



MAHARASHTRA STATE ELECTRICITY TRANSMISSION COMPANY LIMITED
(CIN NO U40109MH2005SGC153646)

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MSETCL/CO/STU/Sys/MTC/

No 07730

Date:

13 NOV 2022

To,
As per mailing list


Sub: Minutes of 5th Maharashtra Transmission Committee (MTC) meeting held on 01, November, 2022.

Please find enclosed herewith minutes of the 5th Maharashtra Transmission Committee (MTC) meeting held on 01, November, 2022 at 11:00 Hrs. at Adani Electricity Management Institute, Goregaon (E), Mumbai 400065.

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	Jagannath G. Chude-Superintending Engineer (Project Scheme-I)	Member	SE1prj@mahatransco.in
5	MSEDCL	Chief Engineer (Distribution), CO, Mumbai	Member	cedist@mahadiscom.in
6	MSPGCL	Rahul Sohani (Superintending Engineer)	Member	cegw@mahagenco.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 (Chief Electrical Engineer/Electrical Energy Management/CR)	Member	dyceetrdcrly@gmail.com
11	M/s Tata Power Company Ltd. (Distribution)	V T Narayanan	Member	vtnarayanan@tatapower.com
12	Adani Electricity Mumbai Ltd. (Distribution Business)	Abaji Naralkar (Asst. Vice President)	Member	abaji.naralkar@adani.com
13	BEST Undertaking	Shri. Sunil Namdeo Pawar.Divisional Engineer (Project)	Member	depro@bestundertaking.com

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Minutes of the 5th Maharashtra Transmission Committee (MTC) Meeting held on 01, November, 2022 at 11:00 Hrs. at Adani Electricity Management Institute, Goregaon (E), Mumbai-400065

The 5th Maharashtra Transmission Committee (MTC) was held on 01, November, 2022 at 11:00 Hrs. at Adani Electricity Management Institute, Goregaon (E), Mumbai. Chief Engineer (STU) presided over the meeting. The list of members/participants is enclosed as **annexure-I**.

Chief Engineer (STU), Chairperson of MTC, Welcomed all the MTC members & other participants in the 5th MTC meeting. After brief introduction of the participants agenda items were taken up for discussion.

Agenda Point No. 1:

Scheme for replacement of old existing 0.2 ACSR Panther conductor by CCC type HTLS conductor along with required hardware, accessories and porcelain long rod insulator for 132 kV Manmad-Lasalgaon, 132kV Malegaon-Malegaon- Ckt II & 132kV Malegaon-Malegaon- ckt III under EHV O & M Division, Nashik.

MSETCL representative placed before the MTC a proposal for Scheme for replacement of old existing 0.2 ACSR Panther conductor by CCC type HTLS conductor along with required hardware, accessories and porcelain long rod insulator for 132 kV Manmad-Lasalgaon, 132kV Malegaon-Malegaon- Ckt II & 132kV Malegaon-Malegaon- ckt III under EHV O & M Division, Nashik.

He explained that Current Carrying cap. Of 132 kV Manmad-Lasalgaon, 132kV Malegaon-Malegaon- Ckt II & 132kV Malegaon-Malegaon- ckt III is 395 Amp at 65°C.

132kV Manmad-Lasalgaon: 132kV Lasagaon S/S, has two sources i.e. 1) 132kV Manmad - Lasalgaon line & 2) 132kV Ranwad-Lasagaon line. However, 132kV Ranwad has source from 132kV Eklahare GCR. And further 132kV Eklahare GCR has source from 220kV Babhaleshwar s/s. Thus when load of 132kV Ranwad S/S increases, then ultimately load of 132KV Ranwad – Eklahare GCR line gets increased, which again increases the load of 220kV Eklahare GCR-220kV BBLR line.

Hence whenever aforesaid situation arises, the outgoing line from Ranwad S/S to Lasagaon S/S is forcefully kept in OFF condition. Therefore, in this case, only one source is available for 132kV Lasagaon (i.e. from 220kV Manmad S/S) causing increase in loading of 132kV Manmad – Lasagaon line whose load reaches up to 450 to 500 Amp. Hence, it is proposed to replace the existing conductor of above line by HTLS conductor of high amp capacity.

132kV Malegaon-Malegaon- Ckt II & 132kV Malegaon-Malegaon- Ckt III: At present there are two sources to 132kV Malegaon s/s from 220kV Malegaon s/s and the major load of industrial pocket is being fed through 132KV Malegaon-Malegaon DC lines. The load of 132kV Malegaon S/Stn is crossing 400 Amps. Due to tripping of one source another line may get overloaded and trip due to overloading, resulting into s/s blackout.

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Above scheme will provide the following benefits:-

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

After detailed deliberation and discussion, the committee recommended the said proposals of Scheme for replacement of old existing 0.2 ACSR Panther conductor by CCC type HTLS conductor along with required hardware, accessories and porcelain long rod insulator for 132kV Manmad-Lasalgaon line (32.49 kms) and 132kV Malegaon to Malegaon III line (ckt km 2.8 kms) under EHV O & M Division, Nashik.

Agenda point no. 2:

Replacement of existing 0.3 ACSR Goat Conductor by CCC type, HTLS conductor of 100kV Padghe-Mohane-Ambernath line under EHV O & M Circle, Panvel.

MSETCL representative Proposed & presented the proposal for Replacement of existing 0.3 ACSR Goat Conductor by CCC type, HTLS conductor of 100kV Padghe-Mohane-Ambernath line under EHV O & M Circle, Panvel.

MSETCL representative explained that 100kV Padgha-Mohone-Ambernath line (Ring Ckt) is commissioned in the year 1987 (35 years old). These lines are passing through heavy industrial pollution zones, MIDC areas having high corrosive effect. These lines also pass through some hilly areas, river and forest area. Moreover, due to humid atmosphere of Kalyan, Titwala, Ambernath area, these lines are getting deteriorated day by day.

