



MAHARASHTRA STATE ELECTRICITY TRANSMISSION CO.LTD.

CIN NO. U40109MH2005SGC153646

Office of The Chief Engineer

Maharashtra State Load Dispatch Center

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Ref: MSLDC/TECH/OP/OCC No 0 1 1 8 7

Date: 02.06.2021

To,
As per mailing list.

Sub: MoM of the 1st Operation Co-ordination Committee (OCC) meeting held on 12.05.2021 at 11:00 hrs through V.C.

Ref: 1. OCC constituted vide ED/MSLDC/641 date 25.03.2021.
2. T.O. Email dtd. 26.03.2021 for agenda request.
3. T.O. Letter No. MSLDC/TECH/OP/993, dated 06.05.2021.

Dear Sir,

In reference to the above subject, the 1st meeting of the Operational Co-ordination Committee (OCC) meeting was convened on 12.05.2021 at 11:00 hrs through V.C.

The MoM of the said meeting duly approved by the Executive Director, MSLDC (Chairman of the Committee) are attached herewith for ready reference.

Submitted for information and further needful please.

Encl: As above.

Yours sincerely,

(Peeyush Sharma)

Superintending Engineer, MSLDC
(Member Convener of OCC)

Copy s.w.r.s. to:

1. The Director (Operations), MSETCL, Prakashganga, Mumbai.
2. The Executive Director, MSLDC, Airoli, Navi Mumbai.

To,
All OCC members as per list

Sr. No.	Name of Organisation	Name of Nominee	Designation	Committee constituent	Contact No.	E-mail ID
1	SLDC	Shri Shrikant Jaitare	ED, MSLDC	Chairperson	022-27301931	edmsehholding@gmail.com
2	SLDC	Shri Peeyush Ghama	SE(OP), MSLDC	Member-Convener	9769213865	seopr8000@mahatransco.in
3	SLDC	Mrs. Juelee Wagh	CE, MSLDC	Member	9819241773	cesldc.mahasldc.in
4	STU/MSETCL	STU Representative	CE, STU	Member		cestu@mahatransco.in
5	MSETCL	MSETCL Representative	CE, Tr O&M MSETCL	Member		ceoandmmsetcl@gmail.com
6	MSEDCL	Shri Sandip Patil	S.E, LM Cell, MSEDCL	Member	9833980238	selmkatwa@gmail.com
7	MSPGCL	Shri E.S.Moze	DyCE(Works) MSPGCL	Member	8879770737	cegwmahagenco.in
8	TPCL	Shri Kiran Desale	Head Transmission, TPCL	Member	9223553342	desalekv@tatapower.com
		Shri Milind Gole	Head Grid Operations (PSCC), TPCL	Member	9820868264	pssc@tatapower.com
9	AEML	Shri Dilip Devasthale	Head O&M AEML Transmission	Member	9324180932	Dilip.Devasthale@adani.com
10	ATIL	Shri Abhishek Kukreja	Associate Manager - O&M	Member	6359956492	Abhishek.Kukreja@adani.com
11	MEGPTCL	Shri Rakesh Bhalerao	Associate Manager - Business Development	Member	7045953823	rakesh.bhalerao@adani.com
12	JPTL	Shri Vaibhav D Sansare	Assistant Manager-Transmission	Member	9552577122	vaibhav.sansare@jsw.in
13	APTCL	Shri Rajiv Nimje	AGM, APTCL	Member	9422308883	rajiv.nimje@rattanindia.com
14	VIPL	VIPL Representative		Member		

15	JSWEL	Shri Harhal Joshi	Manager (OSTS Dept. JSW)	Member	9552577131	harshal.joshi@jsw.in
16	ADTPS	Shri Vijay Dalli	VP-Operations ADTPS	Member	9325119741	Vijay.Dali@adani.com
17	RIPL	Shri Amit Panchalwar	DGM, RIPL	Member	9503229333	armit.panchalwar@rattanIndia.com
18	APML, Tiroda	Shri Manoj Taunk	Associate VP - Protection & Metering	Member	9099005517	Manoj.Taunk@adani.com
		Shri Akshay Mathur		Member	9870663062	Akshayv.Mathur@adani.com
19	SWPGL Wardha.	Shri Dinesh B Mewade,	DGM, SWPGL	Member	7387007010	dinesh.m@saiwardha.com
		Shri Prabhjit Singh Samra	GM (BDG - Operations), SWPGL	Member	9177025554	bdg_operations@saiwardha.com
20	Ajanta Pvt. Ltd. Karad.	Ajanta Pvt. Ltd. Representative		Member		
21	Agrawal Minerals Pvt. Ltd. Goa.	Agrawal Minerals Pvt. Ltd. Representative		Member		
22	AA Energy, Nagpur.	Shri Chandramani Chahande		Member	9021347870	admin@aaenergyLtd.com
23	Ambalika Sugar Pvt. Ltd. Karjat, Ahmednagar	Shri V.M.Bhise	Chief Engineer	Member	7720054906 9960921767	ambalikaelectrical@gmail.com
24	Arti Hydro Power Pvt. Ltd. Gosikhurd, Bhandara.	Arti Hydro Power Pvt. Ltd. Representative		Member		

**Minutes of the 1st Operation Co-ordination Committee meeting
convened on 12th May'2021 at 11:00 Hrs through V.C.**

In accordance with the provisions of the MEGC, 2020, the Grid Co-ordination Committee (GCC) in its 1st meeting held on dated 08.01.2021 has constituted the Operational Co-ordination Committee (OCC). Accordingly, on 12.05.2021, the 1st meeting of the said OCC was convened at 11:00 Hrs through V.C. under the chairmanship of the Executive Director (MSLDC), the Chairman of the OCC.

