing higher loads. A study of the minimum and maximum loading data for the 220kV Kalwa-Colorchem line reveals that a maximum current of 680 Amps flows through the line, approaching the full Ampere capacity of the conductor.

Considering this data, it is evident that the present power transmission capacity of the 220kV Kalwa-Colorchem line may not be sufficient to meet the future power load demand and growth. The line consistently transmits power at levels exceeding 500 Amps, indicating the need for the upgradation of the conductor to accommodate the increasing demand for power.

b) 220kV Kalwa – Temghar Line:

MSETCL representative submitted that the 220kV Kalwa-Temghar main line was commissioned in 1969. Consequently, the life of the main line conductor is now above 50 years.

MSETCL representative highlighted The load growth in the Thane, Kalyan, and Bhiwandi areas has been consistently increasing, leading to a gradual increase in the load. A study of the minimum and maximum loading data for the 220kV Kalwa-Temghar line indicates that a maximum current of 700 Amps flows through the line.

Over the past six months, the maximum current has varied between 650 Amps and 750 Amps, which is close to the full Ampere capacity of the conductor. Hence, it is clear from available data that the power transmission capacity of the 220kV Kalwa-Temghar line may not be sufficient to meet future power load demand and growth. The line consistently transmits power at levels exceeding 650 Amps, highlighting the need for the upgradation of the conductor to accommodate the increasing demand for power.

C) 220kV Colorchem – Temghar Line :

MSETCL representative submitted that the 220kV Colorchem-Temghar main line(up to LILO point), commissioned in 1969, is now 50 years old, and the (LILO) connection was done in 1994, making it 29 years old.

MSETCL representative highlighted that load growth in the Thane, Kalyan, and Bhiwandi areas has been consistently increasing, leading to a gradual rise in the load. A study of the minimum and maximum loading data for the 220kV Colorchem-Temghar line reveals that a maximum current of 700 Amps flows through the line. Over the past six months, the maximum current has varied between 550 Amps and 700 Amps, which is close to the full Ampere capacity of the conductor.

Considering this data, it is apparent that the power transmission capacity of the 220kV Colorchem-Temghar line may not be sufficient to meet future power load demand and growth. The line consistently transmits power at levels exceeding 600 Amps, indicating the need for the upgradation of the conductor to accommodate the increasing demand for power.

In view of the above, it is proposed to replace the existing 0.4 ACSR Deer (Mainline) and Zebra (LILO line) with the High-Performance HPC conductor. This strategic replacement aims to uphold the quality of the power supply and adequately address the anticipated growth in future power demands. The Estimated cost of cited scheme is ₹ 6519.36 Lakh.

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:

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

MSETCL revoke this scheme from submitted Agenda points. Therefore MTC not discussed on this scheme.

Agenda Point No. 40:

“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 revoke this scheme from submitted Agenda points. Therefore MTC not discussed on this scheme.

Agenda Point No. 41:

Scheme for DSITC of SDC/ RTU for the visibility of 250 nos. of MSETCL sub stations to SLDC & ALDC

MSLDC representative placed before the MTC a proposal for, a “Scheme for DSITC of SDC/ RTU for the visibility of 250 nos. of MSETCL sub stations to SLDC & ALDC”

MSLDC representative highlighted that the Scope of this proposal is limited to the collection of data at the station level and confirming the data output at SDC/RTU/Gateway on IEC-104 at station level. He mentioned the benefits of the scheme:

1. Complete visibility of all 132/ 110 / 100 kV EHV substation's real-time data to the SLDC and ALDC. A major regulatory need will be complied with.
2. Effective monitoring & operations of MSETCL grid system and data utility for other power system studies.
3. It shall be helpful in the improvement of system availability, operational efficiency, outage management, and decision-making in real time.
4. Subsequently or simultaneously the data can also be integrated into MTAMC SCADA. This will improve the asset monitoring mechanisms under implementation at MTAMC.

MSLDC representative submitted that for close monitoring of this project, a separate digital monitoring tool will be developed before the commencement of the project. In view of achieving the project completion target of Aug-2026, it is proposed that the project execution timeline be linked with financial benefits to the successful bidder for timely or early project completion. The incentive mechanism can also act as an instigating mechanism for finding new ways of implementation by vendors. Through this scheme CE (ACI&P) to be authority to approve any change of location, shifting of locations, adding new locations, or any such change essential for expediting project execution within the overall scope of the order.

Incentives shall be applicable for early completion of the entire defined scope of the project. The maximum limit of the total incentive for early completion of the defined project shall be 4.0% (four percent) of the order value excluding statutory taxes as applicable. The incentive rate shall be 0.25 % of the order value per week, for that time period of project completion which is prior to the project completion deadline as per LOA. This incentive clause shall stand applicable only if the Contract is completed within initial contract period of 24 months and shall not stand applicable in case of any extension of time (if any) granted to the Contractor.

As per the Govt of India, MoP letter no 10/1/24-OM dated 18.09.2014, the aforesaid scheme can be explored for funding from PSDF. The budgetary offers were called from MSETCL-approved vendors-M/s Schneider Electrical, M/s Siemens Ltd, and M/s GE Ltd. The estimated cost for the subject project is ₹ 100.72 Crores.

Considering the importance of scheme from system point of view, for complete visibility of all 132/ 110 / 100 kV EHV substation's real-time data to the SLDC and ALDC, after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval.

Agenda Point No. AD1 :

Establishment of 132/33kV Ajani bk S/s Ta. Shirur Anantpal, Dist. Latur

MSETCL representative placed before the MTC a proposal for the Establishment of 132/33kV Ajani bk S/s Ta. Shirur Anantpal, Dist. Latur.

MSETCL representative submitted that at present 132/33 KV Nilanga, 132/33KV Udgir & 132/33KV Chakur EHV Substations fed power supply to Shirur Anantpal, Udgir & Chakur Talukas. The loading is 87%, 96%, and 83% respectively. Due to lengthy 33kv feeders, the problem of low voltage arises. The existing distance from existing EHV substations & proposed EHV substation is 28 km, 42km & 35 km also the voltage regulation of some of the lengthy feeders are as under:- 19 Ujed, 19% Zari, 9% Devranjan, 19% Deoni, 7% Ujalamb.

The distance between the 132Kv Ajani substation from adjacent s/stn i.e. 132 KV Nilanga, 132KV Udgir & 132kv Chakur which is 28km, 42km & 35km respectively. The new 132/33kv Ajani substation will help strengthen the network and avoid interruptions and line-loading problems. The low voltage problem shall be resolved. The consumers shall get reliable and quality supply. A new substation is proposed which is nearby 12km.

The creation of a new Ajani Bk substation will help strengthen the network and avoid the breakdown and overloading of the system. The low voltage problem will be resolved and consumers will get a reliable and quality supply. CE, STU highlighted that the establishment of Ajani Bk EHV new s/s will be beneficial for bringing source nearer to load pockets of Shirur Anantpal Taluka, reduction in length of 33 Kv Feders. reduction in line interruption/breakdowns thereby reducing line losses, and improving voltage regulation of the Shirur Anantpal area. In view of the above facts, the proposal for the establishment of a new 132/33 KV Ajani substation has been submitted to the MTC committee. The Estimated cost of the scheme is ₹ 6369.41 Lakh. The Scheduled Commission year for scheme is FY 2025-26.