100kV Padgha-Mohone-Ambernath line is rendering supply to important residential and industrial areas of Ambernath, Kalyan, Ulhasnagar Talukas. The peak load on this line goes upto 90 % of the rated capacity of 0.3 ACSR conductor. This loading is increasing continuously years by years.

These lines also don't satisfy the N-1 criteria of load sharing i.e., in case of tripping of one line, may cause tripping of the other line due to over load. Also due to ageing effect they are vulnerable to frequent breakdowns & needs heavy attention and maintenance.

Further due to such high loading on line, outages on these lines are also not easily approved due to system constraints. Hence all maintenance works couldn't be completed in time.

Above scheme will provide the following benefits:-

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- The current carrying capacity of the corridor will be increased (doubled).
- Enhanced capacity of the corridor will serve to cater additional load in future.
- Reliability & Availability of the system will be increased.
- Reduction in interruptions/trippings.

After detailed deliberation and discussion by members, the committee recommended the above proposal of Replacement of existing 0.3 ASCR Goat Conductor by CCC type, HTLS conductor of 100kV Padghe-Mohane-Ambarnath line under EHV O & M Circle, Panvel.

Agenda Point No. 3:

Replacement of existing 0.2ACSR Panther conductor by 273.6 sqmm CCC HTLS conductor along with necessary hardware for 110KV Tilawani -Ichalkaranji CKT-I, 110KV Mudshingi-Renuka from Tower No.41 to 110KV Renuka -Ichalkaranji line under EHV O & M Division,Kolhapur”.

MSETCL representative explained that Recently, replacement of existing 0.2 ACSR Panther conductor by 273.6 mm² CCC HTLS conductor along with necessary hardware for 110 kV Tilawani - Ichalkaranji CKT-I, 110 kV Mudshingi-Renuka from Tower no. 41 to 110 kV Renuka end and 110 kV Renuka-Ichalkaranji line under EHV O&M Division, Kolhapur was put up for Load flow study.

The matter was referred to STU to carry out necessary System Studies and confirm the requirement of HTLS conversion in the said corridor.

Accordingly, STU has carried the load flow studies and recommended the proposal for Replacement of existing 0.2ACSR Panther conductor by 273.6 sqmm CCC HTLS conductor along with necessary hardware for 110KV Tilawani -Ichalkaranji CKT-I, 110KV Mudshingi-Renuka from Tower No.41 to 110KV Renuka -Ichalkaranji line under EHV O & M Division,Kolhapur”.

After detailed deliberation and discussion, the committee recommended the above proposal of Replacement of existing 0.2ACSR Panther conductor by 273.6 sqmm CCC HTLS conductor along with necessary hardware for 110KV Tilawani -Ichalkaranji CKT-I, 110KV Mudshingi-Renuka from Tower No.41 to 110KV Renuka -Ichalkaranji line under EHV O & M Division,Kolhapur” for inclusion in upcoming 5 year STU transmission plan.

Agenda Point No. 4:

Augmentation of Substation by providing additional 1X50MVA, 132/33kV T/F along with HV & LV Bay and 33kV Bus extension at 132kV Jalna MIDC S/s.

MSETCL representative placed before the MTC a proposal for Augmentation of Substation by providing additional 1X50MVA, 132/33kV T/F along with HV & LV Bay and 33kV Bus extension at 132kV Jalna MIDC S/s.

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MSETCL representative explained that this substation feeds power to MIDC area (MIDC-90%, Urban- 10%). There are 2x50 MVA, 132/33kV transformers operating in parallel and average peak load on each transformer has reached more than 40MVA. Substation fulfils the P-1 criteria of augmentation scheme.

Further, MSEDCL has proposed the load enhancements of HT Consumers i.e. M/s NRB Bearings Ltd., M/s Saptashrunji Alloys Pvt. Ltd. and M/s Jalna Siddhivinayak Alloy Pvt. Ltd., at 33kV level for near future.

Industrial load of this substation is increasing rapidly and present load enhancement of 15.97MW at 33kV Level is yet to be released from this Substation. It is difficult to manage the load in case of outage/tripping on any of the transformer i.e. the substation does not satisfy N-1 criteria. Hence, additional 1X50MVA, 132/33kV T/F is proposed at 132kV Jalna MIDC S/s.

After detailed deliberation and discussion, the committee recommended the above proposal of Augmentation of Substation by providing additional 1X50MVA, 132/33kV T/F along with HV & LV Bay and 33kV Bus extension at 132kV Jalna MIDC S/s.

Agenda Point No. 5:

Augmentation of Substation by Replacement of existing 2x25MVA, 132/33kV T/Fs by 2x50MVA, 132/33kV T/Fs at 132kV Ghanasawangi S/s under EHV O&M Dn. Jalna

MSETCL representative placed before the MTC a proposal for Augmentation of Substation by Replacement of existing 2x25MVA, 132/33kV T/Fs by 2x50MVA, 132/33kV T/Fs at 132kV Ghanasawangi S/s under EHV O&M Dn. Jalna.

MSETCL representative further stated that the 132kV Ghansawangi substation is feeding power to Ghansawangi Town, Agriculture and Rural area of Ghansawangi Taluka and part of Agriculture and Rural area of Ambad Taluka in Jalna District.

There are 2 nos. of 25 MVA, 132/33kV transformers operating in parallel at 132kV Ghansawangi Substation. The maximum load on these T/Fs has reached about 90% of its capacity.

In case of tripping/Outage on any one of 25 MVA transformers, it is difficult to manage load on single 25MVA transformer i.e. the substation doesn't fulfill the N-1 criteria.

