

State Load Despatch Center, Airoli (MSETCL) Statement I
Daily system Report for 15/Jul/2024 MONDAY

I GENERATION (MUs)			II EXCHANGES (MUs)		
A) MSPGCL	Daily	Monthly	E) InterState Exchanges	Daily	Monthly
1) Thermal	149.947	2076.056	1) Gujrat	-2.899	12.078
2) Hydro	9.228	95.726	2) Madhya Pradesh	-2.736	17.787
3) Gas	6.333	97.645	3) Chattisgarh	0.840	12.210
Total MSPGCL	165.508	2269.427	4) Maharashtra	162.797	2264.822
B) 1) APLM	45.081	845.453	5) Goa (Amona)	-2.104	-28.106
2) JSWEL	19.302	292.878	Total	155.898	2278.791
3) VIPL	0.000	0.000	a) Mumbai Schedule	31.190	534.535
4) RPL(AMT)	24.612	344.745	b) Mumbai Drawl	35.200	582.356
5) SWPGPL	9.703	173.686	c) MSEDCL Bilateral *	92.217	1382.587
6) Other IPP	11.859	183.685	Include PX	0.000	0.000
7) PGPL	0.000	0.000	d) Mumbai Bilateral *	31.190	534.535
C) 1) TPCL Thermal	11.787	175.079	Include PX	0.000	0.000
2) TPCL Hydro	5.538	71.220	Standby	0.000	0.000
3) TPCL Gas	4.132	58.094	H) ENERGY CATERED (MUs)		
4) AEML Thermal	10.732	145.688	1) MSEDCL	421.348	6523.687
D) STATE			2) Mumbai Discoms	67.389	1032.435
1) Thermal	283.023	4237.270	3) Other Discoms	11.933	170.141
(A1+C1+C4+(B1-B6))			TOTAL STATE	500.670	7726.263
2) Hydro	14.766	166.946			
(A2+C2)					
3) Gas	10.465	155.739			
(A3+B7+C3)					
4) Wind	26.840	680.250			
6) SOLAR	9.678	207.269			
TOTAL STATE	344.772	5447.474			

* Displayed for information, not added in total.

DETAILS OF MAHARASHTRA STATE PEAK DEMAND(MW) Statement II

PARTICULARS	A. Morning Peak at 10 Hrs	B. Day Peak at 13 Hrs	C. Evening Peak at 20 Hrs	D. Night Minimum at 3 Hrs
MSPGCL Thermal	6504	5451	6771	5965
MSPGCL Hydro	328	166	1673	181
MSPGCL Gas	260	263	263	265
MSPGCL Total Generation	7092	5880	8707	6411
Central Sector Receipt	7808	7772	6274	5144
WIND	1213	1305	968	1035
CPP / IPP Thermal	4370	3987	5386	4194
CPP / IPP Gas	0	0	0	0
SOLAR	833	1286	0	0
Exchange with Mumbai	-1958	-2033	-1355	-953
MSEDCL DEMAND MET	18836	17717	19463	15462
Load Shedding	0	0	0	0
MSEDCL DEMAND	18836	17717	19463	15462
TPCL GENERATION	832	834	1204	743
AEML GENERATION	426	474	466	483
MUMBAI DEMAND	3216	3341	3025	2179
OTHER DISCOM DEMAND	522	480	517	369
STATE DEMAND MET	22574	21538	23005	18010
STATE DEMAND	22574	21538	23005	18010
Frequency (Hz)	50.05	50.03	49.94	49.97

FREQUENCY PARTICULARS

MAXIMUM FREQ.	MINIMUM FREQ.	AVERAGE FREQ.	FREQ. BELOW 49.4 Hz
50.24 Hz at 13.03 Hrs	49.72 Hz at 06.10 Hrs	49.99	0 % of Time(min)

Note : The report is based on Operational Data and is for statistical purpose only.