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. AD2:

Establishment of 132/33 kV Bazargaon S/s Dist-Nagpur

MSETCL representative placed before the MTC a proposal for the establishment of 132/33 kV Bazargaon S/s Dist-Nagpur

MSETCL representative submitted that the Bazargaon area is fed from 132/33 kv Kalmeswar and 132/33 kv Katol substation.

The installed capacity on the 33Kv level emanating from 220/132/33KV, 100MVA Kalmeshwar ss is 142.09MVA. The maximum demand reached is 67.5MVA. The installed capacity on the 33Kv level emanating from 220/132/33KV, 75MVA Katol ss is 61.45MVA. The maximum demand reached is 61 MVA.

MSETCL representative highlighted that there is no space available at existing Kalmeshwar and Katol EHV s/s for the erection of additional power transformers further for the erection of additional 33kV feeders at Kalmeshwar and Katol EHV s/stns. %VR at fag end is not in permissible limit and hence in case of emergency back feeding does not serve the purpose from any side due to low voltage. The %VR 47.21 for the Bazargaon feeder & 13.13 % for the Ramson feeder are not permissible.

Proposed 132 kV Bazargaon s/s is on Nagpur-Gondkhairy-Kondhali road. The area is in the vicinity of Bazargaon village and is fast developing as an Industrial/Solar/Agriculture center being

on the National High Way of Nagpur city. after proposing 33kV ss in various new schemes, the present 33kv network is not sufficient to cater to this load efficiently.

The creation of a new Bazargaon substation will help in strengthening the network and avoiding the breakdown and overloading of the system. The low voltage problem will be resolved and consumers will get a reliable and quality supply.

Now the scheme is prepared for approval. The scheme for “Establishment of 132/33 kV s/s at Bazargaon, Dist.-Nagpur” was sanctioned vide BR No 119/09 dated 05.08.2017 for an amount of Rs 3211.54. As per resolution no 92/20 dt 19.08.2014, it is directed that all administrative approval needs to be revalidated after the lapse of 5 years from the date of administrative approval & in such cases the revalidation/fresh approval will be done by the competent authority.

Bazargaon Substation will help in strengthening the network and avoiding the breakdown and overloading of the system. The low voltage problem will be resolved and consumers will get a reliable and quality supply. The Estimated cost of scheme is ₹ 4611.00 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. AD3:

Establishment of 132 /33 kV Pimpalner S/s, Taluka-Sakri. Dist-Dhule

MSETCL representative placed before the MTC a proposal for the Establishment of 132 /33 kV Pimpalner S/s, Taluka-Sakri. Dist-Dhule

MSETCL representative submitted that the installed capacity at EHV Substation Sakri is 150 MVA and the maximum load recorded on the substation is 78 MVA. There are a total of 12 Nos of substations connected to 132/33 kV Sakri S/stn having an installed capacity of 123.15 MVA. The installed capacity at EHV Substation 132/33 kV Taharabad is 50 MVA and the maximum load recorded on the substation is 32 MVA. There are a total of 04 Nos of substations connected to S/stn having an installed capacity of 45 MVA. The Length of the 33 kV Pimpalner feeder is 53 km from EHV Sakari S/s. The voltage received at 33/11 kV Umarpata is as low as 24.6 kV. The Length of 33 kV Balhane feeder is 20 km from EHV Taharabad S/stn. The voltage regulation of the feeder is 5.003 %.

After shifting these two feeders on the proposed 132/33 kV Pimpalner substation, the voltage regulation will improve. A total load of 55 MVA is proposed to be shifted on the new 132 kV Pimpalner S/stn which includes 45 MVA from 132 kV Sakri and 10 MVA from 132 kV Taharabad S/stn.

An increase of @ 20 MVA load is also anticipated by Discom in the near future. With the existing network of EHV and 33 kV, it is not possible to cater to this 75 MVA load. Hence to manage @ 75 MVA of existing and anticipated load and to avoid issues like the involvement of forest for emanating 33 kV feeders and also to facilitate RE power evacuation a new 132 kV S/stn connecting Dhule and Nashik district is required at Pimpalner. In view of the above facts, the proposal for the establishment of a new 132/33 KV Pimpalner substation is justified. The Estimated cost of the scheme is ₹ 11752.36 Lakh. The Scheduled Commission year for scheme is FY 2026-27.

Considering the additional load requirement of MSEDCL, RE power evacuation, 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. AD4:

Establishment of 132 /33 kV Deori S/s, Dist- Gondia

MSETCL representative placed before the MTC a proposal for the Establishment of 132 /33 kV Deori S/s, Dist- Gondia

MSETCL representative submitted that At present, Deori Taluka is fed from 132/33 kV Amgaon s/s having an installed capacity of 100 MVA, (2x50 MVA, 132/33 kV T/F) and the maximum load of 132/33 kV Amgaon s/s is 61.78 MW. Details of neighboring substations with installed capacity and corresponding loading are given below:

Sr. No.	Name of EHV s/s	Installed Capacity	Max Load (MVA)	% Loading
1.	132kV Amgaon	132/33kV, 2X50 MVA	61.78	61.78
		132/33kV, 2X50 MVA,	47.69	47.69

		132/11kV, 1X25 MVA	23.15	92.6
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The 33 kV Deori feeder is catering to the load of Amgaon, Salekasa, and Deori Talukas. Out of which Deori and Salekasa Talukas are highly Naxal-affected tribal areas surrounded by dense forest.

CE, STU highlighted that the installed capacity of 132/33 KV Amgaon s/s is 100 MVA and its maximum demand reached is 61.78 MVA. There are 8 nos. of 33 kV feeders emanating from 132/33 kV Amgaon s/s having 15 nos. of 33/11 kV substations.

There is 01 no. of proposed 33/11 kV substation on this EHV s/s with a capacity of 5 MVA capacity. (Proposed in RDSS scheme). The length of the 33 kV Deori feeder emanating from 132/33 kV Amgaon s/s is 85 km and voltage regulation on this lengthy feeder at the far end is 35.65%. Due to this, the consumers at the far end are facing very low voltage problems.

The area in the vicinity of the proposed 132/33 KV Deori EHV substation is AG loaded and fulfilled with 1) Keshori Water Reservoir, 2) Pujaritola Water Reservoir, 3) Shirpur Dam, 4) Kalisarad Dam, 5) Kotara Dam, 6) Nakta Futaba Water Reservoir.

As there is no EHV Substation at Deori, the formation of new EHV s/s will help in strengthening the network and avoiding the breakdowns and overloading of the system. The low voltage problems will be resolved and the consumers will get a reliable and quality supply.