Also, the substation satisfies the P-1 criteria of augmentation scheme. In view of above, replacement of existing 2x25 MVA, 132/33kV Transformers by 2x50 MVA, 132/33kV Transformers is proposed at 132kV Ghanasawangi S/s.

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After detailed deliberation and discussion, the committee recommended the above proposal of Augmentation of Substation by Replacement of existing 2x25MVA, 132/33kV T/Fs by 2x50MVA, 132/33kV T/Fs at 132kV Ghanasawangi S/s under EHV O&M Dn. Jalna.

Agenda Point No. 6:

Augmentation of Substation by Replacement of existing 2x25MVA, 220/33kV T/Fs by 2x50MVA, 220/33kV T/Fs at 220kV Bhokardan S/s under EHV O&M Dn. Jalna

MSETCL representative proposed a proposal for Augmentation of Substation by Replacement of existing 2x25MVA, 220/33kV T/Fs by 2x50MVA, 220/33kV T/Fs at 220kV Bhokardan S/s under EHV O&M Dn. Jalna

MSETCL representative further explained that 220kV Bhokardhan substation is feeding power to Bhokardhan Town, Agriculture and rural area of Bhokardan Taluka in Jalna District.

There are 2 nos. of 25 MVA, 220/33kV transformers operating in parallel at 220kV Bhokardhan Substation. The maximum load on these T/Fs has reached about 90% of its capacity. In case of tripping/Outage on any one of 25 MVA transformers, it is difficult to manage load on single 25MVA transformer i.e. the substation doesn't fulfill the N-1 criteria.

Further, load of MSEDCL's 33kV Jomala S/s (10MVA capacity) will be commissioned soon and get connected at 220kv Bhokardhan S/s. In view of above, replacement of existing 2x25 MVA, 220/33kV Transformers by 2x50 MVA, 220/33kV Transformers is proposed at 220kV Bhokardhan S/s.

After detailed deliberation and discussion, the committee recommended the above proposal of Augmentation of Substation by Replacement of existing 2x25MVA, 220/33kV T/Fs by 2x50MVA, 220/33kV T/Fs at 220kV Bhokardan S/s under EHV O&M Dn. Jalna

Agenda Point No. 7:

Augmentation of Substation by Providing additional 1X50 MVA, 132/33 kV T/F along with HV & LV Bays at 132kV Ashti S/s under EHV O&M Dn. Beed

MSETCL representative explained in depth the necessity for Augmentation of Substation by Providing additional 1X50 MVA, 132/33 kV T/F along with HV & LV Bays at 132kV Ashti S/s under EHV O&M Dn. Beed

MSETCL representative explained that 132kV Ashti substation is feeding power to Ashti Town, Agriculture and Rural area of Ashti Taluka in Beed District.

There are 2 nos. of 50 MVA, 132/33kV power transformers operating in parallel at 132kV Ashti Substation. The maximum load on these T/Fs has reached about 80% of its capacity.

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In case of tripping/Outage on any one of 50 MVA transformers, it is difficult to manage load on single 50MVA transformer i.e. the substation doesn't fulfill the N-1 criteria. In view of above, addition 1x50 MVA, 132/33kV Transformer is proposed at 132kV Ashti S/s.

After detailed deliberation and discussion, the committee recommended the above proposal of Augmentation of Substation by Providing additional 1X50 MVA, 132/33 kV T/F along with HV & LV Bays at 132kV Ashti S/s under EHV O&M Dn. Beed

Agenda Point No. 8

Augmentation of Substation by Replacement of existing 1x25MVA, 132/11kV T/F by 1x50MVA, 132/33kV T/F at 132kV Chikalthana S/s under EHV O&M Dn. Aurangabad

MSETCL Representative proposed the above proposal before the MTC for Augmentation of Substation by Replacement of existing 1x25MVA, 132/11kV T/F by 1x50MVA, 132/33kV T/F at 132kV Chikalthana S/s under EHV O&M Dn. Aurangabad.

132kV Chikalthana sub-station is supplying power to Urban and MIDC area of Aurangabad City. At present, there are 2 nos. of 50MVA, 132/33kV transformers installed at this Substation. The maximum load on these transformers has reached about 70% of its capacity.

MSEDCL has informed that 5 numbers of 11kV feeders emanating from 132kV Chikalthana substation will be shifted on newly commissioned 33/11kV STPI substation and due to which MSEDCL will not be required following 11kV feeders at 132kV Chikalthana substation:-

(a) 11kV Radiant Agro, (b) 11kV Agro Express, (c) 11kV Ellora - Unloaded feeder, (d) 11kV Naregaon - Unloaded feeder, (e) 11kv Dummy 2 - Unloaded feeder

Hence, the diversion of 11kV load will eventually be added on 33kV level. Also, MSEDCL has submitted requirement of additional 2 x 33kV feeder bays at 132kV Chikalthana substation namely 33kV Doodh Dairy feeder (10MVA) and 33kV Bedse feeder (10MVA). The total 20MVA capacity will be added at present 33kV Bus in this year. Further, In case of tripping/Outage on any one of 25 MVA transformers, it is difficult to manage load on single 50MVA transformer i.e. the substation doesn't fulfill the N-1 criteria.

At present, 3 nos. of 132/11kV transformers (2x25MVA & 1x16MVA) are installed at 132kV Chikalthana S/s. Due to diversion of 11kV load on 33kV side, the balance 11kV load can be managed on 1x25MVA, 132/11kV T/Fs & 1x16MVA 132/11kV T/F. Therefore, removal of 1x25MVA, 132/11kV transformer is possible for creating space for new additional 1x50MVA, 132/33kV transformer as space constraint is there for additional transformer.

In view of above, addition of 1x50MVA 132/33kV power transformer along with HV & LV bays and 2 nos. of feeder bays by removing 1x25MVA, 132/11kV Power Transformer is proposed at 132kV Chikalthana S/s.