Being 1st meeting of the committee, the Superintending Engineer (OP-MSLDC), Member Convener, welcomed all the members and participants and elaborated the provisions of the constitution of the Committee along with the functions assigned to the Committee under MEGC, 2020.

The Executive Director (MSLDC), the Chairman of the OCC, welcomed all the members and in his introductory note opined that healthy & fruitful technical discussions shall be held in the OCC to address operational issues for smooth & secure system operation.

The list of participants is attached herewith as **ANNEXURE - A**.

The detailed Point-wise Discussions held during the meeting are as follows:

1. Item No. 1: Maharashtra system Grid performance for the period from Jan 2021 to March 2021 (Presentation by MSLDC):

- The Superintending Engineer (OP-MSLDC) delivered the MSLDC presentation consisting of detailed Grid performance parameters for the period of Jan'2021 to Mar'2021. The presentation is attached herewith as **ANNEXURE - 1**.
- Head (O&M) Transmission AEML opined that the grid parameters of the 220kV Network of Mumbai may be included as a part of OCC review.
- Superintending Engineer((LM), MSEDCL also suggested that the system parameters viz peak demand, energy catered etc to be reviewed also on utility basis apart from state level monitoring.
- **OCC took the note of it.**

2. Item no.2: System Disturbance in the Maharashtra Network for the period Jan 2021 to March 2021:

- The Superintending Engineer (OP-MSLDC) briefed the System Disturbance incidences occurred during the period of Jan'2021 to Mar'2021. Further, he opined that the LTS provided at 400 kV Dhule & 400 kV Khadka feeding loads in the vicinity needs to be reviewed along with settings.
- The Chief Engineer (A, C, I & P), MSETCL opined that the issues with the System grid disturbances along with the LTS schemes may be highlighted in OCC from an operational perspective, however the same needs to be discussed in detail in the Protection Co-ordination Committee (PCM) meeting.
- **All the member concurred for highlighting the issue of review of LTS at 400 kV Dhule & 400 kV Khadka to the PCM.**

3. Item no: 3: Status of completion of ongoing schemes in Maharashtra:

- The Status of new reactors was discussed in detail. The Superintending Engineer(O&M), MSETCL informed the status of various reactors as follows:

- The tenderization of 3 Nos. of 50 MVAR line reactors on 400 kV Chandrapur-Parli & Chandrapur-Nanded lines and 1 x 50 MVAR Bus reactor at 400 kV Khadka is under progress.
- The issue of faster restoration of 2 x 50 MVAR CSR on 400 kV Dhule-SSP D/C line & 1 x 80 MVAR CSR on 400 kV Karad-Lonikand line has been taken up with the OEM (M/s. BHEL) and is delayed due to COVID-19 pandemic.
- The 80 MVAR Bus reactor at 400 kV Babhaleshwar has been upgraded to 125 MVAR. The Scheme has been approved by the management and approval from Hon'ble MERC is awaited.
- The scheme for procurement of 1 x 80 MVAR reactor at 400 kV Kharghar S/s is under process.
- The revised status of Reactors is attached as **ANNEXURE - 2**.
- The Superintending Engineer (STU) informed the status of Transmission Schemes. The revised status is attached as **ANNEXURE - 3**.
- Head (O&M) Transmission AEML opined that critical 220kV schemes may be included for review in the OCC.
- ***OCC took the note of it.***

4. Item no 4: Submission of failure analysis of grid elements:

- The Superintending Engineer (OP-MSLDC) informed that as per Regulation No. 27 of the CEA (Grid Standards) Regulations, 2010, the failure analysis of equipment failure and tower collapse is to be submitted to RPC and Authority and requested all the members to submit the such report to MSLDC as and when such incidences take place.
- All the members noted and agreed to submit such report of 'Failure analysis of grid elements' to MSLDC.
- ***OCC took the note of it.***

5. ITEM NO 5: - Miscellaneous operational Items:

5.1. Event on 24th March 2021 of 130 MW of load relief at Tata Power Dharavi Receiving Station due to SPS command received from MSETCL system.

- The Head, TPC (PSCC), informed that due to some spurious signal from MSETCL System, the UFR at TPC Dharavi S/s operated resulting in an unwarranted load curtailment of 130 MW in the Mumbai area.
- The Superintending Engineer (OP-MSLDC) informed that while carrying out the work of interconnection of 220 kV Nerul-Trombay line at 220 kV Chembur (A) S/s during testing by MSETCL in the communication panel at Trombay end a spurious signal was extended to Dharavi s/s wherein the tripping links were in, therefore resulting in the load curtailment. MSLDC was not aware about such testing activity.
- TPCL mentioned that whenever such SPS schemes are planned to be tested, all stakeholders need to be kept informed for making the schemes disabled so as to prevent any load shutdown during trial tripping arising due to the scheme.
- The Head, TPC (PSCC), informed that if proper communication between MSETCL & TPC was made then, such incidence would have avoided.

- The Chief Engineer (A, C, I & P), MSETCL opined that any outage/testing of LTS/SPS being carried out by utility should be informed to MSLDC so as to have a proper inter utility communication/coordination.
- SE(OP) MSLDC informed that as per MEGC-2020 it is mandatory for any utility to obtain a consent of MSLDC prior to availing an outage on the LTS/SPS, keeping the LTS/SPS out of service and carrying out a test on the same.
- ***All the members opined that the Utilities should inform MSLDC before carrying out such exercise so that all stakeholders shall be made aware and such mal-operations could be avoided.***

5.2. Discussion on ATC/TTC for Mumbai Transmissions System for April - May 2021 for Summer preparedness of Mumbai Power System Operation.

