

MAHARASHTRA STATE ELECTRICITY TRANSMISSION CO.LTD.

CIN NO. U40109MH2005SGC153646

Office of The Chief Engineer

Maharashtra State Load Despatch Centre

Thane-Belapur Road, P.O. Airoli, Navi Mumbai Pin – 400 708.

Tele: 91-22-27601765 / 1766; Fax: 91-22-27601769 Email: cesldc@mahasldc.in

Ref: MSLDC/TECH/OP/1687

Date: 06/08/2021

To,

As per mailing list.

Sub: Agenda for the 2nd Operation Co-ordination Committee (OCC) meeting scheduled on 12.08.2021 at 11:30 hrs through V.C.

Ref: 1.MOM Circulated vide MSLDC/TECH/OP/OCC/No.1187 Dated 02.06.2021.

2. Agenda request Vide Letter No. CE/MSLDC/No.1538 Dated 13.07.2021.

In reference to the above subject, the 1st Operation Co-ordination Committee (OCC) meeting was convened on 12th May 2021. Minutes of the same are circulated vide letter under reference 1.

Vide Letter under reference no. 2, the undersigned, Member Convener of the OCC had requested all the members of the OCC to submit the agenda items for the 2nd OCC meeting.

The agenda for the 2nd OCC meeting has been finalized in consultation with the Chairman of the OCC i.e., the Executive Director (MSLDC) and enclosed herewith.

The 2nd meeting of the OCC has been scheduled on 12.08.2021 at 11:30 hrs through **Video Conferencing. The link shall be shared prior to the meeting.**

It is requested to kindly make it convenient to attend the meeting with relevant information.

Encl: As above.

Yours sincerely,


(Paeyush 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 Jaltare	ED, MSLDC	Chairperson	022-27301931	edmsebholding@gmail.com
2	SLDC	Shri Peeyush Sharma	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	selmkalwa@gmail.com
7	MSPGCL	Shri E.S.Moze	DyCE(Works) MSPGCL	Member	8879770737	cegw@mahagenco.in
8	TPCL	Shri Kiran Desale	Head Transmission, TPCL	Member	9223553342	desalekv@tatapower.com
		Shri Milind Gole	Head Grid Operations (PSCC), TPCL	Member	9820868264	pscc@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	amit.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@saiwardham.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		

Agenda for 2nd Operation Co-ordination Committee Meeting Scheduled on 12th Aug 2021 at 11:30 hrs through V.C.

Item No. 1: -Confirmation of the minutes of Meeting of 1st OCC Meeting convened on 12th May 2021.

Item No. 2: - Maharashtra system Grid performance for the period from April 2021 to June 2021 (Presentation by MSLDC)

2.1 Maharashtra system Demand and energy Scenarios for the period April 2021 to June 2021 is enclosed (State Demand in **Annexure 2.1A**, Mumbai system demand in **Annexure 2.1B** and Energy catered in **Annexure 2.1C**)

2.2 Frequency profile for the period April 2021 to June 2021 is enclosed in **Annexure 2.2**

2.3 U/F Relay Operations is enclosed in **Annexure 2.3**

2.4 Voltage Profile of 765kV & 400kV Sub-stations is enclosed in **Annexure 2.4**

- a. High Voltage Sub-stations
- b. Low voltage Sub-stations

2.5 Details of Generating Units under Forced outage is enclosed in **Annexure 2.5**

2.6 Details of Generating stations under Planned outages is enclosed in **Annexure 2.6**

2.7 List of Elements under Long outages is enclosed in **Annexure 2.7**

2.8 Details of Koyna water consumption for the year Water year 2020-21 is enclosed in **Annexure 2.8**

2.9 List of New grid elements added/List of Elements decommissioned is enclosed in **Annexure- 2.9**

Item no.3: - System Disturbance in the Maharashtra Network for the period April 2021 to June 2021 is enclosed in Annexure 3.

Item no: 4: Status of completion of ongoing schemes in Maharashtra & Mumbai: -

4.1 Status of Reactors is enclosed in **Annexure 4.1**

4.2 Status of State Transmission Schemes is enclosed in **Annexure 4.2**

4.3 Status of Mumbai Transmission Schemes is enclosed in **Annexure 4.3**

Item no 5: - Submission of failure analysis of grid elements

Under regulation 27 of CEA (Grid Standards) Regulations, 2010, failure analysis of equipment failure and tower collapse is to be submitted to RPC and Authority. All the constituents are requested to report incidences of equipment failure and tower collapse to MSLDC so as to forward it to RPC and Authority as and when such incidences take place.

Committee may note

Item No. 6: - Discussion on Reserve Shut Down (RSD) Procedure and finalization of the procedure.

As per clause 36.9 of the Regulations, Maharashtra State Load Despatch Centre has prepared a Detailed Procedure for Instructing Reserve Shut Down (RSD) of Generating Units of the generating stations in the state of Maharashtra.

As directed in the GCC Core group meeting the Draft RSD procedure was circulated to all the members & the stakeholders for submitting suggestions/comments. MSEDCL, MSPGCL, AEML, APML, TPCL, RIPL & DIL have submitted the comments on the draft procedure which has been tabulated with MSLDC's remarks.

After the discussions in OCC, the draft procedure shall be put to GCC for further submission to Hon. MERC for approval.

Committee may discuss

Item No. 7: - Discussion on LTS/SPS Committee Report on source line to MMR and Mumbai area.

The Committee constituted by Central Electricity Authority to investigate the partial Grid failure that occurred in MMR on 12.10.2020, in its report vide Clause No. 7.4 (a) has recommended that MSLDC may frame LTS/SPS to handle contingencies of power diversion on Padghe, Kalwa and Kharghar gates, as well as any other power flow constraints in Mumbai System.

Also, the High-Level Committee (HLC) constituted by Hon'ble MERC to investigate the partial Grid failure that occurred in MMR on 12.10.2020, in its report vide Clause No. 8.21 (A-2) (3) has also recommended that STU to review of design of LTS schemes for MMR in consultation with GCC, PCC, MSLDC and DISCOM within 6 months.

Accordingly, the Executive Director (MSLDC), vide letter No. ED/MSLDC/02408 dated 24.12.2020 constituted a committee for review of existing LTS/SPS on Mumbai source lines with adequate load relief in MMR and Mumbai area.

The members of the Committee are as follows:

- ☑ Chief Engineer (MSLDC): Chairman
- ☑ Chief Engineer (STU), MSETCL: Member
- ☑ Chief Engineer, EHV PC (O&M) Zone, Vashi, MSETCL: Member
- ☑ Chief Engineer (Protection), MSETCL: Member
- ☑ Head (PSCC), TPCL: Member
- ☑ Head (O&M, Transmission), AEML: Member

- ☑ Superintending Engineer, TCC, Vashi, MSETCL: Member
- ☑ Superintending Engineer, Operation, MSLDC: Member - Convener

Accordingly, the Committee on dated 18.06.2021 has submitted detailed report on the review of the existing LTS Schemes in Mumbai source lines with adequate load relief in MMR and Mumbai area.