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After detailed deliberation and discussion, the committee recommended the above proposal of Augmentation of Substation by Replacement of existing 1x25MVA, 132/11kV T/F by 1x50MVA, 132/33kV T/F at 132kV Chikalhana S/s under EHV O&M Dn. Aurangabad

Agenda Point No. 9:

Augmentation of Substation by Providing additional 1X25 MVA, 132/33 kV T/F along with HV & LV Bays at 132kV Purna S/s under EHV O&M Dn. Parbhani

MSETCL representative placed before the MTC a proposal/Scheme of Augmentation of Substation by Providing additional 1X25 MVA, 132/33 kV T/F along with HV & LV Bays at 132kV Purna S/s under EHV O&M Dn. Parbhani.

MSETCL representative explained that this substation has capacity of 50MVA which includes 2x25 MVA, 132/33kV Power Transformers. The maximum load on these transformers has reached about 90% of its capacity.

In case of tripping/Outage on any one of 25 MVA transformers, it is difficult to manage load on single 25MVA transformer i.e. the substation doesn't fulfill the N-1 criteria.

Further, MSEDCL has proposed 33kV Dhangar Takali (7MW) feeder from 132kV Purna S/s. In view of above, addition of 1x25 MVA, 132/33kV Transformers is proposed at 132kV Purna S/s.

After detailed deliberation and discussion, the committee recommended the above proposal of Augmentation of Substation by Providing additional 1X25 MVA, 132/33 kV T/F along with HV & LV Bays at 132kV Purna S/s under EHV O&M Dn. Parbhani

Agenda Point No. 10:

Augmentation of Substation by Providing additional 1X50 MVA, 132/33 kV T/F along with HV & LV Bays at 132kV Jintur S/s under EHV O&M Dn. Parbhani

MSETCL representative stated that 132kV Jintur S/s is feeding power to Urban, Rural & Agricultural load of Jintur Taluka through 2x50MVA, 132/33kV transformers. The maximum load on these transformers has reached about 80% of its capacity.

In case of tripping/Outage on any one of 25 MVA transformers, it is difficult to manage load on single 25MVA transformer i.e. the substation doesn't fulfill the N-1 criteria.

Further, MSEDCL has proposed 2 nos. of feeders namely 33kV PBN Water Works (2MW) & 33kV Jintur IPDC (5MW) from 132kV Jintur S/s. In view of above, addition of 1x50 MVA, 132/33kV Transformers is proposed at 132kV Jintur S/s.

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After detailed deliberation and discussion, the committee recommended the above proposal of Augmentation of Substation by Providing additional 1X50 MVA, 132/33 kV T/F along with HV & LV Bays at 132kV Jintur S/s under EHV O&M Dn. Parbhani

Agenda Point No. 11:

Augmentation of Substation by Providing additional 1 x 50 MVA, 220/22kV T/F along with HV & LV bays and 6X22V GIS Bays at 220/100/22kV Vasai S/s under EHV(O&M) Circle, Kalwa

MSETCL representative informed that this is very critical substation catering power requirement of residential & industrial consumers of Vasai, Nalasopara and Virar city.

Load on existing 2X50MVA, 220/22kV T/Fs has reached more than 85% of its capacity. Substation fulfils the P-1 criteria of augmentation scheme.

MSEDCL has demanded urgent requirement of 06 Nos. of 22kV feeder bays for MSEDCL at 220/100/22kV Vasai S/s. It is difficult to manage the load in case of outage/tripping on any of the transformer i.e. the substation does not satisfy N-1 criteria.

Hence, additional 1X50MVA, 220/22kV T/F is proposed at 220/100/22kV Vasai S/s.

After detailed deliberation and discussion, the committee recommended the above proposal of Augmentation of Substation by Providing additional 1 x 50 MVA, 220/22kV T/F along with HV & LV bays and 6X22V GIS Bays at 220/100/22kV Vasai S/s under EHV(O&M) Circle, Kalwa

Agenda Point No. 12:

Augmentation of Substation by Replacement of 1X25MVA, 220/33kV T/F by 1X50MVA, 220/33kV T/F at 220kV Dondaicha S/s.

MSETCL representative explained that the Substation has capacity of 75MVA which includes 1x25 MVA, 132/33kV T/F & 1x50MVA, 132/33kV T/F.

In case of tripping/Outage on 50 MVA transformers, it is difficult to manage load on 25MVA transformer i.e. the substation doesn't fulfill the N-1 criteria. For redundancy of supply, replacement of existing 25 MVA, 132/33kV T/F by 50MVA, 132/33kV T/F is proposed at 220kV Dondaicha S/s.

Above scheme will provide the following benefits:-

- Redundancy in case of outage / tripping of any one T/F.
- To meet continuous increasing load demand forecasted by MSEDCL.
- To reduce overloading of existing T/Fs.
- To meet future load growth.

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- Improvement in overall availability, reliability and efficiency of transmission system.

After detailed deliberation and discussion, the committee recommended the above proposal of Augmentation of Substation by Replacement of 1X25MVA, 220/33kV T/F by 1X50MVA, 220/33kV T/F at 220kV Dondaicha S/s.

Agenda Point No. 13:

Establishment of 220/132/33KV s/s at Lonar, Dist. Buldana.

MSETCL representative placed before the MTC a proposal for Establishment of 220/132/33KV s/s at Lonar, Dist. Buldana.

MSETCL representative explained that at present, supply to Lonar taluka in Buldhana district is fed from 132/33 kV Mehkar and Dusarbid S/stns.

The existing 132/33 kV Mehkar S/s is having installed capacity of 100 MVA (2x50). There are 4 no. of 33 kV feeders and 15 nos. of 33/11 kV S/s & 1 no. of new 33/11 kV Lonar Sarovar s/s is proposed (5 MVA). The length of 33 kV Lonar feeder emanating from 132 kV Mehekar s/s is 52 km. This EHV s/s is having 4 nos. of 33/11 kV s/s on the same feeder & voltage regulation on this feeder is 36.53%.