In view of the above facts, the Sub-station of 132 /33 kV Deori S/s, Dist- Gondia, proposed by MSETCL. **The Estimated cost of scheme is ₹ 8711.43 Lakh.** The Scheduled Commission year for scheme is FY 2027-28.

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. AD5:

Establishment of 132kv level at 220/33kV Insuli S/s

MSETCL representative placed before the MTC a proposal for establishment of 132kV level at 220/33kV Insuli S/s.

MSETCL representative mentioned that Ratnagiri & Sindhudurg districts have rapid growth of tourism, and new important projects such as Refinery, Power Plants. Due to heavy rainfall, lightning & cyclones in Ratnagiri & Shindhudurg districts, the 220/132kV source line extended

from 220kV Pedhambe s/s up to Kudal S/s trips frequently. The 110kV SC Radhanagari Kankavali line is old & passes through a hilly area, hence not a reliable alternative source. Kudal s/s goes into the dark in case of failure of any of the source lines.

Presently the total load of Kudal & Vengurla Taluka in Sindhudurg district is fed from 220/33 KV Insuli & 132/33 KV Kudal S/s. Kudal S/s. is fed from Kharepatan S/s., through 132 KV Kankawali – Kudal line.

MSETCL representative highlighted that in case of failure of this source due to tripping of 132 KV lines or Kharepatan S/s. there is no alternative EHV source for Kudal S/s. The existing 33 KV lines Sawantwadi & 33 KV Malewad lines emanating from Insuli S/s. cannot cater to the additional load of Kudal & Vengurla Tq. So Kudal, Vengurla, Malvan Tq. Goes into the dark. Due to this, the consumers in Sindhudurg District are facing problems.

As there is no alternative EHV source for Kudal S/s., the formation of a new construction of 132 KV DC link line from 132 KV Kudal S/s. to 220 KV Sawantwadi (Insuli) S/s. along with the end bay will help in strengthening the network and avoiding the breakdowns & overloading of the system. The consumers will get reliable and quality of supply.

The construction of 132 KV DC link line from 132 KV Kudal S/s to 220 KV Sawantwadi (Insuli) S/s. along with the end bay will help in strengthening the network and avoiding the breakdowns & overloading of the system. Hence to overcome the problem of Kudal, Vengurla, Malvan Tq. Which goes into the dark after tripping of 132 KV lines or Kharepatan S/s. also to get the reliability and quality of supply to the consumer, it is necessary to establish a new 132kV level at 220/33kV Insuli (Sawantwadi) S/stn. The Estimated cost of the scheme is ₹ 6136.09 Lakhs. The Scheduled Commission year for scheme is FY 2026-27.

For 132 kV system strengthening, avoiding overloading & breakdowns, reliability, voltage Regulation improvement, after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval.

Agenda Point No. AD6:

Establishment of 220/132 /33 KV Waghdari S/s,Ta. Akkalkot,Dist. Solapur

MSETCL representative placed before the MTC a proposal for the Establishment of 220/132 /33 KV Waghdari S/s, Taluka- Akkalkot, Dist. Solapur

MSETCL representative explained that Presently, in Akkalkot Taluka there are 2 nos. of 132kV EHV sub-stations and 01 no. of 220kV s/s which are used for the evacuation of solar power & other sugar co-generation.

132kV Waghdari s/s was established in 2004-05 with an installed capacity of 100 MVA (1x50 MVA & 2x25 MVA). 33kV & 132 kV both levels are connected for evacuation of renewable power. This s/s is evacuating power of total evacuation is 220 MW which is overloading the line and s/s capacity.

It is observed that this capacity is not sufficient to evacuate present and future generations.

In order, to address generation constraints, at present, the Bus sections of 33kV & 132kV side requires to be kept open at 132/33 kV Waghdari s/s. Also, a special protection scheme (SPS) is provided to restrict line overloading due to generation evacuation connected with Waghdari s/s.

Further, evacuation of these renewable generation from 132kV Waghdari s/s is carried out by only two 132kV lines i.e. 132kV Waghdari-Akkalkot DC line & Akkalkot-Naldurg SC line. Any tripping/breakdown on any one line results in a Back down of generation as well as overloading of these lines, which in turn increases commercial & system losses.

In addition to this, developers have submitted the feasibilities for connectivity at 132kV Waghdari s/s, such as Sorigin-50 MW, and Sunsure-200 MW. In addition to this, the connectivity proposal is also submitted to the field office of the following developers: TS wind- 150 MW, Sunsure-100 MW, Infra-volt -100 MW, etc. i.e. altogether 600 MW of RE will be upcoming in the future. Due to the non-availability of transmission margin, grid connectivity cannot be issued. As such there is no other alternative available to evacuate the existing & future RE power in the region.

Considering the present scenario of 132 kV Akkalkot-Waghdari-Naldurg pocket & upcoming generation in the Osmanabad-Solapur region, the establishment of 220/132/33kV Waghdari s/s is proposed. The proposed 220/132/33kV Waghdari s/s will help to mitigate the transmission margin constraint & to cope with the existing & envisaged renewable generation in the region.

Hence, 220/132/33 kV Waghdari s/s is proposed to address the present transmission constraints, with this sub-station, evacuation of existing & envisaged renewable generation in the region will be smooth & it will also facilitate the evacuation of renewable energy sources in Akkalkot-

Waghdari-Naldurg region. The Estimated cost of the scheme is Rs.15124.20 Lakh. The Scheduled Commission year for scheme is FY 2026-27.

Considering the additional load requirement of MSEDCL, RE power evacuation, 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. 4AD7:

Conversion of 132kV SCSC Sangamner – Babhaleshwar line into DCDC line in same corridor Tal- Sangamner/Akole , Dist-Ahmednagar by using ERS

MSETCL representative placed before the MTC a proposal for the Conversion of 132kV SCSC Sangamner – Babhaleshwar line into the DCDC line in the same corridor Tal- Sangamner/Akole, Dist-Ahmednagar by using ERS

MSETCL representative mentioned that The 220 kV Babhaleshwar s/s is connected to 132 kV Sangamner s/s on the SCSC line. This line is commissioned on dtd. 28.03.1985 along with 132 kV Sangamner s/s. 132 kV Akole s/s was commissioned on dtd. 20.03.1993. The 132 kV Rajur s/s was commissioned in the year 15.03.2017.

Total load of 132 kV Sangamner, 132 kV Akole, 132 kV Rajur, 132 kV SMBT, 132 kV Kombhalne s/s is feeding from 220 kV Babhaleshwar s/s through existing SC on SC 132 kV Babhaleshwar-Sangamner line. Further, in case of an outage/tripping on the 132 kV BBLR Sangamner line, no alternate supply is available for the complete area of Akole and Sangamner taluka

MSETCL representative highlighted that while tripping on the 132 kV BBLR - Sangamner line, the 132kV Sangamner, Akole & Rajur substation gets affected. The maximum load of 132kV Sangamner S/s is 80.77 MVA, 132kV Akole S/s is 73.60 MVA and 132kV Rajur S/s is 30 MVA gets affected during the above breakdown/ trippings. 132 kV Khaprane and 132 kV Kumbhalne Generation is seasonal generation and not sufficient to cater load of Akole & Sangamner Taluka during tripping of existing BBLR Sangamner line. load of 132 kV BBLR-Sangamner line is increasing day by day. The maximum load reached on the 132 kV BBLR-Sangamner line is 549A. This is a very old line having a 0.2 panther conductor. The total rated current carrying capacity of the 0.2 panther conductor is 487A. However, this conductor is very old and completed more than 33 years of service period. Hence it is not desirable to load the line at the rated current also.