Daily and Progressive Generation,Maximum,Minimum for 15/Jul/2024

Generating unit	Generation			
	Daily (Mus)	Monthly (Mus)	Max (MW)	Min (MW)
Koradi				
Unit 6	4.08	60.13	181	149
Unit 8	11.59	171.37	548	366
Unit 9	12.12	174.62	565	388
Unit 10	12.78	128.64	565	420
Total	40.57	534.76		
Bhusawal				
Unit 3	3.32	49.15	170	125
Unit 4	9.63	11.52	495	295
Unit 5	9.37	145.34	480	285
Total	22.32	206.01		
Parli				
Unit 6	3.72	57.95	185	140
Unit 7	3.78	57.36	194	144
Unit 8	3.73	56.45	188	144
Total	11.23	171.76		
Chandrapur				
Unit 3	3.32	39.73	155	123
Unit 4	3.38	49.50	160	127
Unit 5	7.14	116.74	400	245
Unit 6	7.30	113.84	350	260
Unit 7	7.36	98.62	386	262
Unit 8	9.82	134.83	435	310
Unit 9	0.00	88.09	0	0
Total	38.33	641.36		
Paras				
Unit 3	0.00	0.00	0	0
Unit 4	4.97	72.96	241	145
Total	4.97	72.96		
Khaparkheda				
Unit 1	3.68	47.56	165	120
Unit 2	4.27	58.69	206	124
Unit 3	3.79	50.38	172	130
Unit 4	3.85	42.91	188	133
Unit 5	9.68	157.80	480	320
Total	25.26	357.33		
Nasik				
Unit 3	0.00	28.42	0	0
Unit 4	3.84	32.86	183	126
Unit 5	3.42	30.60	164	122
Total	7.26	91.89		
Uran				
All Units	6.33	97.64	268	260
Total	6.33	97.64		
PGPL				
Unit 1	0.00	0.00	0	0
Unit 2	0.00	0.00	0	0
Total	0.00	0.00		
PENCH (MS)				
Pench (MS)	0.00	0.00	0	0
Total	0.00	0.00		
Koyna				
Stage 1-2	1.38	18.06	375	0

Generating unit	Generation			
	Daily (Mus)	Monthly (Mus)	Max (MW)	Min (MW)
Stage 4	1.72	17.12	773	0
Stage 3	2.36	15.13	160	0
Total	5.46	50.31		
Hydro				
KDPH	0.06	0.12	10	0
VTRNA	0.33	1.34	60	0
TILLARI	0.26	0.36	50	0
BHIRA T.R.	0.37	5.30	80	0
SMLHY_PTN	2.15	34.81	92	81
GHATGHAR	0.59	3.49	125	0
Total	3.77	45.41		
Wind				
Total	26.84	680.25	0	0
Total	26.84	680.25		
CPP				
APML(Mus)	45.08	845.45	0	0
JSWEL(Mus)	19.30	292.88	0	0
VIPL(Mus)	0.00	0.00	0	0
RPLAMT-Mus	24.61	344.74	0	0
SWPGPL-Mus	9.70	173.69	0	0
Dhariwal	0.00	0.00	0	0
IEPL	5.48	80.13	268	172
Other(Mus)	2.06	31.49	0	0
JPL	4.32	72.06	260	133
Total	110.56	1840.45		
SOLAR				
Total	9.68	207.27	0	0
Total	9.68	207.27		
Tata				
Trombay 5	7.85	114.27	431	262
Trombay 6	0.00	0.00	0	0
Trombay 7A	2.59	35.99	108	108
Trombay 7B	1.54	22.10	65	64
TATA Hydro	5.54	71.22	405	109
Trombay 8	3.94	60.81	226	131
Total	21.46	304.39		
AEML				
DTPS U-1&2	10.73	145.69	494	358
Total	10.73	145.69		

* Infirm Power			Summary			Summary		
Particulars	Daily (Mus)	Monthly	Particulars	Daily (Mus)	Monthly (Mus)	Particulars	Daily (Mus)	Monthly (Mus)
			MSPGCL Thermal	149.95	2076.06	MSPGCL Total	165.51	2269.43
			MSPGCL Thml+Gas	156.28	2173.70	Koyna 1,2 & 4 Total	3.10	35.19
			MSPGCL Hydro	9.23	95.73	State Total	344.77	5447.47

State Load Despatch Center,Airoli (MSETCL)