The length of 33 kV Pimpri Khandare feeder emanating from 132 kV Dusarbid s/s is 34 km. This EHV s/s is having 11 nos. of 33/11 kV s/s on the same feeder & voltage regulation on this feeder is 13.95%. Due to this, the consumers at the fag end are facing low voltage problem.

The Mumbai-Nagpur-Samruddhi highway is passing through Lonar Taluka & hence there is possibility of industrial development in Lonar Taluka. Due to industrial development electricity power demand may increase.

Grid connectivity for RE power for more than 120 MW have been issued. The formation of new EHV s/s at Lonar will help in strengthening the 132kV network & evacuation of RE power. The low voltage problems at the DISCOM interface will be resolved and the consumers will get reliable and quality supply.

After detailed deliberation and discussion, the committee recommended the above proposal of Establishment of 220/132/33KV s/s at Lonar, Dist. Buldana.

Agenda Point No. 14:

Establishment of 220/33KV sarul s/sTal. Kaij, Dist. Beed.

MSETCL representative placed before the MTC a proposal for Establishment of 220/33KV sarul s/sTal. Kaij, Dist. Beed.

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MSETCL representative explained Supply to Beed, Kaij and Dharur Talukas is fed from 220 kV Manjarsumbha and 132/33 KV Kaij s/stns.

Substation installed capacity and maximum load :-

Name of the S/S	Installed capacity	Maximum load
132 kV Kaij s/s	2x50 MVA, 132/33 kV	60 MW
220 kV Manjarsumbha s/s	2x25 MVA, 220/33 kV	37 MW
220 kV Beed s/s	2x200 MVA, 220/132 kV 2x25 MVA, 220/33 kV	213 MW 40.36 MW

The 33 kV Yellamghat feeder emanating from 220 kV Manjarsumbha s/s & 33 kV Veeda feeder emanating from 132 kV Kaij s/s are lengthy. Due to this, the consumers at the fag end are facing low voltage problems.

After establishment of proposed s/s the low voltage problems will be resolved and the consumers will get reliable and quality supply. Also, there will be strengthening of network and the breakdowns & overloading of the system will be avoided.

Further in the 4th MTC meeting, the proposal of establishment of 132/33KV sarul s/s was put up by MSETCL. During the discussion it was suggested by the MTC member that possibility of 220/33KV s/s should be explored as it will be more beneficial from system point of view. Based on the MTC member recommendation system study for 220/33KV sarul s/s was carried out and it is found that establishment of 220/33KV sarul s/s technically more feasible.

After detailed deliberation and discussion, the committee recommended the above proposal of Establishment of 220/33KV sarul s/s Tal. Kaij, Dist. Beed

Agenda Point No. 15 &16:

Installation of 220KV, 125MVAR Reactor at Mahalaxmi.

Installation of 220KV, 125MVAR Reactor at Trombay.

Necessity of the scheme: To control 220 kV system high voltage by absorbing reactive power generated by EHV cables, installation of reactor at Trombay is necessary.

- DPR submitted to STU on 21.05.2022
- Scheme was discussed during 2nd MTC and 4th GCC meet. As recommended, joint study conducted with TPC-T, AEML and STU conducted on 01.06.2022
- Various Data gap responses submitted to STU on 08.03.2022, 25.05.2022, 09.06.2022, 15.07.2022

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- Joint Cost estimates reference checks carried out on 26.09.2022 and query responses submitted on 26.09.2022

STU has carried out Joint Study with TPC-T and AEML on 24.05.2022 regarding requirement of Reactors at Mahalaxmi, Trombay and AEML Chembur substations. It was observed the voltages are below acceptable maximum Limits of 240 KV. However, it was also deliberated that the requirement of Reactor at AEML 220 KV Chembur substation will be assessed based on 220 KV BKC-Chembur and 2nd feed 220 KV Aarey-BKC connectivity.

After detailed deliberation and discussion, the committee recommended the above proposal of Installation of 220KV, 125MVAR Reactor at Mahalaxmi & Trombay.

Agenda Point No. 17:

Installation of new 220/33KV Station at vile parle.

Necessity of the scheme:

- At present, there is no EHV station on the western periphery of Mumbai between 110 kV Tata Power Malad RSS to Tata Power Versova and between Tata Power Versova and Tata Power Mahalaxmi RSS. Load demand in Western suburbs is increasing at an average 3 to 4 % per annum.
- To meet additional Load demand of DISCOMs of 80 MVA in Juhu / Vile Parle area.
- DPR submitted to STU on 02.07.2022
- The scheme was discussed in 2nd MTC meet held on 20th Dec 2021. STU directed to TPC-T and AEML to conduct joint study for the proposals of 220 kV Vile Parle (TPC) and 220 kV Khardanda (AEML) and submit report.
- Joint study conducted by TPC-T and AEML. Report under finalisation.

TPC-T informed that there are two meetings held with AEML-T for joint report on 220/33KV Station at Vile Parle (TPC-T) and 220/33KV Station at AEML Khardanda and joint report will be submitted in 15 days timeline. Accordingly the scheme will be discussed in next MTC meeting.

After detailed deliberation and discussion, it is decided that joint report by AEML & TPC will be submitted in 15 days timeline. Accordingly the scheme will be discussed in next MTC meeting.

Agenda Point No. 18:

Replacement of 110KV AIS by GIS Bays at Malad s/s.