Further, it is not possible to extend the supply of 132 kV GCR-Sinnar old -Sangamner due to overloading of 132 kV GCR-Sinnar old line. Therefore it is proposed to convert the 132 kV Babhaleshwar- Sangamner SCSC line to the DCDC line (34 Ckm), by using ERS.

To overcome the issues of single source connectivity of 132 kV Sangamner s/s. the necessary second source needs to be established from 220 kV Babhaleshwar s/s. The Estimated cost of the scheme is ₹ 6575.10 Lakhs. The Scheduled Commission year for scheme is FY 2024-25.

Consider the system stability & reliability with due deliberations, after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval.

Agenda Point No. AD8:

Establishment of 220/132 kV Igatpuri Substation by up-gradation of existing 132 kV Igatpuri Substation, Dist. Nashik

MSETCL representative placed before the MTC a proposal for the Establishment of 220/132 kV Igatpuri Substation by up-gradation of existing 132 kV Igatpuri Substation, Dist. Nashik.

MSETCL representative mentioned that Central Railway has initiated the proposal of renovation of 132/ 25 kV Railway yard in premises of 132 kV Igatpuri. In the new proposal railway is planning to augment, the existing transformer capacity from 2x 12.5 MVA to 2x30/42 MVA.

In addition to this, a new TSS at 132 kV Igatpuri of 30 MVA in Kalyan Circle was already approved by the corporate office. The existing transformer capacity is 132/25 kV, 12.5 MVA under the central Railway. However, the proposed transformer capacity is 132/25 kV, 30/42 MVA & will result in the addition of a new load. MSEDCL Load of around 25 MVA is expected to increase up to 40 MVA in upcoming years. Therefore, the total estimated load at 132kV Igatpuri Substation will be (MSEDCL load 40 MVA-3ph) 174 A + (Central Railway Kalyan Circle load 30 MVA-1 ph.) 227A+ (Central Railway Bhusawal Circle load 30MVA- 1ph, assumed load 30MVA) 227A= 628 A (total Load). This would be difficult to manage the load on a single 132kV Line in case of an outage on one of the circuits & it is difficult to take outages on 132kV Igatpuri-Raymond line, 132kV Igatpuri-Bhandardara stage-I Line, 132 kV GCR-Pachpatta line & for short duration to increase in load line may overload. Due to space constraints & following reasons, GIS is considered over AIS for, 220/132 kV Igatpuri Substation. Therefore, MSETCL proposed the scheme of eestablishment of 220/132 kV Igatpuri Substation by up-gradation of

existing 132 kV Igatpuri Substation, Dist. Nashik. The Estimated cost of the scheme is ₹ 11633.53 Lakh. The Scheduled Commission year for scheme is FY 2025-26.

For 220 kV system strengthening, to manage the additional load demand of Central railway, MSEDCL, reliability, voltage Regulation improvement after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval.

Agenda Point No. AD9:

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.

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. 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 Estimated cost of scheme is ₹ 4243.63 Lakhs. The Scheduled Commission year for scheme is FY 2025-26.

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. AD10:

Establishment of 132/33 kV Kurkheda S/s ,Ta. Kurkheda, dist. Gadchiroli

MSETCL representative placed before the MTC a proposal for the Establishment of 132/33 kV Kurkheda S/s, Ta. Kurkheda, dist. Gadchiroli

MSETCL representative mentioned that presently Kurkheda area is fed from 132/33 kV Lakhandur s/s, 132/33 kV Bramhpuri s/s and 220/132/33 kV Gadchiroli s/s. Kurkheda taluka has no EHV substation. The existing 220/33KV Gadchiroli substation has having 50 MVA installed capacity. The connected load on this EHV substation is 93.9 MVA. The maximum demand reached is 37 MVA.

There are 6 nos. of 33 kV feeders emanating from 220/33 kV Gadchiroli S/s having 14 nos. of 33/11 kV substations. There are 2 nos of 33/11 kV proposed substation on Gadchiroli EHV substation with 10MVA installed capacity. Thus, the total installed capacity will rise to 103.9 MVA against 50 MVA.

The length of the 33 kV Armori feeder emanating from 220 kV Gadchiroli S/s is 70 Km and its % VR is 24.99 %. The existing 132/33 KV Lakhandur substation is having 50MVA installed capacity. The connected load on the 33 kV level from 132/33 kV Lakhandur s/s is 68.15 MVA. The maximum demand reached is 40 MVA.

MSETCL representative highlighted that there are 6 nos. of 33 kV feeders emanating from 132/33 kV Lakhandur s/s having 10 nos. of 33/11 kV substations. There is 1 no 33/11 kV substation proposed on this EHV substation of 1x5 MVA capacity. Thus, the total installed capacity will rise to 73.15 MVA against 50 MVA.

The length of the 33 kV Sawangi feeder emanating from the 132 kV Lakhandur EHV substation is 92 Km and its % VR is 25.25 %. The existing 132/33 kV EHV Bramhapuri sub-station has having installed capacity of 100 MVA (2x50). The connected load on this EHV sub-station is 130 MVA. The maximum load recorded on the EHV Bramhapuri sub-station is 66 MVA. There are 9 nos 33 kV feeders emanating from 132/33 kV Bramhapuri sub-station having 12 nos. of 33/11 kV substations. There is 1 no of 33/11 kV of 1 X 5 MVA (Muzda), substation proposed on Brahmapuri EHV substation. Thus, the total installed capacity will rise to 135 MVA against 100.

The length of the 33 kV Wadsa feeder emanating from the 132 kV Brahmpuri S/s substation is 40 Km and its % VR is 10.46 %. The distance between 220 kV Gadchiroli to 132 kV Brahmpuri S/s is 56 km. The distance between 220 kV Gadchiroli to 132 kV Lakhandur is 72 km. The

distance between 132 kV Lakhandur to 132 kV Brahmpuri S/s is 30 km. The distance from the proposed Kurkheda S/s to 220 kV Gadchiroli S/s, 132 kV Brahmpuri, and 132 kV Lakhandur are 79 km, 39 km, and 59 km respectively.

The distance between existing and proposed S/s is very long. Also, the 33 kV feeders emanating from existing EHV S/s are lengthy. The formation of new EHV s/s at Kurkheda will help in strengthening the network and avoiding the breakdowns & overloading of the system. The low voltage problems will be resolved and the consumers will get a reliable and quality supply. The Estimated cost of the scheme is ₹. 11675.67 Lakhs. The Scheduled Commission year for scheme is FY 2025-26.