The members may discuss the observations and recommendations of the said report for onward submission to GCC and PCM-WRPC for approval.

Committee may discuss

ITEM NO 8: - Identification of strategic location for installation of PMUs and DLR in TPC and AEML Area.

The High-Level Committee (HLC) constituted by Hon'ble MERC to investigate the partial Grid failure commented that PMU is acting as a very effective tool for system operator to analyse different types of faults. It has reduced the time taken for complete analysis of any event in the grid. Different type of faults can be easily observed based on the PMU data.

While collecting the data for a sequence of events of grid failure, the HLC observed that most of the data was based on numerical relays (as was made available by Mumbai utilities) and was not time stamped or time synchronised. Thus for the analysis of any event post occurrence, accurate data with time synchronization is necessary for which strategic locations for installation of PMUs & DLR in TPC & AEML area are to be identified.

Committee may discuss

ITEM NO 9: - (MSEDCL)

9.1 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> drawl Point of MSEDCL.

As per metering code, Power T/F LV is <T-D> interface point. In case of Hybrid substation (i.e., Generation connected on LV side of Power T/F), in addition to LV of Power T/F, Generation Feeder is also part of <T-D> drawl computation. Further in case EHV consumer, MSEDCL drawl point is at EHV consumer End. All these points come under preview of MSETCL. Hence providing SCADA data visibility of these point 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 its 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 issue was taken up in 1st OCC meeting held on 12th May 2021 and it was informed by STU that comprehensive project covering this aspect is being prepared from STU and will be put up before Competent Authority for Approval & after approval of same, it will be put up before GCC. The STU

may please update progress and speed up the process as in absence of SCADA data, MSEDCL is financially impacted.

Committee may discuss

9.2 Practical Difficulties in Implementations of some timelines of State Grid Code (SGC) -2020

Following are the some of provisions given in State Grid Code (SGC)-2020 which were put up for discussion during “DSM working Group Committee “meeting held for finalising draft Scheduling & Despatch Code (which Commission later made part of SGC-2020). The Practical difficulties were discussed in subsequent meetings also but no cognizance has been taken so far on these issues.

A. Provision required for Cancellation of “Zero Schedule” given to Generator from DISCOM

Presently as per Provision 35.6 of SGC-2020, DISCOM needs to issue “Zero schedule” notice of at least 8 Hrs to Generators to enable it to take steps for smooth removal of the Unit from the Grid. Sometimes, such notice are given in advance of more than 8 Hrs. However, during said notice period, due to reason not in control of DISCOM like Sudden Tripping of Units, sudden reduction in Wind Generation, if DISCOM needs to cancel “Zero schedule” request given to Generator or postpone same, then there is no provision in Existing Regulation for the same.

This is causing practical problem to DISCOM to use “Zero schedule “concept effectively to optimise their cost of power procurement considering the contracted sources for the period of anticipated surplus. There is no such type of restriction in Regional level and also in IEGC. Hence it is suggested that necessary provision for cancellation or postponement of “Zero schedule” shall be recommended by GCC committee to Commission.

It is proposed that prior intimation of cancellation or postponement of “Zero schedule” from DISCOM shall be at least Clear one Hour or time period required to ramp down Generation from Full to Zero.

Committee may discuss

B. Provision for submission of ISGS requisition

SGC-2020	IEGC -2010	Issue
52.5.e By 09:00 hrs every day, Beneficiaries in the State shall inform their consent to the MSLDC for the ISGS capabilities	6.5.4(a) The original beneficiary shall communicate its consent to the ISGS by 9:45 AM each day about the quantum and duration of power for next day for sale in the market	<ul style="list-style-type: none"> i. Provision wrongly interpreted in S&D code, as timeline is for consent is to be given to ISGS by beneficiaries for sale of Power in Day Ahead Power market (DAM) which beneficiaries can communicate directly and no provision to include SLDC in such consent mechanism. ii. As per Provision in IEGC 6.4.4, concern SLDC needs to review foreseen load pattern and their own generating capability including bilateral exchanges and advice RLDC by 3 PM their drawl schedule from each ISGS in which they have share. iii. This provision is made taking into consideration, that total availability & provisional qtm cleared in DAM market is available by 3PM. Hence requisition from ISGS can be given. iv. In S&D code, under clause 8.5.o, DISCOM needs to be

		<i>submit revise ISGS drawl by 14 Hrs.& SLDC shall communicate by 15 Hrs. It is not possible to decide revise ISGS drawl as DISCOM is unaware of power cleared in DAM before 14 Hrs.</i>
--	--	--

Committee may discuss

C. No timeline for upload of Hydro schedule /requisition by DISCOM

As per Provision in SGC-2020, day wise schedule of Hydro station is to be intimated in advance by 27th of each month but there is no provision specifying the timeline for day ahead uploading of schedule or real time schedule revision of Hydro schedule. The Hydro generators; particularly Koyna & Ghatghar are being scheduled by DISCOM considering Economy of dispatch i.e., being schedule during peak demand period or when rate of Power from Market is high. Hence unless All generators availability available to DISCOM on day ahead basis & purchase/sale in Market are cleared, it is difficult to judge the schedule of such Hydro station before 10 Hrs. Hence it is proposed that revision in schedule of Hydro done after 10 Hrs. on day ahead basis shall not attract revision charge.

Committee may discuss

D. Time line for revision in ISGS requisition

Following are timeline given for Revision of schedule by buyer & seller on day ahead basis.

Provision	Timeline	Expected
52.5.(p)	18:00	Drawl schedule from ISGS
52.5. (q)	20:00	Generators to submit revise DC & OA schedule
52.5(r)	20:00	RE generators (less than 25MW) schedule upload by DISCOM
52.5 (s)	20:00	DISCOM to upload demand
52.5(t)	20:00	DISCOM to submit revise ISGS drawl
52.5(u)	22:00	SLDC to submit ISGS drawl to WRLDC
52.5(v)	23:00	SLDC to publish revise LGB

For deciding revision in requisition from ISGS, it is necessary that change in availability of all Intra State generators shall be available to DISCOM. If timeline for generators as well buyer kept same, then it will not possible for DISCOM to decide any change in ISGS requisition on day ahead basis.

As per provision 6.5.8 in IEGC-2010, SLDC has to submit revise drawl schedule from ISGS by 22 Hrs. Time gap between DISCOM's communicating requisition from ISGS and SLDC (who just have to forward same to WRLDC) is 120 minutes. If DISCOM timeline for ISGS drawl schedule changed to 21:30 Hrs. remaining time, is sufficient for SLDC for LGB preparation through Software.

Further as first RTM session start at 22:45 Hrs. It is requested that SLDC timeline for LGB display shall be change to 22:30 Instead of 23:00 Hrs.