Necessity of the scheme:

- Malad RS is built on dumping ground. There are issues of sinking in Main Control room Building and Switchyard resulting in alignment of Switchyard equipment and tilting of panels in Switchgear room. There is constant release of obnoxious gases which cause chemical reaction within copper & other materials resulting in various defects like hot spots and corrosion.
- Existing switchyard has become congested due to addition of bays for Western Railway & Metro Rail bays in switchyard at different location. This is causing operation constraints.
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- All the relevant documents are submitted with DPR (Ambient air test report, defect notifications details, equipment failure report)
- DPR submitted to STU on 05.04.2022
- Scheme was discussed during 3rd MTC meet held on 18.05.2022. As recommended, joint Site visit is pending from STU officials for validation of requirement.

After detailed deliberation and discussion, Chairperson of the committee directed to STU to carry out the site visit by STU and TPC-T within 15 days timeline. After site visit report the scheme will be discussed in next MTC meeting.

Agenda Point No. 19:

Establishing 33KV voltage level at 220KV Karanjade station.

- MSEDCL has requested 06 Nos of 33 kV outlets from 220 kV Karanjade Station for meeting power demand of upcoming residential and commercial projects.
- Considering this requirement in Panvel and new Airport Area, addition of 33 kV GIS at Karanjade Switching station is most suitable option. MSEDCL has submitted the proposal to STU.
- It will facilitate proposed development at Panvel area with bulk load demand by using available infrastructure & space which will reduce the cost and burden on consumers.
- The scheme was discussed in 4th MTC meet. STU recommended that the proposal will be reviewed based on the load and outlet requirement from Director (Operations), MSEDCL.
- MSEDCL Director (Operation) has approved the scheme and send the communication to STU.

STU has requested MSEDCL for submission of 33KV load details in prescribed format of Connection Application and after receipt of application the 33 kV outlets will be allotted to MSEDCL from 220 kV Karanjade S/S to cater DISCOM load demand of 90 MVA.

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After detailed deliberation and discussion, the committee recommended the above proposal of establishing 33KV voltage level at 220KV Karanjade station.

Agenda Point No. 20:

Establishing connectivity between 400KV north and south Mumbai Phase-I Installation of 400KV station at Dharavi.

- DPR submitted on 17.03.2022
- Data gap responses submitted on 03.05.2022
- Presentation to STU officials 20.06.2022
- Additional data gap responses submitted on 28.07.2022
- As discussed in the 4th MTC meeting and data gap raised by STU dated 19th Sept 22 regarding increased fault level and under loading of 220 kV lines.
- Data gap response on Fault level reduction by 8 KA and loading of 220 kV lines around 60 % of rated capacity by sectionalised operation at Dharavi was submitted to STU on 21.09.2022. Study was carried out on the base file of STU.

During meeting it was submitted that STU has carried out system study for establishing 400 KV Dharavi along with 400 KV Vikhroli-Dharavi S/c Line under increased system loading condition (~5500-6000 MW-Mumbai System) considering all data centers load (on 220 KV Lines of Kalwa, Kharghar substations). Hence during N-1-1 contingency of Kudus-Aarey HVDC and 1x500 MVA ICT at 400 KV Kharghar, the other ICTs are loaded beyond the rated transformation capacities. Likewise, during N-1-1 contingency of Kudus-Aarey HVDC and 1x500 MVA ICT at 400 KV Vikhroli, other ICTs are loaded beyond the rated transformation capacities. It was also observed that the fault level at 220 KV Dharavi increase beyond the rated breaking capacity. On this it was informed by TPC-T that to reduce fault level and better utilization of existing 220 KV Trombay-Dharavi 3xS/c lines, split arrangement at 220kV Dharavi will be considered. As per joint study by STU and TPC-T and split bus arrangement proposed by TPC-T at 220KV bus level the fault level is within acceptable limit and hence the scheme is recommended.

As per AEML-T request the results of load flow study will be circulated to committee members.

After detailed deliberation and discussion, the committee recommended the above proposal of Establishing connectivity between 400KV north and south Mumbai Phase-I Installation of 400KV station at Dharavi for consideration by GCC for inclusion in upcoming 5 year STU transmission plan.

Stu.

Agenda Point No. 21:

MV Switchgear replacement at 110KV Kalyan RSS with additional feeder for DISCOM.

- The scheme was discussed in 3rd and 4th MTC meeting.
- Letter received from MSEDCL Kalyan West Division for feasibility 11.01.2022
- Letter received from MSEDCL Kalyan East Division for feasibility 28.03.2022
- DPR with relevant documents submitted to STU on 29.04.2022
- MSEDCL has submitted the requirement on 28.10.2022 along with the application.
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After detailed deliberation and discussion, it was advised to carry out the site visit by STU and TPC-T within 15 days timeline. After site visit report the scheme will be discussed in next MTC meeting.

Agenda Point No. 22:

MV Switchgear replacement at 110KV Vikhroli station with segregation of back to back feeders.

- This was discussed in detail in 4th MTC
- DPR with all the relevant documents submitted to STU on 05.05.2022
- TPC-T has submitted consent letter to STU regarding allotment of 05 nos of outlets to TPC-D for segregation of back to back feeders via letter dated 28.09.2022.
- This was in response to STU letter dated 27.09.2022

After detailed deliberation and discussion, it was advised to carry out the site visit by STU and TPC-T within 15 days timeline. After site visit report the scheme will be discussed in next MTC meeting.

Agenda Point No. 23 & 24:

Construction of new 220KV Dharavi Mahalaxmi line (new).

Construction of new 220KV Mahalaxmi Backbay line (new).

- A DPR for strengthening of 220 kV South Mumbai Network by constructing a new 220 kV Salsette Backbay line was submitted to STU for their approval.
- STU has returned the DPR saying that, with the proposed arrangement and considering 400 kV Vikhroli connectivity, the fault levels will increase at Backbay and Carnac respectively.

