

State Load Despatch Center, Airoli (MSETCL) Statement I
Daily system Report for 28/May/2021 FRIDAY

I GENERATION (MUs)			II EXCHANGES (MUs)		
A) MSPGCL	Daily	Monthly	E) InterState Exchanges	Daily	Monthly
1) Thermal	135.496	3488.012	1) Gujrat	-1.361	-49.576
2) Hydro	26.393	636.918	2) Madhya Pradesh	8.976	271.386
3) Gas	3.484	174.636	3) Chattisgarh	5.670	144.757
Total MSPGCL	165.373	4299.566	4) Maharashtra	147.653	3800.994
B) 1) APLM	30.478	1385.555	5) Goa (Amona)	-0.916	-42.683
2) JSWEL	11.246	500.771	Total	160.022	4124.878
3) VIPL	0.000	0.000	a) Mumbai Schedule	32.490	739.486
4) RPL(AMT)	31.395	834.697	b) Mumbai Drawl	30.253	676.675
5) SWPGPL	8.518	194.621	c) MSEDCL Bilateral *	39.427	1011.188
6) Other IPP	9.669	332.499	Include PX	7.142	138.953
7) PGPL	0.000	0.000	d) Mumbai Bilateral *	32.490	739.423
C) 1) TPCL Thermal	15.738	424.011	Include PX	17.113	330.835
2) TPCL Hydro	6.152	122.185	Standby	0.000	0.063
3) TPCL Gas	0.000	70.751	H) ENERGY CATERED (MUs)		
4) AEML Thermal	6.014	256.344	1) MSEDCL	428.749	11899.839
D) STATE			2) Mumbai Discoms	58.157	1549.967
1) Thermal	248.554	7416.510	TOTAL STATE	486.906	13449.806
(A1+C1+C4+(B1-B6))					
2) Hydro	32.545	759.103			
(A2+C2)					
3) Gas	3.484	245.387			
(A3+B7+C3)					
4) Wind	35.864	703.556			
6) SOLAR	6.437	200.371			
TOTAL STATE	326.884	9324.927			

* Displayed for information, not added in total.

DETAILS OF MAHARASHTRA STATE PEAK DEMAND(MW) Statement II

PARTICULARS	A. Morning Peak at 12 Hrs	B. Day Peak at 14 Hrs	C. Evening Peak at 22 Hrs	D. Night Minimum at 4 Hrs
MSPGCL Thermal	5720	5728	5564	5560
MSPGCL Hydro	536	1386	1460	930
MSPGCL Gas	141	141	144	145
MSPGCL Total Generation	6397	7255	7168	6635
Central Sector Receipt	7945	8018	5956	5805
WIND	1138	886	1396	1658
CPP / IPP Thermal	3602	3816	4007	3744
CPP / IPP Gas	0	0	0	0
SOLAR	826	800	0	0
Exchange with Mumbai	-1440	-1511	-1170	-1069
MSEDCL DEMAND MET	18468	19264	17357	16773
Load Shedding	0	0	0	0
MSEDCL DEMAND	18468	19264	17357	16773
TPCL GENERATION	1007	894	1041	773
AEML GENERATION	251	250	250	251
MUMBAI DEMAND	2698	2655	2461	2093
STATE DEMAND MET	21166	21919	19818	18866
STATE DEMAND	21166	21919	19818	18866
Frequency (Hz)	49.89	50.00	49.94	49.98

FREQUENCY PARTICULARS

MAXIMUM FREQ.	MINIMUM FREQ.	AVERAGE FREQ.	FREQ. BELOW 49.2 Hz
50.23 Hz at 08.01 Hrs	49.63 Hz at 22.39 Hrs	49.97	0 % of Time(min)