- The Head, TPC (PSCC), informed that as a Grid operator, there has to be clarity on the exact values of ATC/TTC for Mumbai Transmission System in respect of day-to-day operations due to varied perceptions of MSLDC, WRLDC & Mumbai utilities in this regard.
- He also stated that the ATC/TTC of Mumbai System may not be correctly monitored for different contingencies on the source 400 kV & 220 kV lines, as these sources also feed to other MMR loads apart from Mumbai loads. Hence, for avoiding any conflicts/confusions it is necessary to declare Contingency-wise & scenario-wise ATC/TTC of Mumbai System.
- Executive Director (MSLDC) raised a query and inquired who is the responsible entity as per the regulations, for calculation & declaration of ATC/TTC and whether it is calculated and declared.
- The Superintending Engineer (STU), informed that STU is responsible for annual calculation & declaration of the Static Mumbai ATC/TTC based on addition/depletion of new elements and network augmentation. However, for the t is the responsibility of MSLDC to declared dynamic Mumbai ATC/TTC in the real time System conditions considering the availability of the Grid elements viz. inter-connecting lines, ICTs' Generators, etc.
- The Superintending Engineer (LM) MSEDCL, enquired whether such values for Mumbai are declared and made available in public domain. The Superintending Engineer (STU), informed that the values for Mumbai are declared, however are not available in public domain and can be shared for information on request.
- The Superintending Engineer (LM) MSEDCL, opined that similar to Mumbai, such ATC/TTC values should be declared for other major cities too. However, the Superintending Engineer (OP), MSLDC and the Head (PSCC), TPC informed that ATC/TTC values can only be declared for a sub-set of the Network which is connected to the larger grid through dedicated lines and at present no other region except Mumbai form such a sub-set.
- The Superintending Engineer (OP), MSLDC informed that the Executive Director (MSLDC) has constituted a committee for review of existing LTS/SPS in the MMR. As per the deliberations in the said Committee, detailed studies for various contingencies at 400 kV lines along with embedded generation has been carried out and allowable limit of power flow through Mumbai Interconnections during such contingencies has been calculated. He also informed the draft report of the said Committee is almost finalized and shall be brought to discussions and approval to OCC shortly.

- *All the concerned member agreed to hold detailed discussions in the matter of ATC/TTC of Mumbai System after the committee report is circulated.*

5.3. Instead of going for changeover from RGMO to FGMO, changing / tightening the RPM band of existing RGMO setting (i.e., increasing the correction sensitivity to change in HZ) shall be explored.

- The AVP, Dahanu TPS, AEML, informed that as per the regulation No. 30.3 of the MEGC-2020, the generators presently operating under restricted governor mode of operation (RGMO) shall be operated in FGMO within one year from the date of notification of these Regulations.
- The regulation is reproduced below:

30.3. All coal/lignite based thermal generating units of 200 MW and above, open cycle gas turbine/combined cycle generating stations having gas turbines of capacity more than 50 MW each and all hydro units of capacity more than 25 MW, which are synchronised with grid, irrespective of their ownership, shall have their governors in operation at all times in accordance with the following provisions:

Governor Action

- a) Following thermal and hydro generating units shall be operated under free governor mode of operation (FGMO).
 - i. Coal/Lignite based thermal generating units of 200 MW and above;
 - ii. Open Cycle Gas Turbine/Combined Cycle generating stations having gas turbines of capacity more than 50 MW each;
 - iii. Hydro units of capacity more than 25 MW.

Provided that the generators presently operating under restricted governor mode of operation (RGMO) shall be operated in FGMO within one year from the date of notification of these Regulations.

Provided further that if any generating unit of over 50 MW size is required to be operated without its governor in normal operation, the SLDC shall be immediately advised about the reason and duration of such operation.

- He also informed that they have operated Dahanu Units in FGMO mode as a trial and observed that the correction obtained is much higher, therefore ADTPS suggested that instead of changeover from RGMO to FGMO, RPM band of existing RGMO should be changed/tightened for better control & results.
- The Executive Director (MSLDC) & Chairman of OCC opined that this matter pertains to difficulty in implementation of the Regulations which needs to be addressed to the GCC. Further after necessary deliberations GCC can address this issue to Hon'ble Commission. Therefore, he directed ADTPS to submit detailed note on the said issue for consideration in the GCC meeting.
- *ADTPS agreed to submit the detailed note to MSLDC.*