The Committee requested to discuss issues & recommend suitable modification in the Regulation.

Committee may discuss

E. Different timelines given for same process in SGC-2020 and RE(F&S) Procedure

S&D code	RE(F&S)
52.5.i By 10:00 hrs every day, Pooling Sub-Station wise QCAs, connected to InSTS, shall furnish to MSLDC, their generation availability in MW and MWh taking into consideration any outage of its generating unit for the next day, i.e., from 00:00 hrs to 24:00 hrs of the following day on 15minute time block as per the F&S procedure under MERC F&S Regulations	12.8 QCA to upload separate Pooling Sub-Station wise and 15 min time block wise day ahead Forecast & Available Capacity (AvC) by 9:00 Hrs
52.5.l By 11:00 hrs , MSLDC shall prepare the Load Generation Balance for the next day, from 00:00 hrs to 24:00 hrs of the following day on 15minute time block as per De-Centralised (Buyer Wise) MoD principles specified by the Commission	8.4.12 Preparation of Load Generation Balance for 15 min time block wise day ahead Schedule by MSLDC 11:15 Hrs

Committee may discuss

9.3 Difficulty being faced by MSEDCL in Compliance of Clause 52.2.6 of State Grid Code-2020 regarding upload schedule of generators installed capacity < 25MW

As per Provision in DSM Regulation-2019, the responsibility of uploading schedule of RE Generators (other than Wind & Solar) with installed capacity less than 25MW, has been given with DISCOM. In State, only MSEDCL have such Contracted Generators. Hence MSEDCL had made, Web portal for Generators to upload daily Day ahead Generation schedule for these Generators but in spite of follow up with these Generator about 55% of Generators are not uploading schedule.

Since Regulation is not mandating these RE Generators to upload or inform daily Generation schedule, Generators are not taking issue seriously. The Billing of Generators is also on Actual injection basis. In absence of RE Generation schedule availability, it became difficult for MSEDCL to assess its requirement of power (either surplus/shortfall) to be purchase/sell in Power Market or schedule other Generation.

Hence it is proposed that Committee shall discuss issue and suggest to Commission to make Amendment in DSM Regulation on appropriate action to be taken in the matter which will mandate

such Generators to upload Generation schedule daily; failure which some monetary penalty (like no billing for day on which no schedule submitted) shall be proposed to be levied on RE Generators.

9.4 Non-Compliance of Clause 52.2.5 of State Grid Code, Regulation 2020 by RE Generators having Installed capacity more than 25MW.

Committee may discuss

9.5 As per Clause 49.1 of SGC-2020, the scheduling & Despatch Code is applicable to “All Seller(s) having installed generating capacity of Unit or Combined capacity of all units in the generating station above 25 MW (or such other threshold capacity), including RE generators, open access generators, captive generators having connected to InSTS”.

There are total 31 Nos of Bagasse based generating station having installed capacity more than 25MW but till date only 8 Generators have registered in DSM software for scheduling. The Hon’ble Commission in its order in Case No 110 of 2020 dated 9th Nov 2020 has given exemption of DSM regulation charges only for time blocks when exportable generation is less than 25MW. This does not mean that Generators with installed Capacity more than 25MW but exportable generation less than 25MW are exempted from Registration in DSM software.

The MSEDCL has requested all these Generators for Registration in DSM software but same is not being done. Some of these Generators are approaching MSLDC for exemption from DSM registration. As per Clause 54.1.(iv) of SGC-2020, if State Entity fails to provide schedules continuously for 10 days or (i) Non-compliance of any of the terms/conditions/rules outlines under this Code, there are following provision in SGC-2020 which enable disconnection from Grid.

54.2.2. In case of default for acts covered under this Code without prejudice to other actions as may be taken by SLDC, the SLDC may issue a notice of period not less than 15 days for revocation of registration of State Entity and non- scheduling of State Entity and adequate opportunity shall be given to State Entity to present its case before SLDC.

54.2.3. In case State Entity fails to address/rectify the breach expressed by SLDC in the Notice within stipulated time, the SLDC shall approach the Commission with recommendation for revocation of registration of State Entity and disconnection from grid.

In case of RE Generators with Installed capacity more than 25MW, there is continuous No compliance of Regulatory provision. The SLDC vide its letter dated 13.11.2020 had requested all RE Generators with installed capacity to completes its registration process. But there is no action observed from RE Generators. Hence SLDC shall take action under clause 54.2.2 and 54.2.3 urgently.

Further to discourage these RE generators from Non-compliance of Regulation, Committee may recommend the amendment in Regulation to Commission like No Payment of Energy Injected into Grid, if Generators fails to submit its day ahead schedule.

It is requested to take up matter with all these Generators at MSLDC end and initiate appropriate action under Regulation SGC-2020 on defaulter Generators for enabling the process of DSM Registration from them.

Committee may discuss

Item no 10: Difficulties in DSM Software. (Rattan India Power Limited)

Deviation is being observed in the schedule being recorded by DSM software and the schedule being implemented. This is mainly because of the frequent telephonic instructions received from SLDC control room for backing down or picking up the load. This may be because of real time demand requirement and the MODs (de-centralized / centralized). However, the concern is the difference in the quantity of schedule being shown by DSM software and that being implemented at our end as per the calls from SLDC.

We have been highlighting this issue by replying to observations noted against trial DSM account earlier also. For your reference, following are the observations noted in deviation for the period 11 July-2021 to 16 July-2021;

Date	Total Schedule by DSM Software in MWH	Total Schedule consideration at RPL end in MWH	Difference in MWH
11.07.2021	20788.345	21415.875	627.530
12.07.2021	16247.454	18788.023	2540.568
13.07.2021	18301.922	20388.015	2086.093
14.07.2021	17672.556	17345.010	327.546
15.07.2021	18173.196	18270.3	97.104
16.07.2021	17554.853	17974.320	419.467

For this, please find attached herewith the Net schedule downloaded from the DSM software of SLDC website (**Annexure-1**) for the complete period 11 July-2021 to 16 July-2021 along with the scheduled injection data which we have implemented for this period in actual at site (**Annexure-2**) as per real time instructions from SLDC control room for your reference.

It is also for information that, the schedule implemented finally at our end is being mailed on daily basis to Scheduling team, SLDC and LM cell, MSEDCL after the end of the day at 24:00hrs.

- a. Need guidelines whether telephonic instructions from SLDC control room are to be followed particularly after implementation of DSM commercially.
- b. If so, the quantity of schedule implemented needs to be changed/corrected on same day such that there shall not be any commercial issues in settlement.

Committee may discuss

Item no 11. Utilization of TBC or Auxiliary (TBC) bus outage at sub-station by informing to SLDC on real time basis (**AEML-T**)

Committee may discuss

Item no 12: Condition of 48 Hrs prior submission in the system may be reviewed. (**AEML-T**)

Committee may discuss

Item no 13: Any other item with the permission of Chair.