Annexure-2

Hourly Load Data As on 15/Jul/2024

TIME SR. NO.	MSPGCL GEN.			TOTAL	WIND	CPP / IPP		SOLAR	CS SHARE	CS RECPT	Mum. NET EXCH.	MSEDC L DEM. MET	Load Shedding		MSEDC L DEM. WITH LS	MUMBAI DEMAND	OTHER DISCOM DEMAND	STATE DEMAND	FREQ. (Hz)
	THM	HY	GAS			THM	GAS						Planned	*Transmission Constraint					
1	6127	181	265	6573	1216	4349	0	0	5735	5283	-996	15973	0	0	15973	2516	452	18941	50.00
2	6036	181	264	6481	1207	4224	0	0	5643	5212	-1034	15662	0	0	15662	2312	428	18402	49.97
3	5965	181	265	6411	1035	4194	0	0	5597	5144	-953	15440	0	0	15440	2179	391	18010	49.97
4	5894	181	264	6339	1033	4100	0	0	5606	5393	-931	15534	0	0	15534	2097	400	18031	49.95
5	6342	181	263	6786	1133	4309	0	0	5766	5177	-963	16037	0	0	16037	2093	405	18535	50.04
6	6602	185	264	7051	1202	4563	0	3	6159	5759	-1012	17113	0	0	17113	2194	453	19760	49.95
7	6629	213	264	7106	1297	5052	0	75	6604	6441	-1184	18301	0	0	18301	2364	486	21151	49.88
8	6363	300	265	6928	1440	4928	0	297	6919	6856	-1410	18531	0	0	18531	2599	508	21638	49.98
9	6480	287	262	7029	1316	4537	0	630	7440	7579	-1779	18789	0	0	18789	2945	523	22257	50.06
10	6504	328	260	7092	1213	4370	0	833	7781	7808	-1958	18811	0	0	18811	3216	547	22574	50.05
11	6194	292	263	6749	1201	4146	0	1154	8222	7845	-2100	18472	0	70	18472	3392	523	22387	49.99
12	5944	250	265	6459	1202	3987	0	1226	8141	7615	-2071	17896	0	87	17896	3413	522	21831	49.96
13	5451	166	263	5880	1305	3987	0	1286	7971	7772	-2033	17691	0	0	17691	3341	506	21538	50.03
14	5231	90	261	5582	1394	4007	0	1215	7402	7523	-1961	17261	0	0	17261	3177	499	20937	50.00
15	5759	90	261	6110	1338	4045	0	1146	7673	7026	-1915	17250	0	0	17250	3173	500	20923	49.92
16	5616	132	262	6010	1376	4038	0	876	7501	7450	-1892	17335	0	0	17335	3164	523	21022	50.05
17	6255	174	264	6693	1300	4348	0	627	7079	7139	-1805	17777	0	0	17777	3113	525	21415	49.99
18	6487	271	263	7021	1136	4994	0	285	6991	6803	-1780	17910	0	0	17910	3054	549	21513	50.00
19	6783	717	264	7764	1049	5354	0	25	6773	6707	-1631	18701	0	0	18701	3019	567	22287	50.00
20	6771	1673	263	8707	968	5386	0	0	6347	6274	-1355	19440	0	0	19440	3025	540	23005	49.94
21	6730	1377	266	8373	874	5347	0	0	6147	5986	-1296	18747	0	0	18747	2927	537	22211	49.99
22	6751	986	266	8003	546	5426	0	0	5999	5786	-1135	18096	0	0	18096	2782	530	21408	50.01
23	6563	487	268	7318	529	5405	0	0	5968	5859	-1044	17550	0	0	17550	2690	517	20757	49.99
24	6470	305	268	7043	530	5461	0	0	6027	5461	-962	17030	0	0	17030	2604	503	20137	50.04
MUs	149.95	9.23	6.33	165.51	26.84	110.56	0.00	9.68	161.49	155.90	-35.20	421.35	0.00	0.16	421.35	67.39	11.93	500.67	49.99

NOTE : ALL VALUES IN MW

Mumbai Net Exch is shown with reference to MSETCL system and (-) sign indicates MSETCL periphery to Mumbai system.

*Load Shedding due to Transmission Constraint :-

BBLR-1&2 reaches upto 750Amp/262MW.