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

Shift Engineer

Shift Incharge

Daily and Progressive Generation,Maximum,Minimum for 28/May/2021

Generating unit	Generation			
	Daily (Mus)	Monthly (Mus)	Max (MW)	Min (MW)
Koradi				
Unit 6	0.00	0.00	0	0
Unit 7	0.00	0.00	0	0
Unit 8	0.00	269.56	0	0
Unit 9	13.01	240.00	618	400
Unit 10	11.00	284.19	520	401
Total	24.01	793.74		
Bhusawal				
Unit 3	0.00	13.68	0	0
Unit 4	11.72	280.90	505	310
Unit 5	11.22	305.13	495	335
Total	22.94	599.72		
Parli				
Unit 6	0.00	17.62	0	0
Unit 7	0.00	24.02	0	0
Unit 8	0.00	26.80	0	0
Total	0.00	68.44		
Chandrapur				
Unit 3	3.20	78.88	147	116
Unit 4	1.73	2.35	163	0
Unit 5	10.12	211.74	425	415
Unit 6	9.81	256.52	415	395
Unit 7	0.00	0.00	0	0
Unit 8	11.71	257.72	490	485
Unit 9	10.37	243.38	450	415
Total	46.93	1050.59		
Paras				
Unit 3	5.13	132.22	231	164
Unit 4	5.53	116.79	250	179
Total	10.66	249.01		
Khaparkheda				
Unit 1	2.90	73.60	140	100
Unit 2	3.81	4.66	165	130
Unit 3	4.06	110.50	175	160
Unit 4	4.30	87.40	190	160
Unit 5	11.87	268.86	500	475
Total	26.95	545.02		
Nasik				
Unit 3	0.00	0.00	0	0
Unit 4	4.01	112.28	200	125
Unit 5	0.00	69.21	0	0
Total	4.01	181.49		
Uran				
All Units	3.48	174.64	156	140
Total	3.48	174.64		
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)	0.34	7.08	25	0
Total	0.34	7.08		
Koyna				

Generating unit	Generation			
	Daily (Mus)	Monthly (Mus)	Max (MW)	Min (MW)
Stage 1-2	6.72	134.02	455	35
Stage 4	10.40	244.74	1000	0
Stage 3	3.61	84.04	240	80
Total	20.73	462.79		
Hydro				
KDPH	0.34	18.36	14	14
VTRNA	0.81	23.98	59	0
TILLARI	0.17	13.99	58	0
BHIRA T.R.	0.30	6.37	40	0
SMLHY_PTN	2.84	104.13	134	106
GHATGHAR	1.20	7.28	250	0
Total	5.66	174.12		
Wind				
Total	35.86	703.56	0	0
Total	35.86	703.56		
CPP				
APML(Mus)	30.48	1385.56	0	0
JSWEL(Mus)	11.25	500.77	0	0
VIPL(Mus)	0.00	0.00	0	0
RPLAMT-Mus	31.40	834.70	0	0
SWPGPL-Mus	8.52	194.62	0	0
Other(Mus)	9.67	332.50	0	0
Total	91.31	3248.14		
SOLAR				
Total	6.44	200.37	0	0
Total	6.44	200.37		
Tata				
Trombay 5	10.29	281.76	465	359
Trombay 6	0.00	0.00	0	0
Trombay 7A	0.00	44.76	0	0
Trombay 7B	0.00	25.99	0	0
Trombay 8	5.44	142.25	230	203
TATA Hydro	6.15	122.18	445	24
Total	21.89	616.95		
AEML				
DTPS U-1&2	6.01	256.34	251	250
Total	6.01	256.34		

* Infirm Power			Summary			Summary		
Particulars	Daily (Mus)	Monthly	Particulars	Daily (Mus)	Monthly (Mus)	Particulars	Daily (Mus)	Monthly (Mus)
			MSPGCL Thermal	135.50	3488.01	MSPGCL Total	165.37	4299.57
			MSPGCL Thml+Gas	138.98	3662.65	Koyna 1,2 & 4 Total	17.12	378.76
			MSPGCL Hydro	26.39	636.92	State Total	326.88	9324.93

State Load Despatch Center,Airoli (MSETCL)