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- Further, STU has asked to explore the alternative of constructing additional 220 kV Dharavi Mahalaxmi cable (by using RoW suggested in the DPR of 110 kV Dharavi Mahalaxmi cable replacement) and 220 kV Mahalaxmi Backbay line.
- In response, TPC-T has submitted a study note to STU on 19.09.2022 for construction of additional 220 kV Dharavi to Mahalaxmi and 220 kV Mahalaxmi to Backbay line.
- In principle approval for the scheme of laying additional 220kV Dharavi Mahalaxmi s/c cable and 220kV Mahalaxmi Backbay s/c cable received from STU on 19th Oct 2022

It was suggested by STU that instead of laying 220KV Salsette-Backbay Cable, additional 220KV Dharavi Mahalaxmi line (new) and 220KV Mahalaxmi Backbay line (new) should be considered in term of reducing fault level at interconnecting substation. It was further deliberated during meeting that the considering the criticality of consumers of South Zone, it is necessary to strengthen South Mumbai network during contingencies and future long term planning. Hence laying of additional 220 kV Dharavi-Mahalaxmi S/c Line (Cable) (**using existing RoW of proposed 110 kV Dharavi-Mahalaxmi Cable**) and 220 kV Mahalaxmi-Backbay S/c Line (Cable) will retain the reliability of supply to south Mumbai Network during N-1 contingency condition.

After detailed deliberation and discussion, it was advised TPC-T to submit the DPR and accordingly, the scheme will be processed further. Hence the DPR submitted by TPC-T for Replacement of existing aged 110 kV Dharavi-Mahalaxmi oil filled EHV cable is treated to be cancelled.

Agenda Point No. 25:

Augmentation of source and transformation capacity of existing 110KV Powai station.

- Load growth (33 kV and 110 kV) is envisaged in vicinity of TPC-T Powai RSS in future.
- Metro- 4 and 6 has requested 110 kV supply from Powai.
- To meet the existing and future load requirement it will be necessary to augment the existing 110 kV Powai RSS at 220 kV level with additional 220 kV / 33 kV Transformer.

After detailed deliberation and discussion, it is suggested that after detail connectivity applications received from MMRDA/metro authority, the schemes will be assessed based on the system requirement.

Agenda Point No. 26:

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220kV Chandivali EHV Scheme.

AEML informed that Scheme:

- 220/33kV GIS EHV S/s; LILO of TPC Salsette – Saki line
- 05.01.2021 - DPR submitted to STU & Scheme discussed during 5 Yr Plan STU Meeting on 25.05.2021. Also Scheme discussed in 1st MTC on 08.06.2021, 2nd MTC on 20.12.2021 and MTC suggested that STU to form a committee to review necessity of 220 kv Chandivali S/S
- All data gaps response submitted (last on 05.04.22) & also discussed in 4th GCC Meeting dated 04.05.2022.
- Around Chandivali (Hiranandani, Powai, Saki) major commercial/ IT /residential projects is in progress
- Major loads at present in this area are being fed from 220 kV Aarey and Saki EHV Stations of AEML, These S/s are expected to cross the loading above firm capacity in 2 to 3 years
- Required capacity / outlets to cater to the anticipated load in future is not available with nearby Transmission S/s of AEML/TPC.

- In this regard, STU appraised the various steps taken for evaluation of scheme as below:

- STU formed the Committee on 20.01.2022, visited site on 23.02.2022, Committee submitted the report on 05/04/2022

- Also as per the request of TPC, the **Meeting was conducted on 12/08/2022** under the Chairmanship of Hon'ble Principal Secretary (Energy) at Prakshganga with representatives of M/s. TPC-T & D to discuss issue of new proposed receiving station at Chandivali area.

- During the meeting, M/s. TPC- T&D representatives informed that it has been observed in the past that after commissioning of new AEML EHV Stations in the vicinity of existing TPC-T EHV Stations, the load of existing TPC-T Stations has dropped by around 50 % as the load of existing TPC-T Stations was shifted on newly commissioned AEML Stations. As such the load drop was observed at TPC-T 220 kV Versova, Saki, Borivali and Chembur Stations after commissioning of AEML Stations.

- As such STU vide letter dtd. 23/08/22 requested AEML-T&D to clarify about downward load trend observed at existing TPC-T substations due to load shifting by M/s. AEML-D and also ensure on undertaking that there will not be any load shifting from existing nearby TPC-T substation in case of Chandivali commissioning.

- M/s. AEML vide letter dtd. 24.08.22, have informed that as far as the proposed Chandivali EHV substation is concerned, it is clearly mentioned in the DPR that it is meant to specifically cater the new load in the area and further undertake that M/s. AEML will not



transfer as on date load at 33 kV system from TPC-T substations to AEML's proposed Chandivali substation.

- Further, during the said MTC meeting TPC expressed to share the committee report outcome,
- As such STU presented the detailed power point presentation. STU's assessment for proposed 220 kV Chandivali S/S as follows;
 - a) Mumbai has vertical growth and also STU receiving number of proposals for huge-power requirements for Data Centres.
 - b) STU has to plan/think for future 10-20 years system and up-coming various projects in Mumbai & suburban and limited space to accommodate EHV substation
 - c) immediate requirement of 109 MW capacity as stated by AEML-D shall be utilised from existing capacity of TPC-T S/S. Considering projected load growth of around 332 MW at Chandivali area as submitted by M/s. AEML, the necessity of new 220 kV Chandivali S/S may be there subject to condition that,
 - i. the existing spare capacity at TPC-T shall be utilised as stated above
 - ii. AEML-T & AEML-D shall not transfer present load of existing EHV substations of both AEML-T & TPC-T nearby Chandivali area to proposed 220 kV Chandivali substation.

After detailed deliberation and discussion and based on the Committee report and STU's assessment, the Committee recommended the above proposal for Establishment of 220 kV Chandivali GIS substation

Agenda Point No. 27:

220kV Kandivali EHV Scheme.