State Load Despatch Center,Airoli (MSETCL) Statement-VI
Details of Generating Unit Outages/Trippings for 15/Jul/2024

Position as on 6.30 Hrs of 16/Jul/2024

Generating Company	Name of Generating Unit	Capacity	Tripped Date	Tripped Time	Sync.Date	Sync. Time	Reason of Outage	Expected Date
PLANNED OUTAGE								
MSPGCL								
MSPGCL	Paras Unit 3	250	30/06/2024	22:35		Continued.	Annual Overhaul	14/08/2024
MSPGCL	Koyna Unit 5	80	02/07/2024	11:00		Continued.	PLC upgradation work	27/07/2024
MSPGCL	Koyna Unit 1	70	10/07/2024	08:00		Continued.	Governer replacement work.	07/08/2024
Total Capacity MSPGCL		400						
IPP								
IPP	RPL(AMT) U-1	270	01/07/2024	07:00		Continued.	Annual Overhaul	01/08/2024
IPP	Adani U-2	660	15/07/2024	00:00		Continued.	Annual Overhaul	07/08/2024
Total Capacity IPP		930						
Total Capacity PLANNED OUTAGE		1330						
FORCED OUTAGE								
MSPGCL								
MSPGCL	Uran Unit A0	120	07/09/2022	16:30		Continued.	TURBINE TRIPPED ON HIGH VIBRATIONS	31/08/2024
MSPGCL	Ghatghar Unit-2	125	26/05/2024	13:17		Continued.	Stator Earth Fault	26/07/2024
MSPGCL	Chandrapur Unit 9	500	10/07/2024	17:44	15/07/2024	23:59	Boiler Tube Leakage	15/07/2024
MSPGCL	Khaparkheda Unit 3	210	16/07/2024	01:53		Continued.	Boiler Tube Leakage	
MSPGCL	Chandrapur Unit 6	500	16/07/2024	03:28		Continued.	Boiler Tube Leakage	
Total Capacity MSPGCL		1455						
IPP								
IPP	SWPGPL U-3	135	13/07/2024	23:54	15/07/2024	05:41	Boiler Tube Leakage	17/07/2024
IPP	SWPGPL U-3	135	15/07/2024	09:05	15/07/2024	19:08	Bottom ring header valve leakage.	
IPP	JPL Unit 1	150	15/07/2024	19:38		Continued.	Ash Conveyer problem	
Total Capacity IPP		420						
CENT.SECTOR								
CENT.SECTOR	Tarapur 1	160	08/01/2020	10:37		Continued.	Refueling. While refueling preparation, some repair works identified which are being executed before refueling.	30/12/2024
CENT.SECTOR	Tarapur 2	160	13/07/2020	04:38		Continued.	For cleaning of clogged basket strainer of cooling water system due to heavy ingress of debris from sea. The outage extended for repair and re-fueling.	30/11/2024
Total Capacity CENT.SECTOR		320						
Total Capacity FORCED OUTAGE		2195						
UNIT UNDER ZERO SCHEDULE / RSD								
MSPGCL								

State Load Despatch Center,Airoli (MSETCL) Statement-VI
Details of Generating Unit Outages/Trippings for 15/Jul/2024

Position as on 6.30 Hrs of 16/Jul/2024

Generating Company	Name of Generating Unit	Capacity	Tripped Date	Tripped Time	Sync.Date	Sync. Time	Reason of Outage	Expected Date
MSPGCL	Uran Unit 6	108	04/07/2024	23:59		Continued.	No Schedule by MSEDCL.	
MSPGCL	Uran Unit 5	108	13/07/2024	20:30		Continued.	No schedule	
Total Capacity MSPGCL		216						
IPP								
IPP	JSW (J) U2	300	01/07/2024	01:12		Continued.	Non availabilty of load schedule	
Total Capacity IPP		300						
Total Capacity UNIT UNDER ZERO SCHEDULE / RSD		516						
UNIT OUT ON TOLLING *								
MSPGCL								
MSPGCL	Nasik Unit 3	210	13/07/2024	17:03		Continued.	Some internal problem (UNDER TOLLING FROM 07:04HRS, FROM DT.14.07.2024)	
Total Capacity MSPGCL		210						
Total Capacity UNIT OUT ON TOLLING *		210						
FORCED OUTAGE DUE TO NO PPA								
IPP								
IPP	PGPL U2	126	07/02/2017	17.30		Continued.	No Schedule.(NO PPA)	
IPP	PGPL U1	262	07/02/2017	17.30		Continued.	No Schedule (NO PPA)	
IPP	VIPL U-1	300	29/12/2018	00.30		Continued.	Coal Shortage. (NO PPA From 20.05.2019)	
IPP	VIPL U-2	300	17/01/2019	00.15		Continued.	Coal shortage.(NO PPA From 20.05.2019)	
Total Capacity IPP		988						
Total Capacity FORCED OUTAGE DUE TO NO PPA		988						