Annexure-2

Hourly Load Data As on 28/May/2021

TIME SR. NO.	MSPGCL GEN.			TOTAL	WIND	CPP / IPP		SOLAR	CS SHARE	CS RECPT	Mum. NET EXCH.	MSEDCL DEM. MET	LOAD SHEDDI NG	MSEDCL DEM. WITH LS	MUMBAI DEMAND	STATE DEMAND	FREQ. (Hz)
	THM	HY	GAS			THM	GAS										
1	5561	900	145	6606	1859	3741	0	0	6400	6320	-1418	17108	0	17108	2517	19625	50.02
2	5592	876	144	6612	1915	3748	0	0	6401	6154	-1235	17194	0	17194	2344	19538	49.94
3	5568	1036	154	6758	1715	3744	0	0	6218	6105	-1199	17123	0	17123	2197	19320	49.87
4	5560	930	145	6635	1658	3744	0	0	6116	5805	-1069	16773	0	16773	2093	18866	49.98
5	5588	803	145	6536	1563	3740	0	0	6100	6169	-1033	16975	0	16975	2038	19013	49.98
6	5624	1438	145	7207	1395	3735	0	0	6738	6601	-1046	17892	0	17892	2032	19924	49.95
7	5709	1285	156	7150	1275	3730	0	37	7378	7223	-968	18447	0	18447	1987	20434	49.98
8	5864	1428	145	7437	1536	3715	0	181	6924	6799	-1116	18552	0	18552	2052	20604	50.05
9	5889	866	144	6899	1723	3704	0	405	7122	7015	-1291	18455	0	18455	2264	20719	50.06
10	5851	774	143	6768	1612	3649	0	617	7261	7272	-1447	18471	0	18471	2487	20958	50.00
11	5794	471	152	6417	1448	3679	0	797	7689	7212	-1378	18175	0	18175	2648	20823	49.98
12	5720	536	141	6397	1138	3602	0	826	7740	7945	-1440	18468	0	18468	2698	21166	49.89
13	5776	935	140	6851	872	3817	0	906	7425	7961	-1425	18982	0	18982	2696	21678	49.96
14	5728	1386	141	7255	886	3816	0	800	7597	8018	-1511	19264	0	19264	2655	21919	50.00
15	5680	1615	140	7435	996	3862	0	706	7807	7587	-1524	19062	0	19062	2733	21795	49.92
16	5656	1404	141	7201	1246	3882	0	590	7947	7693	-1547	19065	0	19065	2753	21818	49.99
17	5626	934	151	6711	1711	3873	0	375	7114	6841	-1436	18075	0	18075	2669	20744	50.02
18	5557	618	143	6318	2112	3834	0	173	6128	5966	-1224	17179	0	17179	2506	19685	50.04
19	5193	542	143	5878	1896	3799	0	24	5706	5786	-1013	16370	0	16370	2348	18718	50.05
20	5473	1072	143	6688	1790	3901	0	0	5455	5657	-1063	16973	0	16973	2367	19340	49.93
21	5614	1097	153	6864	1703	3982	0	0	5488	5440	-1100	16889	0	16889	2406	19295	49.92
22	5564	1460	144	7168	1396	4007	0	0	5764	5956	-1170	17357	0	17357	2461	19818	49.94
23	5649	1941	142	7732	1213	3996	0	0	5962	6317	-1222	18036	0	18036	2547	20583	49.82
24	5660	2046	144	7850	1206	4006	0	0	6069	6180	-1378	17864	0	17864	2659	20523	49.95
MUs	135.50	26.39	3.48	165.37	35.86	91.31	0.00	6.44	160.55	160.02	-30.25	428.75	0.00	428.75	58.16	486.91	49.97