5.4. Market Suspension procedure:

- Superintending Engineer (OP), MSLDC informed that the issue of Market Suspension procedure in the event of full/partial Grid failures or due to any reasons, specified in the MERC DSM Regulations has been raised by AEML-D.
- The Superintending Engineer (LM) MSEDCL, stated that any load curtailment due to tripping of ICTs or LTS should be considered for Market Suspension as such incidences are beyond the control of Distribution Licensees.
- All the members opined that any tripping of ICT is a localized phenomenon which is limited to very small part of the System. Further this load loss can be limited through implementation of various schemes such as LTS/SPS to obtain an intended load relief so as to prevent black-outs or grid failures.
- The Head, TPC (PSCC), stated that a Market suspension phenomenon is universal and force majeure in nature and can not be applied to local isolated cases. Thus, a phenomenon only which effect Multiple utilities due to an act beyond their control may be classified to be part of Market suspension. Hence, such isolated conditions cannot be the reason for market suspension.
- Head (O&M) Transmission AEML opined that in case of partial grid disturbance, load curtailment or generator tripping due to Transmission line tripping or Islanding, deviation market suspension shall be declared by SLDC in line with provisions of MEGC2020. During this period Additional Deviation charges, limit for under-drawl or any other penalty shall not be applicable. Events which are force majeure in nature shall not attract any penalty. Further power flow under such circumstances will be undertaken as per SLDC directions. He also stated that detailed procedure is required to be defined w.r.t Market suspension & should also include criteria for events to be considered for market suspension
- The Executive Director (MSLDC) & Chairman of OCC opined that as the issue pertains to DSM Regulations, the issue needs to be brought to the notice of GCC. Further, MSLDC shall analyze and declare Market Suspension in accordance with the provisions of the Regulations taking in to consideration procedures of WRLDC & NLDC.
- *OCC took the note of it.*

5.5. Billing of Additional Transmission charges as per MERC Order in case no. 52 of 2020:

- The Superintending Engineer (OP), MSLDC informed that the issue has been raised by AEML-D in context to Streamlining of billing of Additional Transmission charges w.r.t Evaluation of charges at 15min interval & Verification of data & calculation by DISCOMs before issuance of bills by STU.
- *The Executive Director (MSLDC) & Chairman of OCC stated that this issue does not pertain to the functions of OCC, hence to be deferred. All the members agreed to the same.*

5.6. Review of Real time Visibility of Network Parameters (Analog & Digital Signal) Noncurrent data of Parli U-6, U-7, U-8 and RE Generation Pooling station:

- Superintending Engineer (LM), MSEDCL informed that there is no Real time Visibility of Parli U-6, U-7 & U-8 in the SCADA of SLDC. The generation figures are required to be inputted from SLDC shift Operator/Engineers in real time. Since Real time generation data figures are inputted manually, same is not reflected in State Generation in real time.

- As in SCADA the MSEDCL demand is presently derived from State Generation, Power drawn from Regional Periphery & Mumbai Exchange, the noncurrent data of Parli U-6,7 & 8 affect MSEDCL derived demand. This also affect the decision being taken based on previous day's Demand for forecasting demand & action thereof.
- The Chief Engineer (A, C, I & P), MSETCL informed that as per the preliminary information received, the visibility of Parli Units has been established and the data was available earlier at MSLDC. However, due to some local problems, the real time generation values are not presently visible. The corrective measures in this respect are already underway and the issue shall be resolved within 2-month time.
- *OCC took the note of it.*

5.7. Intermittent Real time visibility of RE generation in SCADA:

- Superintending Engineer (LM), MSEDCL informed that during real time operation, RE generation data visibility from RE pooling station is not 100%. Sometimes even abnormal negative Wind Generation figures are seen which result in wrong Wind Generation as well as Solar generation.
- The Chief Engineer (A, C, I & P), MSETCL informed that there are two categories of RE Generation visibility, viz. Visibility directly provided by the RE Generator & visibility provided through MSETCL network.

Hence, before addressing this issue, detailed identification of the category of visibility and plan for establishing the same needs to be prepared. Hence, MSETCL along with MSLDC shall identify the categories post which the issue can be addressed.

- Superintending Engineer (LM), MSEDCL opined that there should be some time lines for resolving the issue of RE Visibility. The Chief Engineer (A, C, I & P), MSETCL informed that without ascertaining the categories and issues for non-availability of visibility, presently it is difficult to provide any time lines.
- *OCC took the note of it.*

5.8. Compliance of Directives of Hon'ble Commission's order in Case no 114 of 2020 dated 29.11.2020 for Real time Visibility of all <T-D>drawal Point of MSEDCL:

- Superintending Engineer (LM), MSEDCL informed that all the interface points are under the purview of MSETCL. Hence providing SCADA data visibility of these points at SLDC is responsibility of MSETCL/STU.

Since presently SCADA is not installed at all MSEDCL <T-D>Drawl Points, the MSEDCL demand is derived based on SCADA values of generation. This is causing practical problem in demand Deviation monitoring & revision in real time by MSEDCL. This aspect was brought to notice of Hon'ble Commission in Case No 114 of 2020.

The Commission vide it's order in the matter dated 29.11.2020 has directed that "For establishing connectivity and communication link at T<>D interface for drawl point of Distribution Licensee to ensure visibility to MSLDC is responsibility of STU. The STU should come up with a concrete and cost-effective and timely implementable plan within 3 months in consultation with the Grid Co-ordination Committee for implementation of SCADA to ensure required real time visibility at MSLDC "

- The Chief Engineer (A, C, I & P), MSETCL accepted the fact of delay in this matter and informed that the detail plan as directed vide order dated 29.11.2020 is being prepared and shall be submitted to the Management for approval. Once the plan is approved, further activities shall be initiated.

- *OCC took the note of it.*

5.9. Review of Transmission constraint cases noticed by SLDC and suggests the Recommendation:

A. Transmission Constraint observed due to plan outage of 400KV & prolong outage result in un-necessary usage of Koyna Hydro:

- The Superintending Engineer (LM), MSEDCL informed that due to prolonged outage of 400 kV Lonikand-Talegaon PG line, the loading on 400 kV Chakan-Talegaon PG line increased to more than 550 MW. In order to reduce the loading on this line, MSLDC used Koyna Stage-IV generation and most of the times, the thermal generators were backed down. This has resulted in to heavy under-drawal at high frequency which is causing commercial loss to MSEDCL.