* Other generator generating power instead of contracted genertaor with tri-party agreement in between generatos & discom (Case-IV bidding)

State Load Despatch Center, Airoli (MSETCL)
Details of Line outages/Trippings for 15/Jul/2024

Statement-VII

Position as on 6.30 Hrs of 16/Jul/2024

Name of Line	Inter State / Intra State	Tripped Date	Tripped Time	Sync. Date	Sync. Time	Outage Type	Reason of Outage
400 KV LINE Outages/Trippings							
KARAD - SOLAPUR (PG)	InterState	15/07/2024	09:53			PO	Replacement of Complete Relay panel including replacement cables from Yard to Panel.
CHAKAN - TALEGAON(PG)	InterState	15/07/2024	23:03	16/07/2024	01:47	HT	Emergency outage by powergrid
KORADI 2-WARDHA (PG)	InterState	16/07/2024	07:03			PO	Diagnostic Testing of Line CVT BY 400kV Koradi-2 substation and LINE MAINT. WORKS by LMU Koradi
BUS REACTOR (50MVAR) @ PARLI	IntraState	27/09/2023	15:30			PO	Replacement of old 50 MVar bus reactor by new 125 MVar bus reactor.
AURANGABAD(MS) - PUNE (GIS) CKT - 1	IntraState	11/07/2024	11:57			HT	For load management
400 KV ICT Outages/Trippings							
STATION TF No 3 @ CHANDRAPUR GCR	IntraState	01/03/2023	15:07			PO	1) Oil filtration work 2) Testing of Station transformer 3) Preventive maintenance work.
400/220KV 500 MVA ICT - 3 @ VIKHROLI GIS	IntraState	10/02/2024	17:40			HT	H/T For LV only.
400/132 KV 200 MVA ICT - 2 @ KHADKA	IntraState	03/06/2024	23:26			T	Differential protection
400/220KV 500 MVA ICT - 2 @ VIKHROLI GIS	IntraState	22/06/2024	00:07			HT	H/T LV side only.
400/11kV STN-4B @ DEEPNAGAR	IntraState	13/07/2024	16:10			EO	For E/M for checking, cleaning and oil filtration work on STN-4B by M/s MSPGCL
400/220KV 105 MVA SPARE ICT @ KHADKA	IntraState	14/07/2024	11:24			T	Tripped on winding temperature high
400KV/21KV GT-2 @ TIRODA	IntraState	15/07/2024	09:02			PO	GT-2 Maintenance, testing and painting work. Main bay and Tie bay equipment maintenance work
400/220KV 167 MVA SPARE ICT - 2 @ BABHALESHWAR	IntraState	15/07/2024	15:46	15/07/2024	17:20	EO	For Air release and Visual Inspection of newly commissioned ICT (DOC 13.07.2024 @17:17hrs) at 400KV Babhaleshwar
400/220/33 KV 315 MVA ICT - 3 @ PADGHE	IntraState	16/07/2024	02:52	16/07/2024	04:49	T	OLTC Buchholz.
220 KV MAINBAY Outages/Trippings							
220KV BUS SECTION BAY @ PEDAMBE	IntraState	03/04/2024	15:55			T	Tripped due to Y ph CT burst
220 KV LINE Outages/Trippings							
BALE - SOLAPUR (PG)	InterState	19/06/2024	08:56			PO	1) Outage is required for Project work for Balance foundation, erection & stringing work of 220 kV Bale-PGCIL M/C portion (From Loc No 17A-37 A) 2) 220 kV Bale-PGCIL arrangement will be changed from 220 kV PG-Dharashiv (Osmanabad). (Bunching arrangement at Loc. No. 37)
MAIN BUS - 1 @ GORAI	IntraState	28/05/2024	17:59			T	Bus Fault
EKLAHARE (OCR) - NAVASARI CKT - 2	IntraState	17/06/2024	12:50			HT	For load management
OSMANABAD - SOLAPUR (BALE)	IntraState	19/06/2024	09:15			PO	1) Outage is required for Project work for Balance foundation, erection & stringing work of 220 kV Bale-PGCIL M/C portion (From Loc No 17A-37 A) 2) 220 kV Bale-PGCIL arrangement will be changed from 220 kV PG-Dharashiv (Osmanabad). (Bunching arrangement at Loc. No. 37)