- Scheme discussed during 5 Yr Plan STU Meeting (dtd 25.05.2021)
- Scheme discussed in 2nd MTC on 20.12.2021 and 4th GCC dt.04.05.2022
- STU data gap response submitted on 06.04.2022
- On 12.10.2022, STU Committee conducted site visit, AEML presented need of the scheme.
- Major residential / commercial / Business hub in Kandivali/Borivali/Malad West seen in last 2 -3 year
- Huge development potential and anticipated growth of power demand considering proposed Transport infrastructure like Metro lines(2A/2B), Coastal Road, Flyover/link roads

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- 220kV AEML Transmission S/S at Gorai, load crossed its firm capacity, is 6 kms from proposed Kandivali EHV Addition of Transformer not feasible at Gorai due to space constraints.
- Power supply in Borivali/Kandivali/Malad West region is currently being fed from AEML 220kV Gorai EHV S/s, via long distance 33kV feeders.

STU committee visited the site on 12.10.2022. Load detail analysis was carried out as submitted by AEML. The committee observed that there is insufficient capacity at existing EHV substations in the vicinity of Kandivali West i.e. 110KV Malad (East) (TPC-T) – (74 % of firm capacity), 220 KV Gorai – (106 % of firm capacity and 220 KV Versova – (82 % of firm capacity) **to cater Proposed load (~95 MW) at Kandivali (West) Area.** Hence there is requirement of EHV substation at Kandivali and accordingly the committee recommended the scheme.

After detailed deliberation and discussion and based on the STU's assessment, the Committee recommended the above proposal for Establishment of 220 kV Kandivali GIS substation

Agenda Point No. 28:

220kV Connectivity between AEML-BKC & AEML-Aarey s/s.

- Load at 220kV BKC EHV Station is critical in nature considering the nature of upcoming load in the BKC area, viz; Metro, Bullet, Luxurious Residences and Commercial Premises.
- 220kV BKC EHV Station would radially fed from 220kV Chembur EHV Station.
- Any contingency at AEML Chembur or in the 220kV cables link between AEML Chembur and proposed AEML BKC EHV sub-Station may result in loss of load from BKC EHV Sub-Station.
- This connectivity shall form a vital link between the North & South Mumbai transmission network.
- In future, with 1000MW Kudus Aarey HVDC system in service, 220kV Aarey-BKC-Chembur-Trombay link shall further help in evacuation of bulk power from Aarey thereby extending benefits of HVDC scheme to South Mumbai.

It was submitted by STU that the scheme will establish connectivity between North –South connectivity of Mumbai Transmission system and evacuation of (Kudus-Aarey HVDC) via 220kV Aarey -BKC-Chembur Link) . Based on above suggestion and system requirement, the committee recommended the scheme for strengthening of Mumbai Transmission system. Further TPC mentioned that to improve the reliability of network the said proposed 220 kV Aarey-BKC link by AEML to be LILO at existing TPC 220 kV Sahar EHV S/S, as such CE (STU) informed that

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AEML/TPC shall jointly explore the feasibility of LILO of one ckt of AEML-BKC-Aarey Double ckt line at 220KV Sahar s/s.

After detailed deliberation and discussion, the Committee recommended the above proposal for Establishment of 220kV Connectivity between AEML-BKC & AEML-Aarey s/s.

Agenda Point No. 29:


Status update of AEML Schemes currently under MTC process.

Sr. No.	Scheme	Current Status
1.	220 kV Dahisar EHV Scheme	<ul style="list-style-type: none"> • DPR submitted to STU on 10.11.2020 • Scheme discussed during 2nd MTC on 20.12.2021, 4th GCC on 04.05.2022 • Data gaps received from STU, Response submitted on 06.04.2022. • On 10.10.2022, STU Committee conducted site visit to confirm the need of the scheme. • Request STU/Committee to expedite scheme approval.
2.	220kV Malad (E) EHV Scheme	<ul style="list-style-type: none"> • DPR submitted to STU on 14.12. 2020 • Scheme discussed during 2nd MTC on 20.12.2021, 4th GCC on 04.05.2022 • Data gaps received from STU, Response submitted on 07.04.2022. • On 12.10.2022, STU Committee conducted site visit to confirm the need of the scheme. • Request STU/Committee to expedite scheme approval.
3.	220 kV Khardanda EHV Scheme	<ul style="list-style-type: none"> • DPR submitted on 17.12.2020 • On 20.12.2021, scheme discussed in 2nd MTC meeting, 4th GCC on 04.05.22 • Data gaps received from STU, Response submitted on 07.04.2022. • STU directed AEML-T & TPC-T to submit joint study report for the proposal of 220kV khardhanda (AEML) & 220kV Vile parle (TPC). • Joint discussions with TPC held on 19.07.2022 at Dharavi, on 10.10.2022 at AEML. Report compilation under process
4.	220kV Uttan EHV Scheme	<ul style="list-style-type: none"> • Scheme discussed in 3rd MTC meeting dated 18.05.2022. • MTC suggested to submit proposal to STU • DPR submitted to STU for its consent on 25.07.2022 • Request STU to expedite approval process of DPR

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5.	220kV Reactor at Chembur EHV s/s	<ul style="list-style-type: none"> • Scheme discussed in 3rd MTC meeting on 18.05.2022. • MTC concluded that STU to conduct joint study to finalise the reactor requirement within MMR. • Scheme also discussed in STU-5 year plan meeting on 15.07.2022. • Request : May kindly arrange to expedite approval process of the Scheme
6	Appropriate Transmission Scheme for Reactive power management around DTSP/Boisar	<ul style="list-style-type: none"> • It was advised to AEML-T to submit the appropriate details in consultation with O&M Vashi zone with regards for working out solution to mitigate the issue.

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


 Chairperson –MTC
 Chief Engineer (STU)