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. AD11:

Establishment of 220/22 kV Kopri HDIL S/s

MSETCL representative placed before the MTC a proposal for the Establishment of 220/22 kV Kopri HDIL S/s

MSETCL representative submitted that MSEDCL had taken possession of 2.5 acres of land from M/s. Privilege Power and Infrastructure Pvt Ltd, according to the order passed by Hon'ble Bombay High Court on dtd 22.09.2021. The land required for the establishment of Kopri s/s is handed over by MSEDCL on dtd 29.10.2021.

MSETCL representative highlighted that the requirement for the proposed substation was received from the Director (Operation), MSEDCL vides letter no.04733, dtd. 28.02.2022, regarding the establishment of 220/22 kV Kopri, Virar (East) s/s, Tal.-Vasai, Dist.-Palghar.

A meeting regarding the establishment of 220/22kV Kopri, Virar (East) s/s was convened under the chairmanship of Hon'ble CMD, MSETCL on dtd 05.01.2023. In the meeting, MSEDCL authorities explained that the future demand in the said area is anticipated around 40 MW, and EHV s/s is essential. As per the Hon. High Court order, MSEDCL has to put up the requirement of balance land separately for their expansion, putting up a new substation in order to cater to the demand of the petitioner and nearby area as per load growth. Hence suggested exploring adjoining land and also visiting the Hon. Collector's office.

For the establishment of 220kV AIS s/s the land requirement is 250x250 mtr. (15.43 acre) Since the size of the land is much smaller than the standard size, hence GIS s/s is proposed. There are 22 nos. of 22 kV feeders emanating from 220 kV Nalasopara s/s. The existing EHV substation is 85% loaded. On 16.05.2024 the substation load reached 250 MVA against 240MVA (3 x 80MVA). On 17.04.2024, the Boisar (PG) - Nalasopara line reached 868 amp (288MW). Even with the addition of a 1x100MVA, 220/22-22kV transformer, the substation will not be N-1 compliant. The Estimated cost of the scheme is Rs. 12516.74 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. AD12:

Establishment of 220 kV Suraksha Smart City Dist. Palghar under EHV CC O&M Zone Vashi.

MSETCL representative placed before the MTC a proposal for the Establishment of 220 kV Suraksha Smart City Dist. Palghar under EHV CC O&M Zone Vashi.

MSETCL representative highlighted that in the present scenario, consumers of the Vasai, Virar, and Nalasopara area are fed by 220 kV Nalasopara, 220 kV Vasai, and 100 kV Vasai substations. The region near the proposed Suraksha Smart City area will be catered by existing 100 kV Vasai and 220 kV Vasai substations. The present transformation capacity at 220 kV Vasai and 100 kV Vasai substations are as below a) 100 kV Vasai substations, 100/22 kV, 4x50=200 MVA against peak load of 150 MW. b) 220 kV Vasai substations, 220/22 kV, 2x50=100 MVA against peak load of 85 MW During N-1 contingency of any single unit of transformers at 100 kV Vasai and 220 kV Vasai substations, the other units will be overloaded affecting reliability of supply to consumers.

MSETCL representative mentioned that to retain the reliability of supply additional 1x50 MVA, 220/22 kV is proposed at 220 kV Vasai during the years 2024-25 in STU five five-year transmission plan 2022-23 to 2026-27. The additional 1x50 MVA, 220/22 kV is proposed at 220kV Vasai is still insufficient to cater proposed load of Suraksha Smart City. As per the MSEDCL proposal, the proposed load at 220/22 kV Suraksha Smart City substation is 110 MVA approx. and an additional 32 MVA due to the restructuring of loads of 100 kV Vasai and 220 kV Vasai substations (Total Load at 220/22 kV Suraksha Smart City substation-142 MVA).

The scheme is proposed to cater to the load of the Suraksha Smart City area and resolve low voltage issues faced by consumers in the Vasai area which are currently fed by lengthy 22 kV Feeders from 100/22 kV Vasai and 220/22 kV Vasai substations. Hence in view of the above low voltage issues, insufficiency of transformation capacities at the above-mentioned substations, and proposed load of Suraksha Smart City, the requirement of 220 kV Suraksha Smart City substation is feasible on 220 kV Kamba-Vasai Line. The Estimated cost of cited scheme is ₹ 70 Crore. The Scheduled Commission year for scheme is **FY 2027-28**.

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. AD13:

Level creation of 132 kv / addition of ICT at 220 /33 KV Patoda S/s , Ta. Patoda, Dist. Beed

MSETCL representative placed before the MTC a proposal for Level creation of 132 kv / addition of ICT at 220 /33 KV Patoda S/s, Ta. Patoda, Dist. Beed

MSETCL representative highlighted the Beed District area is RE rich area where many RE generators are applied for grid connectivity. As per the Ministry of New & Renewable Energy of GOI, State wise solar potential of the country was calculated by the NATIONAL INSTITUTE OF SOLAR ENERGY (NISE). According to this data, the total solar potential of Maharashtra State was proposed to be 64.32 GW. For Beed District: 2361.1 MW. The tentative load of Beed district is 619.5 MW. Thus, the total Solar Potential of Beed District is around 2980.6 MW.

In the Beed District area, there is a total 1963 MW capacity of RE generators, existing and sanctioned/applied for grid connectivity. Considering the above grid connectivity's sanctioned / applications and existing RE generators, the power evacuation system is required to be strengthened of 220 kV Patoda, 132 kV Raimoha, 132 kV Kharda, and 132 kV Ashti Substation. There is near about 670 MW RE power generation to be evacuated from 220 kV Patoda, 132 kV Raimoha, 132 kV Kharda, and 132 kV Ashti Substation area. There are system constraints for RE power evacuation in the existing transmission system of 220 kV Patoda, 132 kV Raimoha, 132 kV Kharda, and 132 kV Ashti Substation area.

However, due to delay in the commissioning of the schemes proposed, many RE Generation Project applications received by STU for Grid Connectivity in the region, are being declined as the existing network is getting overloaded and there are no margins available in the transmission network for evacuation of power from these projects.

Accordingly, the STU section has identified this scheme on a priority basis for addressing various constraints in transmission systems related to RE-rich areas. Hence, Level creation of 132 kv / addition of ICT at 220 /33 KV Patoda S/s, Ta. Patoda, Dist. Beed proposed by MSETCL. The Estimated cost of the scheme is ₹ 8224.82 Lakhs. The Scheduled Commission year for scheme is FY 2024-25.

Considering the additional load requirement of MSEDCL, RE power evacuation, 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:

Enhancing Transmission network reliability by Loop in Loop out of 220 kV Kalwa Salsette 5 line at MSETCL Bhandup S/s.

TPC-T representative placed before the MTC a proposal of Enhancing Transmission network reliability by Loop in Loop out of 220 kV Kalwa Salsette 5 line at MSETCL Bhandup S/s. CE, TPC-T representative explained that the scheme is proposed in view of providing additional source and connectivity from MSETCL 220 kV Kalwa and TPC-T 220 kV Salsette S/s to MSETCL 220 kV Bhandup S/s by Loop In Loop Out of existing TPC-T 220 kV Kalwa Salsette – 5 line.