State Load Despatch Center,Airoli (MSETCL)
Details of Line outages/Trippings for 15/Jul/2024

Statement-VII

Position as on 6.30 Hrs of 16/Jul/2024

Name of Line	Inter State / Intra State	Tripped Date	Tripped Time	Sync. Date	Sync. Time	Outage Type	Reason of Outage
ALEPHATA-PARGAON(KATHAPUR)	IntraState	02/07/2024	14:56			HT	For controlling loading of Kharghar - Talegaon PG.
EKLAHARE (OCR) - PADGHE	IntraState	13/07/2024	17:30			HT	For load management
220 KV KAULEWADA-KORADI 2 CKT - II	IntraState	15/07/2024	07:19	15/07/2024	13:58	HT	1. for fixing of bird flight diverter at span 306 to 319.
EKLAHARE (OCR) - NAVASARI CKT - 1	IntraState	15/07/2024	08:54	15/07/2024	12:50	HT	H/T For load management from Navsari end only.
ONI KHAREPATAN LINE	IntraState	15/07/2024	11:36	16/07/2024	09:30	EO	For attending Earth Leakage.
220 KV NEW KHAPERKHEDA (400 KV)-220KV OLD KHAPERKHEDA CKT 1	IntraState	15/07/2024	11:51	15/07/2024	16:30	HT	The diagnostic measurement works to be carried out cvts tan delta, capacitance & CB IR.
KANHAN-BHANDARA 1	IntraState	15/07/2024	19:09	15/07/2024	19:19	T	D/P,YPH,Z1,9.7KM,6.53KA.
HINJAWADI I- CHINCHWAD	IntraState	15/07/2024	22:27	16/07/2024	05:56	HT	Load Management.
ADLABS - PEDAMBE	IntraState	16/07/2024	08:45			EO	Attending Y Phase line side isolator to transfer bus isolator, badly damaged jumper replacement work.
220 KV ICT Outages/Trippings							
220/33kv 125 MVA TF 2 @ GORAI	IntraState	28/05/2024	17:59			T	Bus Fault
220/132KV 100MVA ICT-2 @ WALCHANDNAGAR	IntraState	21/06/2024	12:50			PO	Augmentation of 100 MVA ICT-02 with 200 MVA ICT
220/132 KV 100 MVA ICT 1	IntraState	12/07/2024	13:35			PO	Augmentation of 220/132kv 100MVA to 220/132kv 200MVA
220/100 KV 100 MVA ICT 1 @ KANDALGAON	IntraState	15/07/2024	05:28			T	Differential Protection
220/100 KV 100 MVA ICT 2 @ KANDALGAON	IntraState	15/07/2024	05:28	15/07/2024	06:58	T	Through fault
220/33KV 50MVA PTR 1 @ 5 STAR MIDC, KAGAL	IntraState	15/07/2024	10:25	15/07/2024	13:05	PO	for diagnostic testing and quarterly maintenance work on dt. 15.07.2024
220/33KV 25MVA PTR 1 @ HALKARNI	IntraState	15/07/2024	10:46	15/07/2024	12:51	PO	QM work & attending hot-spot of LV CT CB side B-ph
220/132 KV 200 MVA ICT 3 @ BABHLESHWAR	IntraState	16/07/2024	00:51	16/07/2024	05:46	T	Differential protection.
220/33KV 100MVA PTR 2 @ GHATNANDRE	IntraState	16/07/2024	06:55	16/07/2024	08:20	EO	Hot Spot attending work at TF LV Bushing
220/33 KV 50MVA T/F - 2 @ MIRAJ	IntraState	16/07/2024	08:30			PO	Oil leakage attending Work
220/33KV 100MVA PTR 3 @ GHATNANDRE	IntraState	16/07/2024	08:30	16/07/2024	09:52	EO	Hotspot attending work at TF LV Bushing
110 KV LINE Outages/Trippings							
KALWA KALYAN	IntraState	15/07/2024	15:37	15/07/2024	16:13	EO	Bird nest removal at loc. 136

HT : Hand Tripping, T : Tripping, PO : Planned Outage, EO : Emergency Outage