2.1 Maharashtra System Demand Scenario for the month from April -June 2021

A - STATE Demand Details								
Month	Peak Demand (MW)	Catered Demand (MW)	Load Shedding /Shortfall (MW)	Date	Time (Hrs)	Min. Demand (MW)	Date	Time(Hrs)
Apr-21	25644	25644	0	08.04.21	12:00 Hrs	18876	14.04.21	21:00 Hrs
May-21	23721	23721	0	06.05.21	15:00 Hrs	13572	17.05.21	14:00 Hrs
Jun-21	21141	21141	0	01.06.21	15:00 Hrs	15207	28.06.21	03:00 Hrs

B - Mumbai Demand Details (including open access)								
Months	Peak Demand (MW)	Catered Demand (MW)	Load Shedding /Shortfall (MW)	Date	Time (Hrs)	Min. Demand (MW)	Date	Time(Hrs)
Apr-21	2959	2959	0	01.04.2021	12:00 Hrs	1864	11.04.2021	08:00 Hrs
May-21	2873	2873	0	05.05.2021	16:00 Hrs	1695	18.05.2021	05:00 Hrs
Jun-21	2843	2843	0	30.06.2021	12:00 Hrs	1536	12.06.2021	05:00 Hrs

2.1 C - Energy Catered in MUs

Particulars		April -21	May - 21	June - 21
State	Monthly	16081	14856	13169
	Max.	566	523	467
	Avg.Per Day	536	479	439
Mumbai	Monthly	1698	1717	1587
	Max.	50	61	58
	Avg.Per Day	57	55	53

2.2 - Frequency profile for the months from April -June 2021

Range	Apr 2021 % time	May 2021 % time	Jun 2021 % time
IEGC band: 49.9-50.05 Hz	75.178	74.496	74.701
< 49.9 Hz	8.106	7.213	6.276
> 50.05 Hz	16.715	18.291	19.002

2.3 - UFR Operation for the months from April -June 2021

As per SLDC records the system frequency did not reach 49.4 Hz and no UFR operation was reported.

2.4 - Voltage Profile for the months from April -June 2021

Range	Voltage level	Apr-21		May-21		Jun-21	
Maximum	765kV	AKOLA	790	EKTUNI	802	AKOLA	793
	400kV	DHULE	439	KALWA	439	KALWA	440
Minimum	765kV	TIRORA	752	TIRORA	749	TIRORA	747
	400kV	LAMBOTI	376	LAMBOTI	385	JEJURI	391

Annexure 2.5

Generating Units under Forced outage

Name of Unit	Date Trip	Time Trip	Date Sync	Time Sync	Outage Type	Reason
SWPGPL U-1	16-02-2016	17.09		Continued.	FORCED	No PPA.
PGPL U1	07-02-2017	17.3		Continued.	FORCED	No Schedule (NO PPA)
PGPL U2	07-02-2017	17.3		Continued.	FORCED	No Schedule. (NO PPA)
IEPL Unit 1	28-08-2018	21.26		Continued.	FORCED	No PPA

VIPL U-1	29-12-2018	0.3		Continued.	FORCED	Coal Shortage. (NO PPA From 20.05.2019)
VIPL U-2	17-01-2019	0.15		Continued.	FORCED	Coal shortage. (NO PPA From 20.05.2019)
Uran Unit 7	25-05-2020	12.51		Continued.	FORCED	Turbine Blade Failure
Nasik Unit 3	03-12-2020	6.45		Continued.	FORCED	PA Fan Problem (Under Case 4 Bidding From 11.00Hrs DT. 21-01-2021).
Koyna Unit 11	19-01-2021	10.05	29-05-2021	15.2	FORCED	Tripped on stator earth fault (will not be available till dt.24.05.21)
JSW (J) U1	01-02-2021	18	04-05-2021	14.52	FORCED	Due to turbine vibration high
Chandrapur Unit 7	20-02-2021	23.43	13-07-2021	15.44	FORCED	Generator Earth Fault.
Adani U-2	04-03-2021	0.1	08-04-2021	14.31	FORCED	Increase Hydrogen Consumption
Uran Unit B0	20-03-2021	0.03	02-04-2021	22.17	FORCED	Gas shortage
Uran Unit 8	20-03-2021	0.05	02-04-2021	16.19	FORCED	Gas shortage
Chandrapur Unit 5	25-03-2021	15.51	01-04-2021	10.46	FORCED	Boiler Tube Leakage
JSW (J) U2	26-03-2021	1.13	07-04-2021	20.53	FORCED	No Schedule
Chandrapur Unit 3	29-03-2021	11.15	02-04-2021	20.3	FORCED	Boiler Tube Leakage
Koradi Unit 10	31-03-2021	23.48	06-04-2021	11.58	FORCED	Boiler Tube Leakage
Chandrapur Unit 5	01-04-2021	12.27	01-04-2021	14.04	FORCED	Low drum level.
Uran Unit 6	01-04-2021	11.05	05-04-2021	4.36	FORCED	Gas shortage
Bhusawal Unit 3	02-04-2021	0.02	04-04-2021	7.45	FORCED	Outage for feedline leakage.
Uran Unit 8	02-04-2021	17.09	02-04-2021	17.58	FORCED	Damper discrepancy.
Koradi Unit 6	02-04-2021	12.19	11-04-2021	8.32	FORCED	Fire in boiler electric board.
Uran Unit 5	02-04-2021	23.19	25-04-2021	17.28	FORCED	Gas shortage
Uran Unit A0	02-04-2021	23.19	05-04-2021	10.58	FORCED	Gas shortage
Koradi Unit 7	03-04-2021	19.26	04-04-2021	3.23	FORCED	ID Fan Problem
Bhusawal Unit 3	04-04-2021	12.26	05-04-2021	1.2	FORCED	Cooling water level down.
Parli Unit 8	04-04-2021	10.25	04-04-2021	19.43	FORCED	Attending the CRH dummy line steam leakage.
Chandrapur Unit 3	05-04-2021	10.43	12-04-2021	17.47	FORCED	ID Fan Bearing Temperature High.
Nasik Unit 4	06-04-2021	16.41	08-04-2021	20.07	FORCED	Line Heavy Leakage
Koradi Unit 7	06-04-2021	10.57	08-04-2021	2.04	FORCED	Boiler Tube Leakage
Trombay 5	08-04-2021	17.48	09-04-2021	2.54	FORCED	Fire In cable trenches
Koyna STG-IV Unit-2	08-04-2021	21.54	09-04-2021	0.05	FORCED	D.C. Failure