This Koyna hydro operation for managing overloading of the 400 kV network needs to be reviewed and detailed studies are required from STU for removing the constraint of the overloading of 400 kV lines.

Also, there are different perceptions of the MSLDC Control room Shift In-charge while defining overloading of the line. The Overloading limit changes with the operator to operator. Hence, there should be common loading limit among all the operators in the Control room.

- The Superintending Engineer (OP), MSLDC informed that the MSLDC Shift In-charge evaluates the N-1 contingency conditions before taking the decision of utilization of Koyna generation for controlling the Line loading. This condition may vary in view of outages on parallel circuits & other contingencies. He further informed that MSLDC is in the process of devising operational Line loading limits so that the lines may be optimally loaded considering a N-1 contingency. A meeting to this effect was conducted by MSLDC with ED (Trans), MSETCL on dated 30.04.2021 and he has been requested to provide the operational capability limits of the critical elements. As a system security measure LTS has also been commissioned on 400kV Chakan-Talegaon ckt to mitigate any N-1 contingency.

He further stated that Koyna Generation being a limited & precious resource, MSLDC uses the same very judiciously for very short periods subject to extreme system requirements only. However, till the transmission constraints are removed, usage of Koyna Generation shall be required in such constrains.

- *OCC took the note of it.*

B. Use of Ghatghar generation for various Transmission constraint including Mumbai Transmission Constraint:

- The Superintending Engineer (LM), MSEDCL informed that during various Transmission constraints including Mumbai Transmission Constraint, the Ghatghar Generation is picked up. For system requirements, the generation can be used, however, considering the highest cost of Ghatghar generation, the utilization needs to be planned judiciously.

To avoid usage of costly Ghatghar generation for addressing transmission constraints, STU should carry out detailed studies and remove the transmission constraints on priority.

- The Superintending Engineer (STU) informed that such instances of utilization of Ghatghar generation for addressing transmission constraints shall be examined and necessary studies shall be carried out.

- The Superintending Engineer (OP), MSLDC informed that Ghatghar Generation is connected to 400 kV Kalwa S/s, 400kV Padghe S/s & 220kV Nasik S/s through 220 kV line and supports the 400 kV network feeding power to MMR. Hence, in case of any contingencies in the network the Ghatghar generation is an important source. Further during Low demand period Ghatghar is being used in pumping/Sync condenser mode to contain the system voltages.

Thus, Ghatghar generation is a very important tool for system management and is utilized in consultation with MSEDCL. However, considering the commercial impact stated by MSEDCL the usage of Ghatghar generation shall further be optimized.

- *OCC took the note of it.*

C. Use of Koyna Hydro Generation due to overloading of 400KV Talegaon-Chakan line:

- Same as Point No. 5.9 (A) above.

D. Tripping of 400kV Kolhapur-Alkud and critical loading on Solapur- Kolhapur and Alkud ICT:

- The Superintending Engineer (OP), MSLDC informed that 400/220 kV Alkud S/s is connected to the Grid through LILO on 400 kV Solapur (PG) – Kolhapur one ckt. In case of tripping of any line, the other line is critically loaded. Also, only 1 x 500 MVA 400/220 kV ICT is available at Alkud S/s. Hence, it is necessary to provide additional source through LILO of other circuit of 400 kV Solapur (PG) – Kolhapur at 400 kV Alkud S/s. along with ICT.
- The Superintending Engineer (STU) informed that 2nd ICT at 400 kV Alkud has been proposed in the STU Plan. Further, the possibility of making LILO of other circuit of 400 kV Solapur (PG) – Kolhapur shall be explored.
- *OCC took the note of it.*

6. ITEM NO 6: -Low voltages at Chakan, Jejuri, Lonikand, Solapur Lamboti / Jeur 220kV:

- The Superintending Engineer (OP), MSLDC informed that every day in the morning, during demand ramp up hours, voltages have been reducing below 390 kV at in the western Maharashtra area at Chakan, Lonikand, Jejuri and Solapur (Lamboti). The Bus reactors at 765kV Pune, Padghe/Aurangabad and the Bus reactors at 400kV Kolhapur PG, Kolhapur MH, Pune PG, and Mapusa switched off on daily basis. Even the line reactors of 400 kV Pune PG-Pune GIS at Pune PG end switched off to improve the voltages. Despite of all such operations, voltages still remain below 395 kV at Chakan, Jejuri and Solapur Lamboti. The reactors at 765kv are required to be taken out for a very short time as voltages again starts rising from 17:00 hrs in the 765 kV network.
- The Superintending Engineer (O&M), MSETCL informed that capacitors have been installed at various 220 kV & 132 kV Sub-stations at LV side. However, if still issues of low voltages are seen then further compensation has to be provided in the Distribution network.
- The Superintending Engineer (LM), MSEDCL informed that capacitive compensation has been provided in the Distribution network. The list of capacitor banks installed in this area along with present status shall be provided by MSEDCL. However, if required, additional compensation can be provided. However, for planning the compensation, the reactive flows on the MSETCL's Power transformers may be provided to MSEDCL.