The scope of work for the above scheme is as below:

- (a) LILO of existing 220 kV Kalwa Salsette – 5 lines at MSETCL 220 kV Bhandup S/s as the cable portion of the mentioned line traverse near Bhandup S/s @ 250 mtrs. (2 X 1C, 220 kV, 1600 sqmm Cu cable with lead sheath per ckt). 220 kV Cable system along with the FO cable system from the Proposed Joint Bay location up to the new 220 kV proposed Outdoor GIS.
- (b) Procurement, installation, and commissioning of 4 no. of 220 kV GIS bays (02 nos. of Incomer bays, 01 no of Tie bay and 01 Bus Coupler) with Protection, Automation and Communication system.

The Estimated cost of the scheme is ₹ 70 Crore. The scheduled commissioning year for the cited scheme is FY 2025-26.

For reliability and system point of view, providing additional source and connectivity between MSETCL 220 kV Kalwa and TPC-T 220 kV Salsette S/s to MSETCL 220 kV Bhandup S/s by Loop In Loop Out, after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval.

Agenda Point No. 43:

Upgradation of existing 110 kV Khopoli – Karanjade Corridor by replacing existing conductor by higher capacity conductor along with Towers.

TPC-T representative placed before the MTC a proposal of Upgradation of existing 110 kV Khopoli – Karanjade Corridor by replacing existing conductor by higher capacity conductor along with Towers.

TPC-T representative explained that The 110 kV Khopoli – Bhokarpada – Karanjade lines are erected and are in service for more than 100 years ago. Tata Power has engaged M/S Takalkar Power Engineers and Consultant Pvt. Ltd. (TPECPL) Vadodara for the purpose of condition monitoring and Residual Life Assessment as well as suggesting corrective action.

The majority of Towers are Horizontal type with Grillage foundations and after residual life assessment work it is found that there is a loss of zinc coating on tower members resulted into rusting and reduction of thickness of it. Average compressive strength of tower foundation deteriorated resulting into bulging and loss of verticality of tower. Therefore, it is recommended to replace these towers along with new foundations. There is a significant load requirement (Yotta @ 158 MVA) envisaged in the vicinity of Bhokarpada S/s area. In view of this, augmentation of 110 kV Khopoli – Bhokarpada – Karanjade corridor is necessary. Tata Power proposes replacement of existing towers with 220 kV DF multi circuit Towers and existing 2 x 0.15 Wolf ACSR conductor with 0.5 Moose Conductor. The proposed scheme is in line with Long Term Transmission Planning.

TPC-T representative mentioned the scope of work for cited scheme:

- (a) Replacement of existing Horizontal towers (Grillage foundation) with 220 kV DF multi circuit Towers (with new foundation)

(b) Replacement of existing 110 kV, 2 x 0.15 Wolf ACSR conductor with 220 kV, 0.5 Moose Conductor.

The Estimated cost of scheme Cost is ₹ 250 Crore. The scheduled commissioning year of said scheme is FY 2026-27.

The above lines have already outlived their service life .The upgradation of above corridor can be utilised for further inteconnection between planned STU /CTU and Mumbai network in order to meet the present & future load requirement, enhance system reliability and stability, after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval.

Agenda Point No. 44:

Upgradation and augmentation of Transformation capacity at Dharavi S/s and Carnac S/s by installation of additional Transformers.

125 MVA, 110 kV/33 kV/22 kV Transformer (Dharavi)
125 MVA, 220 kV/33 kV/22 kV Transformer (Carnac)

TPC-T representative placed before the MTC a proposal of Upgradation and augmentation of Transformation capacity at Dharavi S/s and Carnac S/s by installation of additional Transformers.

125 MVA, 110 kV/33 kV/22 kV Transformer (Dharavi)
125 MVA, 220 kV/33 kV/22 kV Transformer (Carnac)

TPC-T representative explained the need of schemes as follows:

Dharavi S/s:

Existing 33 kV peak Load is @ 320 MVA against firm capacity @ 375 MVA i.e. 85 %. BEST has a load requirement of @ 30 MVA (5 feeders). The peak load by FY 27 will be 350 MVA (93% of Firm Capacity). The existing 110 kV / 22 kV, 60 MVA, Transformer # 2 has served 57 years of its useful life. Since 22 kV load is getting migrated on 33 kV system, it is proposed to replace this Transformer with 220 kV / 33 kV, 125 MVA Transformer.

Carnac S/s:

Existing 33 kV peak Load is @ 310 MVA against firm capacity @ 375 MVA i.e. 83 %. The existing 110 kV / 22 kV, 60 MVA, Transformer # 4 has served 49 years of its useful life. Since 22 kV load is getting migrated on 33 kV system, it is proposed to replace this Transformer # 4 with 110 kV / 33 kV / 22 kV, 125 MVA Transformer.

TPC highlighted scope of work for above scheme:

Dharavi S/s:

Replacement of existing 110 kV / 22 kV, 60 MVA (60 years) with 110 / 33 kV, 125 MVA Transformer at Dharavi.

Carnac S/s:

Replacement of existing 110 kV / 33 kV, 90 MVA (49 years) with 220 / 33 / 22 kV, 125 MVA Transformer.

The Estimated cost of scheme is ₹ 65 Crore. The scheduled commissioning year for said scheme is FY 2026-27.

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. 45:

Source Augmentation of 110 kV Mankhurd S/s with construction of additional 110 kV Trombay Mankhurd line by utilizing existing corridor.

TPC-T representative placed before the MTC a proposal of Source Augmentation of 110 kV Mankhurd S/s with the construction of an additional 110 kV Trombay Mankhurd line by utilizing the existing corridor.

TPC-T representative explained that Presently Mankhurd S/s is fed by 110 kV Waghivali – Mankhurd and 110 kV Parel – Mankhurd lines. Central Railway is a major consumer of Mankhurd S/s fed by a 110 kV system. During the outage of any one line of 110 kV Waghivali – Mankhurd and 110 kV Parel – Mankhurd lines, Mankhurd S/s consumers face voltage fluctuations due to railway load.

The Overhead corridor is available between Trombay and Chembur thus additional 110 kV line can be constructed by stringing a conductor and replacing a few horizontal configuration towers. In addition to the above, Hydropower will be directly available to Trombay station during Black Start

TPC-T representative highlighted the scope of work for the scheme as follows:

- (a) Stringing of new 0.5 mose conductor between Trombay to Mankhurd.
- (b) Installation of 01 no of the bay at Trombay and Mankhurd with Protection, Automation, and Communication system.

The Estimated cost of the scheme is ₹ 15 Crore. The scheduled commissioning year of the cited scheme is FY 2026-27

The above lines have already outlived their service life .The upgradation of above corridor can be utilised for further interconnection between planned STU /CTU and Mumbai network in order to meet the present & future load requirement, enhance system reliability and stability, after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval.