Adani U-2	09-04-2021	1.3	12-04-2021	1.52	FORCED	APH-A guide Bearing abnormal sound
Bhusawal Unit 4	10-04-2021	0	12-04-2021	6.26	FORCED	Boiler Tube Leakage
Parli Unit 8	10-04-2021	13.12	10-04-2021	17.56	FORCED	ON PA Header Pressure Low.
Koradi Unit 7	10-04-2021	21.58	11-04-2021	8.22	FORCED	Station Transformer no.4 Tripped.
Bhusawal Unit 3	11-04-2021	4.08	13-04-2021	6.43	FORCED	Boiler Tube Leakage
JSW (J) U4	11-04-2021	3.02	24-05-2021	6.17	FORCED	NO SCHEDULE.
Koradi Unit 6	11-04-2021	8.58	11-04-2021	18.56	FORCED	Due To Station Transformer no.3 Tripped.
Koradi Unit 7	11-04-2021	8.58	11-04-2021	16.57	FORCED	Due To Station Transformer no.3 Tripped.
Paras Unit 4	11-04-2021	21.05	12-04-2021	2.2	FORCED	Furnace Pressure High
Nasik Unit 5	11-04-2021	23.1	13-04-2021	1.3	FORCED	Foreign Material Observed In Impeller Of ID A.
Koradi Unit 6	11-04-2021	22.15	12-04-2021	16.55	FORCED	AC Failure.
Koradi Unit 7	11-04-2021	22.14	12-04-2021	19.42	FORCED	AC Failure.
Bhusawal Unit 4	12-04-2021	6.39	12-04-2021	8.21	FORCED	Electrical Protection.
Koyna STG-IV Unit-1	12-04-2021	10.1	13-04-2021	3.4	FORCED	Outage For Turbine Guide Bearing Oil Temperature RTD Senser Work.
Parli Unit 7	12-04-2021	10.35	12-04-2021	13.25	FORCED	Due To Flash Over in Coal Mill.
Koyna STG-IV Unit-4	12-04-2021	15.39	13-04-2021	3.4	FORCED	Tripped due To Voltage Jerk.
Koradi Unit 6	12-04-2021	18.56	12-04-2021	22.35	FORCED	Due To Both Vacuum Dump Tripped.
Koyna STG-IV Unit-2	12-04-2021	15.39	12-04-2021	22.3	FORCED	Tripped due To Voltage Jerk.
Koyna STG-IV Unit-3	12-04-2021	15.39	12-04-2021	21.35	FORCED	Tripped due To Voltage Jerk.
Paras Unit 3	12-04-2021	15.4	13-04-2021	0.15	FORCED	Due To Clinker Formation.
SWPGPL U-2	13-04-2021	12.15	16-04-2021	16.47	FORCED	Conveyor Belt Problem.
Ghatghar Unit-2	14-04-2021	0	18-04-2021	12	FORCED	Maintenance work
Khaparkheda Unit 2	15-04-2021	16.54	27-05-2021	14.06	FORCED	Critical coal stock position
Uran Unit 8	16-04-2021	12.23	16-04-2021	15.4	FORCED	Joint Islanding trial conductor with mahatransco.
Uran Unit 6	16-04-2021	12.23	16-04-2021	20.13	FORCED	Joint Islanding trial conductor with mahatransco.

Uran Unit B0	16-04-2021	12.23	16-04-2021	21.57	FORCED	Joint Islanding trial conductor with mahatransco.
Uran Unit A0	16-04-2021	12.23	17-04-2021	7.27	FORCED	Joint Islanding trial conductor with mahatransco.
Adani U-1	16-04-2021	10.59	16-04-2021	19.44	FORCED	To attend hotspot in GT-Y-phase neutral bushing palm.
Chandrapur Unit 6	16-04-2021	23.58	21-04-2021	12.28	FORCED	Boiler validity expiry.
Bhusawal Unit 5	17-04-2021	7.56	17-04-2021	11.26	FORCED	Furnace Pressure High
Adani U-3	17-04-2021	20.55	21-04-2021	13.28	FORCED	APH-A Hot Bellow leakage
Ghatghar Unit-1	18-04-2021	18	25-04-2021	17.45	FORCED	Bypass Work.
RPL(AMT) U-1	20-04-2021	1	28-04-2021	23.58	FORCED	Bottom Ash System Problem.
Chandrapur Unit-8	20-04-2021	11	24-04-2021	6.05	FORCED	Boiler Tube Leakage
RPL(AMT) U-2	21-04-2021	1	29-04-2021	1.56	FORCED	Due to coal issue.
Koradi Unit 6	21-04-2021	4.12	23-04-2021	8.42	FORCED	Boiler Tube Leakage
Koradi Unit 10	23-04-2021	8.56	24-04-2021	12.37	FORCED	Feed water Flow Low
Bhusawal Unit 5	24-04-2021	10.03	26-04-2021	9.04	FORCED	Boiler Tube Leakage
Koradi Unit 9	24-04-2021	14.59	07-05-2021	6.01	FORCED	Boiler Tube Leakage
SWPGPL U-2	25-04-2021	23.51	01-05-2021	23.58	FORCED	ID Fan Vibrations
Khaparkheda Unit 3	27-04-2021	8.35	27-04-2021	11.55	FORCED	Flame Failure
Parli Unit 8	27-04-2021	18.42	27-04-2021	21.48	FORCED	Flame Failure
Koradi Unit 6	27-04-2021	19.59		Continued.	FORCED	Zero Schedule.
Koradi Unit 7	27-04-2021	20.03		Continued.	FORCED	Zero Schedule.
Chandrapur Unit 5	28-04-2021	13.01	03-05-2021	14.17	FORCED	Boiler Tube Leakage
Paras Unit 4	28-04-2021	14.17	28-04-2021	17.3	FORCED	High Drum Level
Paras Unit 3	29-04-2021	8.57	29-04-2021	22.01	FORCED	Clinker Formation
Chandrapur Unit-8	30-04-2021	14.47	30-04-2021	18.13	FORCED	Low furnace pressure
Chandrapur Unit 3	01-05-2021	0.4	02-05-2021	3	FORCED	Low Vacuum
Khaparkheda Unit 4	01-05-2021	6.02	04-05-2021	0.59	FORCED	Boiler Tube Leakage
Chandrapur Unit 5	03-05-2021	20.26	06-05-2021	14.12	FORCED	ID fan tripped
Uran Unit 5	03-05-2021	15.44	04-05-2021	10.58	FORCED	Bus Fault R-Phase string broken.
Uran Unit 6	03-05-2021	16.12	03-05-2021	19.53	FORCED	Bus Fault R-Phase string broken.
Uran Unit 8	03-05-2021	15.44	03-05-2021	18.34	FORCED	Bus Fault R-Phase string broken.
Uran Unit A0	03-05-2021	16.12	03-05-2021	23.33	FORCED	Bus Fault R-Phase string broken.
Uran Unit B0	03-05-2021	15.44	03-05-2021	22.42	FORCED	Bus Fault R-Phase string broken.
Dhariwal	04-05-2021	14.21	04-05-2021	16.45	FORCED	PA Fan issue trip.
Bhusawal Unit 3	04-05-2021	20	05-06-2021	0.05	FORCED	Zero Schedule.