- The Superintending Engineer (O&M), MSETCL informed that the power flows (active & reactive) on the power transformers in the said area shall be provided.
- The Superintending Engineer (OP), MSLDC brought to the notice of the Committee that for improving the voltages in 220 kV Jeur area, 400 kV Karad-Solapur (PG) S/C line has been temporarily charged on 220 kV level. This arrangement has been approved by CEA & WRPC purely on temporary basis. However, till date this arrangement is not restored as the planned works are not completed. WRLDC & WRPC are continuously requesting MSLDC to take appropriate actions for restoration of the said line.
- The Superintending Engineer (STU), MSETCL informed that the work of 400/220 kV Karjat S/s. along with 220 kV Karjat – Jeur D/C line is in progress. Once the said Sub-station and line is commissioned, the low voltage issue shall be resolved and the 400 kV Karad-Solapur (PG) line can be restored & charged to 400 kV level.
- **OCC took the note of it.**

7. ITEM NO 7: -Status of Compliance to LVRT and HVRT by RE Generators Regulation:

- The Superintending Engineer (OP), MSLDC informed that as per the provisions of the Central Electricity Authority (Technical Standards for Connectivity to the Grid) (Amendment) Regulations, 2019 was notified on 6 Feb 2019, it is mandated to install LVRT/HVRT feature to the RE generators. Further, MSLDC has taken up the issue of installation of these features with RE Generators. However, some clarifications are required. Hence, vide letter dated 02.12.2020, MSLDC has requested the CEA to provide clarifications. Once, the clarifications are received, the issue shall be taken up with RE generators. He also requested RE generators to submit the remaining g data to MSLDC for further submission.
- The status of existing LVRT installation is as follows:

Particulars	Wind (MW)	Solar (MW)
Total Installed Capacity	4991.935	1607.79
Less Connected to 33kV level of 33kV PSS	245.235	55
Sub Total - I	4746.7	1552.79
Less Wind Generation with Stall control	233.45	0
Less Wind Generation Capacity with WTG below 500kW	294.345	0
Less Wind Generation Capacity commissioned before Year: 2000	150.68	0
Sub Total - II	4068.225	1552.79
LVRT Feature Enabled	1392.44	150.64
LVRT Feature Enabled Percentage (%)	34.23	9.70
Sub Total - III	2675.79	1402.15
LVRT feature to be retrofitted	2039.85?	-
Sub Total - IV (Wind: Not possible to add feature; Solar: Data Not Available)	635.94?	1402.15

- **OCC took the note of it.**

8. ITEM NO 8: The issue of Non compliance of timelines of FTC as per the FTC procedure.

- SE (OP) MSLDC informed that as per the Indian Electricity Grid code 2010, POSOCO has formulated and circulated letter 'Procedure for integration of new network element of a transmission licensee into grid and issuance of certificate by RLDC for successful trial operation of Transmission element'.
- Further MSLDC has prepared and circulated to all Transmission Licensees a 'Procedure for inter-connection of new Transmission Elements belonging to any Transmission licensee in the State for First Time Charging (FTC)' along with the requisite formats vide CE MSLDC's letter CE MSLDC's Letter No. MSETCL/TECH/O/FTC/02533 Dated 27 th Nov 2018 so as to comply with the guidelines circulated by POSOCO. The procedure along with the formats is also uploaded on website of MSLDC (www.mahasldc.in).
- He pointed out that it has been seen in the recent past that many proposals are submitted without adhering to the time lines as per the FTC procedure. Proposals from site are received on the day or one day before of new element proposed charging date. Some proposals received are without a valid Electrical Inspector approval certificate and informing that an oral permission has been granted by EI which is difficult to validate. Further it is noticed that required formats are incomplete and Scada visibility is not provided. It is expected that the FTC process should be initiated by the field officer as per the timelines as a part of the project activity so that any shortfalls or incompleteness of work can be completed during the process so as to avoid last minute hassles.
- He requested all Transmission utilities to direct their concerned field officers to adopt the FTC Procedure and submit the proposals in requisite formats adhering to the timelines as specified therein.
 - *OCC took the note of it.*

9. ITEM NO 9: The GoM committee has recommended that for operational purposes, a new sub-desk within SLDC which has active participation from Tata Power and AEML could be considered to specifically look into daily generation scheduling and preventive control for Mumbai region.

- The Superintending Engineer (OP), MSLDC informed that the GoM Committee has recommended to establish a new sub-desk within SLDC having active participation from Tata Power and AEML for operational purpose.
- The Head, PSCC, TPC informed that they are already working in close coordination with SLDC. He opined that the as a first step in this regard communication infrastructure need to be strengthened between Control Centers along with extension of visibility of certain elements of the back network so that the necessary coordinated monitoring may be carried out. TPC assured their full co-operation in looking generation scheduling and preventive control for Mumbai region and stated that the placement of separate sub desk may be reviewed after the current situation of COVID improves.
- The Head, (O&M-Transmission), AEML, opined the same view as of the TPC and requested that the matter may be discussed in detail in a separate meeting of MSLDC, AEML, TPC. He also stated that AEML shall follow all SOPs / Processes as per MSLDC guidelines
- The Executive Director, MSLDC & Chairman of the Committee directed to explore the identification of the important 400 kV & 220 kV elements feeding power to MMR and Mumbai network and feasibility of extension of visibility of it to PSCC-TPCL, BCC-AEML Transmission. Further the issue of establishment of a new sub-desk within SLDC shall be further explored by TPC and AEML by discussing with respective Management.
- *Concern members agreed to the decision of the Chairman and OCC took note of it.*

10. ITEM NO 10: Constraints in the RE Power Evacuation:

- The Superintending Engineer (OP) MSLDC stated that as per the provisions of the IEGC & MEGC, RE generation is having "Must Run" status & it is the responsibility of all the Stake holders to take all the possible efforts to accommodate RE generation in the Grid. During real time operations, at some of the locations, RE generation is curtailed due to transmission evacuation constraints. At some of the locations, RE generation is tripped due to violation of Grid parameters. The details of the same are as follows:

➤ **Evacuation of Wind Generation at 220 kV Nerle.**

- During peak generation, it is observed that 220 kV Nerle – Pedhambe line is overloaded. To control the loading on this line, hydro generation at Pedhambe is to be taken on bar. In the monsoon period, state is normally under-drawing from ISTS and grid frequency is above 50 Hz. Under such conditions, peaking up of hydro generation is not desirable and as such increased generation further increases under-drawl at State periphery which attracts additional penalties for the State.
- 220 kV Dasgaon S/s. Sub-Station is proposed to be connected by making LILO on MSETCL's under construction 220 kV Karad – KDPH S/C line. However, as the work of this line is not yet completed, the said Sub-Station has been connected to the grid by making LILO on 220 kV Karad – Nerle line as an interim arrangement.
- If the 220 kV Dasgaon S/s. is connected as per the original scope of works, the loading on 220 kV Nerle – Pedhambe line will be reduced and operation of hydro generation will not be required. Therefore, commissioning of 220 kV Karad – KDPH S/C line and establishment of LILO at 220 kV Dasgaon S/s. needs to be carried out on priority.
- The Superintending Engineer (STU) informed that the work of 220 kV Karad-KDLH SCDC line is in progress. The work of 1-7 No. of towers along with stringing at Karad end is pending due to 'Vyaghra Prakalp'. The proposal has been sent for approval to New Delhi. The line from Loc. No. 8 to 144 has been test charged. However, the work of termination of the said line at 220 kV KDPH depends upon the commissioning of the KDPH generation. Once this line is commissioned, the evacuation of 220 kV Dasgaon S/s can be made through this line and the constraint will be removed.

➤ **132kV Mograle:**

- The Solar generation at 132kV Mograle PSS is curtailed due to overloading of the 132kV Phaltan-Mograle S/C line.
- The PSS wise generation capacity being evacuated through 132kV Aundh – Dahiwadi – Mograle - Phaltan S/C line & it is observed that total 185 MW RE Generation is evacuated through this network. Further, there is also no alternate evacuation arrangement in case of tripping or outage on any 132 kV line section. In STU Five year Plan, 132 kV Ambheri – Aundh S/C line has been proposed during the year 2022-23. Since, the curtailment of generation is carried out presently and on a regular basis, it is necessary to expedite the commission the said line.

- The Superintending Engineer (STU) informed that the work of 132 kV Aundh-Ambheri S/C line is in progress. The progress of the line is as follows:
Foundation: 2/46 Nos; Erection: 0/46 Nos; Stringing: 0/14 ckm.

➤ **220kV Shivajinagar:**

- The 132kV voltage variation at 220kV Shivajinagar is very high (116kV to 149kV - more than 10%). Due to this voltage variation, the solar generation plant (100 MW) connected at 132kV Level gets tripped frequently resulting in generation loss.
- The plant has tripped 13 times due to under voltage problem.
- The Superintending Engineer (STU) stated the issue of such wide variation in the voltages is unprecedented and further data in this respect would be required to verify whether the issue is system related or some local issues.
- The Superintending Engineer (OP) MSLDC informed that further operational data in this respect can be collated from MSETCL field office so that a detailed joint study may be carried out to pin point the specific reasons.

➤ **132kV Wagdari & Naldurg:**

- A total 208 MW Solar Generation is connected to 132 kV Wagdari & Naldurg S/s, 149 MW & 59 MW Solar Generation respectively.
- The said generation is evacuated through 132 kV Ujani-Naldurg S/C, 132 kV Bale - Naldurg S/C & 132 kV Wagdari - Akkalkot S/C line. 132 kV Naldurg & 132 kV Wagdari S/s are interconnected through S/C line. Out of these three evacuating lines, 132 kV Ujani- Naldurg S/C & 132 kV Bale - Naldurg S/C lines are old more than 30 years. In case of tripping of any line, the solar generation is backed down so as to avoid tripping of remaining lines on overload.
- Out of 208 MW generation 150 MW generation is contracted under Long Term through SECI and any curtailment is monitored by the MNRoE.
- Therefore, it is necessary to remove the transmission evacuation constraint by strengthening the network at the earliest.
- The Superintending Engineer (STU) informed that the work of 2nd circuit stringing of 132 kV Wagdari - Akkalkot SCDC line is in the Scope of TPCL as per the sanctioned Grid Connectivity. The work of this line is in progress. After completion of the said works, the constraint will be removed.
- **OCC took the note of it.**

The meeting concluded with the vote of thanks to the chair.

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ANNEXURE - A

List of Participants of the 1st OCC Meeting held on 12.05.2021 through V.C.