Agenda Point No. 46:

Augmentation and strengthening of 110 kV Bhira Khopoli Corridor by construction of additional 110 kV Bhira Khopoli Line.

TPC-T representative placed before the MTC a proposal for the Augmentation and strengthening of the 110 kV Bhira Khopoli Corridor by the construction of an additional 110 kV Bhira Khopoli Line.

TPC-T representative submitted that Presently there are 02 lines between Bhira and Khopoli namely 110 kV Bhira Khopoli and 110 kV Bhira – Davdi – Khopoli with a conductor size of 0.2 Panther ACSR (550 Amp). Since the existing Overhead corridor is available, only conductor stringing will be required with additional bays at Bhira and Khopoli. The existing power evacuation capacity of this corridor is 2 X 100 MVA (firm capacity 100 MVA). With an additional 110 kV Bhira Khopoli line, the capacity of this corridor will be upgraded to 360 MVA (firm capacity 200 MVA) Augmentation of the Bhira – Khopoli Corridor is necessary for power evacuation in view of upcoming Pump Storage Projects.

TPC-T representative mentioned the scope of work for the above scheme, as follows:

- (a) Stringing of new 0.5 moose conductor between Bhira and Khopoli.
- (b) Installation of 01 nos of the bay at Bhira and Khopoli with Protection, Automation, and Communication system.

The Estimated cost of the scheme is ₹ 30 Crore. The scheduled commissioning year for the cited scheme is FY 2025-26.

The above lines have already outlived their service life .The upgradation of above corridor can be utilised for further inteconnection between planned STU /CTU and Mumbai network in order to meet the present & future load requirement, enhance system reliability

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

Agenda Point No. 47:

Installation of Static Synchronous Compensator (STATCOM) for Voltage Regulation at Kalyan, Dharavi, Parel, Saki and Borivali S/s

TPC-representative placed before the MTC a proposal for Installation of a Static Synchronous Compensator (STATCOM) for Voltage Regulation at Kalyan, Dharavi, Parel, Saki, and Borivali S/s

TPC-representative mentioned that Fluctuation ± 15 kV at substations from where 1-ph railway loads are fed like Chola, Mankhurd, etc. Unbalance between phases due to negative sequence voltages is beyond the 3% permitted values as per Indian Grid Regulation 2010.

Significant increase in 1-ph loads in MMR region due to increased traction loads of new Metro lines & increased loading on existing CR, WR, Harbour line, etc. They have studied for 110 kV HT Mumbai was appointed as a consultant to study various possible grid conditions and their recommendations are as follows:

- (a) Fixed compensation will not help. Variable compensation to match variable 1-ph load is required.
- (b) Installation of STATCOM load balancer ± 20 MVar at Kalyan, Saki, Dharavi, Parel, and Borivali S/s
- (c) Flexibility to choose adjacent substation in case of space limitation in the recommended station

CE, STU highlighted the scope of work for the above scheme as follows:

- (a) Installation and commissioning of Synchronous Compensator (STATCOM) at Kalyan, Dharavi, Parel, Saki, and Borivali S/s
- (b) Installation and commissioning of 110 kV bay with Protection, Automation, and Commissioning System at Kalyan, Dharavi, Parel, Saki, and Borivali S/s

The Estimated cost of the scheme is ₹ 250 Crore. The scheduled commissioning year for the cited scheme is FY 2026-27.

After detailed deliberation and discussion, MTC directed TPC-T to submit IIT study detailed report to STU and after submission of report STU will carried out holistic study with transmission Licensees for optimized finalization of requirements.

STU 10 Year / 5 Year/ 3 Year Plan of Transmission utilities for the period FY 2024-25 to FY 2033-34.

In Compliance to MEGC 2020 & responsibilities entrusted to STU under Electricity Act 2003 the, State Transmission Utility (STU) has prepared the Short term(3 years), Medium Term(5 years) and long term (10 years) Transmission Plan for State of Maharashtra for the period 2024-25 to 2033-34.

SE , STU placed before the MTC the STU Transmission plan for the state of Maharashtra for the period 2024-25 to 2033-34. He informed the plan has been prepared in accordance with the Section 39 of the Electricity Act, 2003, wherein “Planning, coordination, development and undertaking transmission of electricity through intra-state system is to be done by the State Transmission Utilities”. While preparing the plan the Load-generation balance scenarios have been worked out corresponding to seasonal / quarterly load & generation variations and has been simulated for Planning years by STU. STU has consulted all stake holder and taken into consideration the following factors while undertaking the preparation of the plan:

- Existing & Planning Year Growth Rate
- CTU Rolling Plan
- Discom Requirements
- Renewable & Conventional Generation Evacuation Planning
- 20th EPS Survey Report
- Identification of Demand Hotspots & Pump Storage Plants
- Green Hydrogen Policy
- Mukhyamantri Saur Krushi Vahini Yojana - 2.0 (MSKVY-2.0)
- Western Region Expansion Schemes
- Transmission Bottleneck of Maharashtra system
- Transmission constraints for Mumbai corridor
- Construction of New Transmission Corridor for Maharashtra Energy Transition Plan

SE STU stated that the State Peak demand Maharashtra is currently at 29GW & has been growing historically at a CAGR of 4-5% (pre-COVID). Led by Maharashtra’s Economic growth if a peak to grow rate of 6-7 % going forward is considered for planning purposes, Maharashtra’s peak may reach 34-35GW by 2026 and 42-45GW by 2030 translating to an annual growth rate of 2GW/ year.

Over & above this, the demand growth is expected to be further driven by factors viz Datacenters, Green hydrogen and derivatives & Pump Storage plants (PSPs). Taking into consideration these factors the projected peak demand requirement in the state of Maharashtra may rise to 69-70GW

by 2030. Catering to this demand would need a mix of long-term and short-term capacity contracting which need evaluation against 3 main factors - cost, reliability/ flexibility and time to implementation to cater to the above requirement Maharashtra will require an additional 130-150K MVA T&D network for connecting load centers to supply centers and end customers; while ensuring higher grid stability measures are taken across generation, transmission, and distribution value chain.

Taking into considerations all the above factors STU has planned an Energy transition plan for the State of Maharashtra & this STU plan is a critical factor in the total scheme of things.

Based on the above parameters SE, STU presented STU 10 Year / 5 Year/ 3 Year Plan of Transmission utilities for the period FY 2024-25 to FY 2033-34.