Parli Unit 6	04-05-2021	20		Continued.	FORCED	Zero Schedule By MSEDCL
Paras Unit 3	05-05-2021	14.14	05-05-2021	22.2	FORCED	Due To Clunker Formation.
Parli Unit 7	05-05-2021	19		Continued.	FORCED	Zero Schedule.
Chandrapur Unit 3	06-05-2021	14	09-05-2021	12.3	FORCED	Boiler Tube Leakage
Parli Unit 8	06-05-2021	19.45	05-06-2021	9.28	FORCED	Zero Schedule
Koradi Unit-8	07-05-2021	14.28	07-05-2021	17.57	FORCED	Turbine Trip
Paras Unit 3	08-05-2021	13.18	08-05-2021	19.28	FORCED	Loss of fuel
Khaparkheda Unit 5	08-05-2021	0.11	11-05-2021	1.1	FORCED	Boiler Tube Leakage
Khaparkheda Unit 4	09-05-2021	11.46	11-05-2021	4.04	FORCED	Boiler Tube Leakage
Khaparkheda Unit 5	10-05-2021	23.27	11-05-2021	1.1	FORCED	Drum level high.
SWPGPL U-3	11-05-2021	18	15-05-2021	20.35	FORCED	Zero schedule
Khaparkheda Unit 1	11-05-2021	14.52	12-05-2021	16.57	FORCED	Boiler Tube Leakage
Uran Unit 8	11-05-2021	0.14	11-05-2021	2.52	FORCED	Drum pressure high.
Uran Unit B0	11-05-2021	0.04	11-05-2021	6.53	FORCED	Bearing vibration high.
SWPGPL U-4	11-05-2021	18.3	15-05-2021	23.55	FORCED	Zero schedule
Adani U-2	12-05-2021	22.35	16-05-2021	4.35	FORCED	Air Preheater Bellow Leakage.
Bhusawal Unit 4	12-05-2021	2	12-05-2021	8.19	FORCED	Loss of fuel
Bhusawal Unit 4	13-05-2021	17.11	16-05-2021	1.34	FORCED	Boiler Tube Leakage
Khaparkheda Unit 3	13-05-2021	0.04	14-05-2021	0.03	FORCED	Boiler Tube Leakage
Adani U-3	14-05-2021	17.29	18-05-2021	0.41	FORCED	Low furnace pressure
Paras Unit 4	15-05-2021	12.36	19-05-2021	1.55	FORCED	Coal mill problem.
Adani U-1	16-05-2021	17.57	16-06-2021	5.48	FORCED	Zero Schedule By MSEDCL.
Paras Unit 3	16-05-2021	16.18	16-05-2021	19.15	FORCED	Furnace Pressure High
Adani U-4	16-05-2021	10.01	16-06-2021	0.48	FORCED	Zero Schedule.
Uran Unit 5	17-05-2021	11.52	30-05-2021	17.34	FORCED	Due to jerk
Adani U-5	17-05-2021	12.05	16-06-2021	7.45	FORCED	Zero schedule.
Nasik Unit 5	17-05-2021	12.5	05-07-2021	15.3	FORCED	Zero schedule.
Uran Unit A0	17-05-2021	22.59	31-05-2021	7.12	FORCED	Gas shortage
Uran Unit B0	17-05-2021	20.15	24-05-2021	16.01	FORCED	Gas shortage
Trombay 7B	17-05-2021	23.29	30-05-2021	19.01	FORCED	Gas shortage
Trombay 7A	17-05-2021	23.5	30-05-2021	13.36	FORCED	Gas shortage
SWPGPL U-3	17-05-2021	12.13	20-05-2021	19.36	FORCED	Scrapper conveyer problem.
Uran Unit 6	17-05-2021	22.59	07-06-2021	8.36	FORCED	Gas shortage.
Uran Unit 8	17-05-2021	20.15	24-05-2021	7.04	FORCED	Gas shortage
SWPGPL U-4	18-05-2021	4.4	18-05-2021	8.23	FORCED	Boiler Flame Loss
Khaparkheda Unit 4	19-05-2021	1.36	20-05-2021	14.52	FORCED	Boiler Tube Leakage
AEML Unit 1	19-05-2021	9.52	10-07-2021	19.56	FORCED	flame Failure.
Paras Unit 4	22-05-2021	23.49	24-05-2021	23.38	FORCED	High Drum Level
Koyna Unit 1	24-05-2021	9.5	25-05-2021	11.45	FORCED	Needle Problem
Koradi Unit-8	25-05-2021	3.52	07-06-2021	22.03	FORCED	Boiler Tube Leakage

JSW (J) U1	25-05-2021	9.41	30-05-2021	7.4	FORCED	CW DUCT Water Leakage.
Chandrapur Unit 4	27-05-2021	13.05	27-05-2021	15.58	FORCED	Generation Earth Fault.
Chandrapur Unit 4	27-05-2021	1.58	28-05-2021	6.46	FORCED	Condenser Vacuum Low.
Chandrapur Unit 4	28-05-2021	19.33	31-05-2021	15.27	FORCED	PA Fan problem
JSW (J) U4	29-05-2021	8.06	31-05-2021	10.27	FORCED	CW DUCT Water Leakage.
SWPGPL U-3	29-05-2021	14.58	29-05-2021	15.56	FORCED	Due To Tripping Of Turbine DEH Oil Pump.
Koradi Unit 9	31-05-2021	21.59	08-06-2021	11.22	FORCED	Boiler Tube Leakage
Bhusawal Unit 5	01-06-2021	5.21	03-06-2021	13.42	FORCED	Boiler Tube Leakage
Chandrapur Unit 9	01-06-2021	23.57	05-06-2021	0.58	FORCED	Boiler Validity Renovation
RPL(AMT) U-5	02-06-2021	14.29	05-06-2021	9.13	FORCED	Bottom ash problem
Chandrapur Unit 4	03-06-2021	23.2	05-06-2021	13.37	FORCED	Air heater problem
Paras Unit 3	07-06-2021	16.21	08-06-2021	8	FORCED	GT-1 CT Replacement Work.
Parli Unit 8	07-06-2021	11.56	07-06-2021	14.44	FORCED	Due To Loss Of Oil Fuel.
Parli Unit 8	08-06-2021	0.3	07-07-2021	23.11	FORCED	Zero Schedule.
Bhusawal Unit 3	08-06-2021	0.34		Continued.	FORCED	Zero Schedule.
SWPGPL U-3	08-06-2021	0.24	05-07-2021	23.22	FORCED	Zero Schedule.
SWPGPL U-4	08-06-2021	0.04	24-06-2021	19.49	FORCED	Zero Schedule.
Koradi Unit-8	08-06-2021	13.15	21-06-2021	0.16	FORCED	Boiler Tube Leakage
Chandrapur Unit-8	08-06-2021	20.14	11-06-2021	19.03	FORCED	Boiler Tube Leakage
Chandrapur Unit 3	08-06-2021	10.59	15-06-2021	16.52	FORCED	Boiler Tube Leakage
JSW (J) U4	09-06-2021	0.01	18-06-2021	11.32	FORCED	CW Duct leakage
Paras Unit 3	10-06-2021	16	23-06-2021	12.52	FORCED	Zero scheduled given by MSEDCL
Paras Unit 4	10-06-2021	17	05-07-2021	2.49	FORCED	zero scheduled given by MSEDCL
Dhariwal	11-06-2021	5	12-06-2021	4.02	FORCED	Zero Schedule Given By MSEDCL.
Bhusawal Unit 4	11-06-2021	16.11	02-07-2021	17.12	FORCED	Zero Schedule By MSEDCL
Bhusawal Unit 5	11-06-2021	16.35	02-07-2021	16.25	FORCED	Zero Schedule By MSEDCL
Uran Unit 8	12-06-2021	11.17	13-06-2021	17.38	FORCED	Bus 1 Tripped on LBB
Uran Unit B0	12-06-2021	11.17	13-06-2021	22.33	FORCED	Bus 1 Tripped on LBB
Dhariwal	15-06-2021	18.22	16-06-2021	1.08	FORCED	Due To BUS Fault.
Khaparkheda Unit 3	17-06-2021	2.54	23-06-2021	0.34	FORCED	Zero Schedule.
Khaparkheda Unit 2	17-06-2021	0.27	22-06-2021	23.15	FORCED	Zero Schedule.
Uran Unit 5	17-06-2021	2.42	24-06-2021	8.52	FORCED	Stator earth fault.
Khaparkheda Unit 4	17-06-2021	15.54	23-06-2021	1.4	FORCED	Zero Schedule.
Chandrapur Unit 5	19-06-2021	20.35	20-06-2021	22.49	FORCED	Heater spray problem.