Sr. No.	Name	Designation	
MSLDC			
1	Shri. Shrikant Jaltare	ED	Chairman
2	Mrs. Juelee Wagh	C.E.	Member
3	Shri. Peeyush Sharma	S.E. (OP)	Member-Convener
4	Shri. Madhav Pande	E.E. (OP)	
STU			
5	Shri. Shrikant Rajurkar	C.E.	Member
6	Shri. Rokade	S.E. (Systems)	
MSETCL			
7	Shri. Shrikant Rajurkar	E.D. (Trans)	Member
8	Shri. Sanjeev Bhole	S.E. (O&M)	
MSEDCL			
9	Shri. Sandip Patil	S.E. (LM)	Member
10	Shri. Gopichand Ghodke	E.E.	
TPCL			
11	Shri. P. Devanand	Head, PSCC	
12	Shri. Milind Gole	Head, Grid Operations, PSCC	Member
AEML			
13	Shri. Dilip Devasthale	Head, O&M Transmission	Member
ATIL			
14	Shri. Abhishek Kukreja	Associate Manager O&M	Member
MEGPTCL			
15	Shri. Rakesh Bhalerao	Associate Manager BD	Member
JPTL			
16	Shri. Vaibhav Sansare	Assistant Manager-Transmission	Member
APTCL			
17	Shri. Rajie Nimje	AGM	Member
JSWEL			
18	Shri. Harshal Joshi	Manager (OSTS)	Member
ADTPS			
19	Shri. Vijay Dalli	VP-Operations	Member
RIPL			
20	Shri. Amit Panchalwar	DGM	Member
APML			
21	Shri. Manoj Taunk	Associate VP-Protection & Metering	Member

Annexure-3: STATUS OF FAILED REACTORS

Sr. No.	Voltage rating	Name of the Line Reactors	MVAR	Date of failure	IN / OUT	Present status as on May 2021
1	400kV	400kV Chandrapur 1-Parli 3 (Chandrapur 1 end)	50	21.09.2016	OUT OF SERVICE (faulty)	The Reactors were under repairs/overhauling at the works of M/s Aditya Vidyut Appliances Ltd, Bhiwandi (AVAL) and the work is held up due to internal problems at the end of M/s AVAL. As such, necessary legal action has already been initiated against M/s. AVAL & matter is in NCLT. However, considering the importance & urgency of requirement, the scheme for installation of new 50MVAR Reactor is approved vide BR No 143/15 dtd 09.10.2020. MERC approval is received and tender under finalization at CO.
2	400kV	400kV Chandrapur 2-Nanded ckt 1 (Chandrapur 2 end)	50	29.01.2018	OUT OF SERVICE (faulty)	
3	400kV	400kV Chandrapur 2- Nanded ckt 2	50	09.08.2018	OUT OF SERVICE (faulty)	
4	400kV	400kV Dhule S/S- SSP-1 (CSR)	50	23.12.2016	OUT OF SERVICE (faulty)	M/s BHEL has attended oil leakage problem of Reactors. Oil filtration work and testing work of both Reactors completed. BHEL has been requested for expediting the commissioning works but held up due to prevailing Covid-19 pandemic situation.
5	400kV	400kV Dhule S/S- SSP-2 (CSR)	50	27.05.2017	OUT OF SERVICE (faulty)	
6	400kV	400kV Karad - Lonikand (CSR)	80	14.09.2017	OUT OF SERVICE (faulty)	On 01.04.2020, the 80MVAR CSR tripped due to Monkey fault resulting in some damages. M/s BHEL has been requested to attend the hot spots on top priority. The same held up due to prevailing Covid-19 pandemic situation.

7	400kV	400kV Babhleshwar Bus Reactor	80	26.06.2019	OUT OF SERVICE (faulty)	The issue of repairs of failed Reactor was taken up with M/s. CGL being OEM. However, M/s. CGL have denied the repairs of said Reactor. The scheme for augmentation of said Reactor by 125MVAR is approved vide BR 145/19 dtd 22.01.2021. MERC In-principal approval is awaited.
8	400kV	400kV Khadka Bus Reactor	50	10.11.2018	OUT OF SERVICE (faulty)	The scheme for Installation of new 125 MVAR Bus Reactor is approved vide BR No. 139/25 Dt. 12.12.2019 and tenderization is in process.
9	400kV	400kV Kharghar Bus Reactor	80	04.06.2020	OUT OF SERVICE (faulty)	80MVAR, 400kV BHEL Make Bus Reactor failed on 04.06.2020 during charging at 400kV Kharghar S/s. The scheme for procurement of new 80MVAR Reactor is under approval.

Status of Ongoing Transmission Schemes

Sr. No.	Project Name	Progress	Statutory	Remark
1	400KV Babhaleshwar-Kudus line. (Construction of 400kv Babhaleshwar from Naneghat to Padgha-II DCQ Line	F : 199/227; E : 171/227; Ckm : 5.18/150.5	ROW: Major ROW problems due to non payment of compensation as per SDO order. Matter apprised to Collector Thane by Hon'ble Director sir on 23.10.2020. Collector Thane called meeting on 5-11-20. Railway Crossing: 1) Span 146-147 - Approval received on 25.07.2019 2) 100kV Rly Power line crossing (Span 145-146 & 147-148)	1) Major ROW is non payment of compensation after SDO order, Competent Authority decision required. 2) After forest officials visit tree cutting started but Ex. Sarpanch Mr. Tungare created ROW. Matter referred to FOREST officials they asked him to submit land documents.
2	400 KV D/C Jejuri-Hinjewadi Line	F : 0/73; E : 0/90; Ckm : 0/126.3		Tenderization in process Total progress: (BNC+EMC) F : 204/277 E : 187/277; Ckm : 69.54/195.84 WIP.
3	Balance work of LLO on another Ckt of 400KV Bhusawal II - Aurangabad-I for Thaptitanda	F : 22/32; E : 5/45; Ckm : 0/50	ROW: Forest: Not involved Railway Crossing: Loc: 187,188 Submitted on 07.07.2015 to DRM Nanded.	[BNC progress: F: 241/241, E-228/228, Ckm: 126/126] Total: F- 254/273 ; E- 228/273 ; Ckm-126/176