- 1) Establishment of **196 No.** (*Cost: Rs 81315.72 Cr*) EHV Substations with associated lines from voltage level of 100 kV to 765 kV. This will add **108775 MVA** capacity.
- 2) Construction of **5716.88.Ckt. km** (*Cost: Rs6622.74 Cr*) *new EHV link lines* of various voltage levels from 765 kV to 100 kV.
- 3) Second circuit stringing of **1663.60 Ckt.km** (*Cost Rs.1919.08 Cr*) of various voltage level from 400kV to 100kV.
- 4) The total ckt km of EHV lines is **19360 Ckt. km** which is total of Associated lines + link lines+ 2nd ckt stringing)
- 5) The conductor replacement of existing lines by high ampacity conductor is **4096.29.Ckt.km** amounting to **Rs.6333.63 Cr** of various voltage level 400kV to 100kV.
- 6) Addition of transformation capacity of **35715MVA** (*Cost: 11397.78 Cr*) by augmentation / creation of new level / additional TF/ replacement TF in existing substation of various voltage levels from 400 kV to 100 kV.
- 7) Addition of **2850 MVAR**(*Cost Rs 437.34 Cr*) Reactor & **3835 MVAR**(*Cost: Rs 124.31 Cr*) Capacitor proposed for maintaining the voltage profile at existing EHV Substations.
- 8) Up gradation of existing HVDC control & Protection of Chandrapur-Padghe Bipole link for **Cost Rs.343.17Cr.**
- 9) Addition of **900MVAR** STATCOM at 3 nos. of location under. Nasik, Pune & Vashi zone.
- 10) STU to implement **10 No's** of schemes under Annexure-G through TBCB route for timely implementation following the CERC & MERC TBCB guidelines

MTC has also recommended to implement the Ten schemes identified under phase 1 to be implemented through TBCB route ,out of which the following 4 schemes to be taken up immediately for TBCB implementation considering the Transmission constraints, RE evacuation & Data Centre load requirement for timely completion:

- a. 400kV Jejuri-Hinjewadi quad DC line. (Pune constrain)
- b. 765kV Pune (East) substation along with associated lines. (Pune constrain)
- c. 765kV Mahape substation along with associated lines.(Data Centre demand)
- d. 400kV Washi substation along with associated lines(RE evacuation)

MTC recommended the STU 10 Year / 5 Year/ 3 Year Plan of Transmission utilities for the period FY 2024-25 to FY 2033-34 to GCC for approval.

Agenda No. AD14:

220 kV Borivali-Ghodbunder –Boisar LILO Line Augmentation

AEML representative placed before the MTC a proposal of 220 kV Borivali-Ghodbunder –Boisar LILO Line Augmentation.

AEML representative explained the scope of work, as a two options submitted by them:

Option – 1 (Switching S/s)

- (a) Procurement of land
- (b) Installation of 220kV GIS with necessary arrangement
- (c) Termination of existing 220kV line cable i.e. from Ghodbunder EHV station to proposed GIS switching station
- (d) Overhead line tapping from tower to 220kV GIS through Gantry / GIBD arrangement and associated Control room along with protection System

Option -2 (Cable system)

- (a) Lay another 220kV Cable system (2500 sq mm) between GHBD S/s to LILO tower, along with 220kV GIS bay at GHBD S/s and termination at tower

AEML representative highlighted that MSETCL OH Line capacity (1800 Amps) after HTLS/twin conductor installation is limited due to 1200mm cable system(800Amps) after LILO portion. To match the OH line capacity, AEML-T proposes to Option-1 Install a 220kV GIS near the existing LILO Tower by tapping of MSETCL line through 220kV GIL/ Cable system, Option-2 Additional 220kV cable system between GHBD S/s to LILO tower. Scheme will strengthen transmission line corridor and power flow capacity.

AEML-T mentioned that On 18.06.2024, CE, SLDC has advised STU to uprate conductor capacity of the existing AEML Ghodbunder- Boisar LILO Line, in view of multiple overload

tripping observed in April 2024. The cost of Work through Option-1 is ₹ 121.01 Crore, whereas from Option-2 the cost of work is 162.59 Crore. This, scheme is urgent and as per their analysis, work through Option-1 can be process.

SE STU informed that AEML-T has informed that both the options of upgradation of EHV cable or LILO of line at a switching station and extending radial feed to Godhbunder S/s from the switching are feasible. MTC recommended that STU may study the option based on reliability of the system and approve the better option, after detailed deliberation and discussion, the committee recommended the scheme for submission to GCC for approval.

Agenda No. AD15:

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

AEML-T representative submitted that on 28 May 2024 Gorai S/s, 125 kV T/F-2 was connected to main Bus-2, its Bus-isolator was in close condition and main Bus Isolator-1 was in open condition One of its arm was charged with Bus-2 and other arm was charged with Bus-1. The internal fault occurred on the 89A isolator chamber on TR-2. The fault was on a common point of Bus-1 Isolator & TR-2. The fault was seen by both Buses within 27 Sec. It started tripping all bus-2 connected feeders along with 220 kV Bus-coupler within 80 milli Sec.

AEML-T representative further highlighted that the fault current was 58.6 KA. After 27 msec, bus-bar protection senses the fault. Therefore it tripped connected feeders of Bus-bar-1 within 109 msec. The fault current was recorded at 33.3 KA. The fault clearance time was 136 msec. delay not observed in fault clearance. For analysis of this, AEML-T put-up this fault in front of the MTC.

After detailed discussion, the MTC opined that STU shall arrange a meeting along with site visit of all the stake holders(STU,AEML-T,SLDC,AC&I and SE(PAC) Vashi for discussion on the probable cause of the non –selective operation of the bus and discuss the reasons of high fault levels and mitigation measures to be taken in this respect.

Points for discussion:

1. MOU for O&M of 2 Nos. 400 kV Kharghar Bays of KVTPL.

For Routine O&M, of KVTPL constructed 2 Nos. 400 kV Bays at Kharghar, KVTPL has proposed @ 1% of the bay capital cost with 0% escalation every year.

AEML-T representation apprised the forum of the issue that M/s KVPTL has proposed 1% of bay capital cost *with* 0% escalation every year as routine O&M charges to MSETCL for the 2 nos of 400kV KVPTL bays at 400kV Kharghar substation . MSETCL has asked them to pay the charges as per the O&M charges defined by Hon. MERC in MYT regulations. CE,STU informed that the issue was taken up as a part of MTC agenda by Trans O&M Section MSETCL.

During the discussion in the MTC the KVTPL representative submitted that they have requested the above rate on the basis of the earlier agreements between MSETCL and other utilities wherein they are proposing only the routine maintenance charges and shall themselves carry out the breakdown maintenance. However it has been clarified to KVPTL that the charges decided with earlier utilities does not have any regulatory mandate and audit para has been raised for the same by Auditor. Thus the same can not be taken as precedence for determination of recovery of the O&M charges. was informed requested routine O&M charges only. In such a case KVPTL requested to sign an interim agreement with 1% subject to revision in O&M charges as and when decided on the basis of MERC guidelines. The same was not accepted by MSETCL.

In view of non-agreement it was decided to call for views from MTC members on the issue and refer to the central guidelines in this respect so as to take a final decision with approval of MSETCL's competent Authority with an option to approach MERC for guidelines in this regard.

MTC suggested that based on the submissions from MTC members and Central guidelines STU may suggest methodology for recovery of O&M charges which may further be referred to MERC for clear guidelines.

SE (STU), Member Secretary offered the vote of thanks to all the MTC members and other participants and concluded the 10th MTC Meeting.


Chairperson - MTC
29.7.24
Chief Engineer (STU)