JSW (J) U2	20-06-2021	4.3	08-07-2021	11.14	FORCED	Generator maintenance work.
Chandrapur Unit 5	22-06-2021	4.38	22-06-2021	11.58	FORCED	Unit Board supply failure.
Paras Unit 3	23-06-2021	13.07	23-06-2021	14.52	FORCED	Loss of AC Supply.
Uran Unit 6	23-06-2021	16.1	29-06-2021	12.4	FORCED	Gas shortage
Uran Unit A0	23-06-2021	16.1	24-06-2021	13.38	FORCED	Gas shortage
Trombay 8	23-06-2021	20.2	23-06-2021	23.58	FORCED	PA Fan problem
RPL(AMT) U-2	24-06-2021	10	24-06-2021	17.36	FORCED	Hotspot On Isolator.
SWPGPL U-2	25-06-2021	1.22	05-07-2021	22.53	FORCED	ID Fan High Vibration. (Unit under zero schedule from 04.00 hrs on dt. 25.06.2021.)
Nasik Unit 4	28-06-2021	16.45	28-06-2021	22.43	FORCED	Rotor Earth fault.
Nasik Unit 4	28-06-2021	23.45	29-06-2021	16.52	FORCED	HP heaters level high.
Trombay 8	29-06-2021	9.12	07-07-2021	8.57	FORCED	Boiler Tube Leakage
Khaparkheda Unit 4	29-06-2021	19.58	30-06-2021	9.15	FORCED	Generator Protection operated
Uran Unit 6	29-06-2021	22.18		Continued.	FORCED	Gas shortage
Koyna STG-IV Unit-4	30-06-2021	21.5	30-06-2021	22.3	FORCED	Turbine oil Leakage

Annexure 2.6

PLANNED OUTAGE

Generating Company	Name of Unit	Date Trip	Time Trip	Date Sync	Time Sync	Outage Type	Reason
MSPGCL	Koyna STG-IV Unit-4	15-04-21	12	18-04-21	11.45	PLANNED	Spiral case air drain valve replacement work
MSPGCL	Koyna Unit 6	22-04-21	12	25-06-21	18.1	PLANNED	UGC Oil Cooler Leakage. (Converted to Capital Overhaul from 08.00Hrs DT.23-4-2021)
MSPGCL	Chandrapur Unit 4	16-03-21	8.08	27-05-21	9.01	PLANNED	Boiler Tube Leakage (converted to Capital overhaul)
MSPGCL	Khaparkheda Unit 1	11-06-21	23.58	12-07-21	22.54	PLANNED	Annual Overhaul

Annexure 2.7

Elements under Long outages

Sr. No.	Voltage rating	Name of the Line Reactors	MVAR	Date of failure	STATUS
1	400kV	400kV Chandrapur 1-Parli 3 (Chandrapur 1 end)	50	21.09.2016	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.

2	400kV	400kV Chandrapur 2Nanded 1 (Chandrapur 2 end)	50	29.01.2018	However, considering the importance & urgency of requirement, the scheme for installation of new 50MVAR Reactor is approved vide BR No 143/15 dated 09.10.2020. MERC approval is received and tenderization is in process for procurement of 50MVAR Reactors.
3	400kV	400kV Chandrapur 2-Nanded 2	50	09.08.2018	
4	400kV	400kV Dhule S/S-SSP-1 (CSR)	50	23.12.2016	M/s BHEL 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.
5	400kV	400kV Dhule S/S-SSP-2 (CSR)	50	27.05.2017	
6	400kV	400kV Karad – Lonikand (CSR)	80	14.09.2017	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 will be attended by M/s BHEL
7	400kV	400KV 50MVAR Bus Rector at Khadka ss	50	10.11.2018	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.
8	400kV	400kV Babhaleshwar	80	26.06.2019	The Reactor was inspected on site by M/s CGL Ltd on 02.07.2019. M/s. CGL was requested for submission of offer for repairs of said Reactor. 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. DPR for MERC In-principle approval is in process.
9	400KV	400kV Kharghar Bus Reactor	80	04.06.2020	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 in process.
10	400KV	315MVA ICT - 1	315	10.08.2020	Argumentation work i.e., 315MVA ICT into 500MVA ICT

Annexure 2.8

Koyna Lake Level in Ft.			
Month	Apr-21	May-21	Jun-21
At the end of the month	2101	2074.6	2097.9
Corresponding Figure of the month Last Year	2105.7	2083.8	2080

Annexure 2.9

New Network Addition during April 2021 to June 2021			
Month/Date	Name of substation	Particulars	Date
Apr-21	400kV Dhule	125 MVAR reactor	07.04.2021
May-21	220kV Tuljapur	220kV Tuljapur Lamboti Ckt - I at 19:13 hrs and 220kV Tuljapur Lamboti Ckt - II at 19:46 hrs.	14.05.2021
June-2021	***** NIL	*****	

Annexure 3.0

System Disturbance in the Maharashtra Network for the period April 2021 to June 2021.

Sr. no	SUB-STATION	LINE/EQPT/ BUS AFFECTED	DATE OF TRIPPING	TIME (hrs)	Sync Hrs.	EQUIP. FAILURE	LOAD/GEN. AFFECTED (approx.)	REASONS OF FAILURE
1	400KV Koyna Stg. 4	400KV Loniknad-Stage 4 and unit 2 and 3	12.04.2021	15:39	22:30	NIL	NIL	Due to heavy rain & lighting 11 Kv Station supply was not available. Lonikand II line tripped at 15:39 hrs & due to jerk U1, U2, U3 & U4 400kv breaker tripped. Due to this complete Ac supply of station failed. Due to this failure of AC supply & tripping of UPS on its internal fault complete PLC
2	400kv Akola	Bus bar operated Tripping of 1.400 kV Akola Bus 1 2.400 kV Akola-Bhusawal 3.400 kV Akola-Nandgaonpeth 4.400 kV Akola-Akoal(2) D/C	29.04.2021	19:48	20:33	NIL	NIL	At 19:48 Hrs on 29-04-21, 400 kV Akola Bus 1 tripped on BB protection operation due to sparking in 410 89A Bphase (Main Bay) isolator of 400 kV Akola Bhusawal line. 400 kV Akola-Akola (2) 1&2 should have been remained in service through tie bays but tie bays tripped during the event and resulted in tripping of these lines. 400 kV Akola-Nandgaonpeth & 400 kV Akola-Bhusawal also tripped as the tie bays were already in open condition due to the outage of 400 kV Akola-Wardha 1&2 for diversion works.
3	220kv Nashik	B phase LA of 220 kV Padghe line blasted at Nashik substation	01.05.2021	8:51	9:25	01.05.2021	-	B phase LA of 220 kV Padghe line blasted at Nashik substation and resulted in tripping of all the elements connected to 220 kV Bus. Tripping of: 1.220 kV Nashik-Navsari 1&2 2.220 kV Nashik-Padghe. 3.220 kV Nashik-Raymond 4.220/132 kV Nashik ICTs 3,4&5
4	220KV Uran	Bus section 1 and 2	03.05.2021	15:45	16:45	NIL	16MW Uran	On 03.05.2021 @ 15:45 hrs. at 220/2 kV Uran Sub-Station, 220 kV Apta-4 feeder Y-ph Bus insulator string above CT and line isolator broken and fell on Y-ph breaker pole structure and then Y-ph line isolator structure and Bus bar protection operation correctly on Zone-A.
5	132KV Hingana	Mankapur -Hingna and Ambazari - Hingna lines tripped.	09.05.2021	15:19	15:30	NIL	76.69 MW	Distance Protection operated.

6	220KV Osmanabad	220KV Bus bar operated	01.06.2021	20:15	20:57	NIL	131MW	LBB initiation to 220kV Busbar relay remain high because, during Aux Trials only 86-4 was reset and 86-8 remain operated which leads operation of 220 kV BusBar.
7	400KV Warora	All lines tripped in Z2 at remote end	15.06.2021	18:22	22:45	NIL	NIL	400kV C'pur2 Ckt 2 Y-ph line CVT jumper found disconnected and comes in induction zone of R-ph.
8	220KV Kalwa	100KV Creek side Bus	21.06.2021	15:15	15:36	NIL	26MW	Y ph line fault occurred on 100KV Kalwa-Nocil 2line, LBB operated.

Annexure 4.1

Status of Reactors

Sr. No.	Name of Sub-Station	Capacity (MVAr)	Status
1	400 kV Nanded	1 x 125	LOA issued 21.11.19.Site handed over 13.12.19 Work completed – civil 83% Electrical 0%
2	400 kV Lonikand – II	1 x 125	LOA issued 21.11.19 . Site handed over 20.01.2021. Work completed – civil 90% Electrical 80%
3	400 kV Bhusawal – II	1 x 125	LOA issued 06.12.19. Site handed over 22.01.2021. Work completed – civil 100% Electrical 100%
4	400 kV Chandrapur II	1 x 125	Commissioned on 31.03.2021
5	400 kV Koradi – II	1 x 125	LOA issued 21.11.19.Reactor recd. 22.03.19 BHEL. Work completed – civil 85% Electrical 50%.
6	400 kV Dhule	1 x 125	Commissioned on 07.04.2021
7	400 kV Akola	1 x 125	LOA issued 06.12.19 . Site handed over 18.01.2021 Work completed- civil 63% Electrical 40%
8	400 kV Khaperkheda	1 x 125	LOA issued 21.11.19. Work completed- civil 87% Electrical 57%
Commissioned			
1	400 kV Karad	1 x 125	26.10.2017
2	400 kV Kolhapur	1 x 125	07.02.2018
3	400 kV Solapur (Lamboti)	1 x 125	20.03.2018

Annexure 4.2
Status of Transmission Schemes

Sr. No.	Name of the Scheme	CoD	Status
1	400 kV Bableshwar -Kudus D/C (Quad)	June-21	Forest clearance awaited, severe ROW problem.
1	400 kV D/C Jejuri-Hinjewadi Line (Jejuri Wainjhar) Package-1.	Dec-21	50% work done approx. and for balance work tender is floated by C.O.
2	400 kV D/C Jejuri-Hinjewadi Line (Jejuri Wainjhar) Package-2.	Dec-21	
3	LILO on another Ckt. Of 400kV Bhusawal 2 - Aurangabad 1 for Thaptitanda.	Mar-21	50% work done approx. and for balance work LOA issued to new agency by C.O.

Annexure 4.3
Status of MMR and Mumbai Transmission Schemes

Sr. No	Name of the Scheme	CoD	Status
1	220 kV Kalwa Trombay HTLS conversion	Dec.-20	WIP Extra Item proposal for rusted tower replacement work at location No.: 72 in BRC area is pending at CO.
2	220 kV Mulund Trombay HTLS conversion	Dec.-20	
3	220 kV Boisar PG - Boisar (M) D/C HTLS conversion (Tr. O&M)	Mar-22	Tender work completed and LoA given to the agency. LoA No: 520, dated 10.03.2021, given to M/s Rahul Agency.
4	LILO of 220 kV Boisar – Ghodbunder & Tarapur – Borivali at Kudus. (Twin AAAC) - 10 km	Mar-21	Foundations: - 85/124 Erection: - 50/124 Stringing: - 0 / 27 KM. WIP, Expected COD Dec- 21.
5	100-120 MVAR Reactor at 220 kV Gorai EHV S/s (New)	Aug-22	MERC approved Scheme 'WIP.
6	Installation at 220 kV, 40 MVAR reactor at Karanjade	Mar-22	Order Placement for major packages are completed. Manufacturing clearance for 40MVA reactor has been issued.

7	Installation at 110 kV, 10 MVAR reactor at Karanjade	Mar-22	Order placement for major packages is in process.
8	Installation of 220 kV, 125 MVAR reactor at Salsette	Mar-22	Order placement for major packages to be initiated.