NOTE : ALL VALUES IN MW

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

State Load Despatch Center, Airoli (MSETCL) Statement-VI

Details of Generating Unit Outages/Trippings for 28/May/2021

Position as on 6.30 Hrs of 29/May/2021

Generating Company	Name of Generating Unit	Capacity	Tripped Date	Tripped Time	Sync.Date	Sync. Time	Reason of Outage	Expected Date
PLANNED OUTAGE								
MSPGCL	Koyna Unit 6	80	22/04/2021	12.00		Continued.	UGC Oil Cooler Leakage.(Converted to Capital Overhaul from 08.00Hrs DT.23-4-2021)	25/06/2021
AEML	AEML Unit 1	250	19/05/2021	09.52		Continued.	HP turbine replacement.	
FORCED OUTAGE								
IPP	SWPGPL U-1	135	16/02/2016	17.09		Continued.	No PPA.	
PGPL	PGPL U1	262	07/02/2017	17.30		Continued.	No Schedule (NO PPA)	
PGPL	PGPL U2	126	07/02/2017	17.30		Continued.	No Schedule.(NO PPA)	
IPP	IEPL Unit 1	270	28/08/2018	21.26		Continued.	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)	
MSPGCL	Uran Unit 7	108	25/05/2020	12.51		Continued.	Turbine Blade Failure	
MSPGCL	Nasik Unit 3	210	03/12/2020	06.45		Continued.	PA Fan Problem (Under Case 4 Bidding From 11.00Hrs DT. 21-01-2021).	
MSPGCL	Koyna Unit 11	80	19/01/2021	10.05	29/05/2021	15.20	Tripped on stator earth fault (will not be available till dt.24.05.21)	
MSPGCL	Chandrapur Unit 7	500	20/02/2021	23.43		Continued.	Generator Earth Fault.	
MSPGCL	Koradi Unit 6	210	27/04/2021	19.59		Continued.	Zero Schedule.	
MSPGCL	Koradi Unit 7	210	27/04/2021	20.03		Continued.	Retired (04/08/2021 At 00.00)	
MSPGCL	Parli Unit 6	250	04/05/2021	20.00		Continued.	Zero Schedule By MSEDCL	
MSPGCL	Bhusawal Unit 3	210	04/05/2021	20.00		Continued.	Zero Schedule.	
MSPGCL	Parli Unit 7	250	05/05/2021	19.00		Continued.	Zero Schedule.	
MSPGCL	Parli Unit 8	250	06/05/2021	19.45		Continued.	Zero Schedule	
IPP	Adani U-4	660	16/05/2021	10.01		Continued.	Zero Schedule.	
IPP	Adani U-1	660	16/05/2021	17.57		Continued.	Zero Schedule By MSEDCL.	
MSPGCL	Uran Unit 5	108	17/05/2021	11.52		Continued.	Due to jerk	
IPP	Adani U-5	660	17/05/2021	12.05		Continued.	Zero schedule.	
MSPGCL	Nasik Unit 5	210	17/05/2021	12.50		Continued.	Zero schedule.	
MSPGCL	Uran Unit A0	120	17/05/2021	22.59		Continued.	Gas shortage	
MSPGCL	Uran Unit 6	108	17/05/2021	22.59		Continued.	Gas shortage.	
TPC-G	Trombay 7B	60	17/05/2021	23.29		Continued.	Gas shortage	
TPC-G	Trombay 7A	120	17/05/2021	23.50		Continued.	Gas shortage	
MSPGCL	Koradi Unit-8	660	25/05/2021	03.52		Continued.	Boiler Tube Leakage	
IPP	JSW (J) U1	300	25/05/2021	09.41		Continued.	CW DUCT Water Leakage.	
MSPGCL	Chandrapur Unit 4	210	27/05/2021	1.58	28/05/2021	06.46	Condenser Vacuum Low.	

State Load Despatch Center,Airoli (MSETCL) Statement-VI
Details of Generating Unit Outages/Trippings for 28/May/2021

Position as on 6.30 Hrs of 29/May/2021

Generating Company	Name of Generating Unit	Capacity	Tripped Date	Tripped Time	Sync.Date	Sync. Time	Reason of Outage	Expected Date
MSPGCL	Chandrapur Unit 4	210	28/05/2021	19.33		Continued.	PA Fan problem	
IPP	JSW (J) U4	300	29/05/2021	08.06		Continued.	CW DUCT Water Leakage.	
IPP	SWPGPL U-3	135	29/05/2021	14.58	29/05/2021	15.56	Due To Tripping Of Turbine DEH Oil Pump.	

State Load Despatch Center,Airoli (MSETCL)
Details of Line outages/Trippings for 28/May/2021

Statement-VII

Position as on 6.30 Hrs of 29/May/2021

Name of Line	Inter State / Intra State	Tripped Date	Tripped Time	Sync. Date	Sync. Time	Outage Type	Reason of Outage
500 KV LINE Outages/Trippings							
Chandrapur - Padghe HvdC Pole 2	IntraState	29/05/2021	00.37	29/05/2021	04.25	EO	Attending Hot Spot
400 KV LINE Outages/Trippings							
Karad Solapur (PG)	InterState	03/05/2017	11:49		Continued.	PO	Line Converted As 220 Kv Solapur (PG)- Jeur From LOC 403
Dhule Sar'Sarovar II	InterState	28/05/2021	09.20	29/05/2021	08.07	PO	Line Maintenance work
Dhule Sar'Sarovar I	InterState	29/05/2021	09.08	29/05/2021	20.26	PO	Earth wire Replacement
Babhleshwar - RIPL(Nashik)	IntraState	18/03/2021	15.48		Continued.	PO	Hot spot attending.
Deepnagar - Aurangabad	IntraState	27/05/2021	17.04	28/05/2021	02.13	T	Distance Protection
Deepnagar - Aurangabad	IntraState	28/05/2021	06.33	28/05/2021	17.13	PO	Replacement of faulty Dead end & Mid Span Joint
400 KV ICT Outages/Trippings							
400/220kv 315 MVA ICT I @ KOLHAPUR-III (TALANDGE)	IntraState	10/08/2020	09.58		Continued.	PO	Replacement of existing 315 MVA ICT by 3*167 MVA ICT.(FTC DT 16/08/2021 At 14.42)
400/220/33 Kv 315 MVA ICT II @Babhleshwar	IntraState	27/05/2021	20.24	28/05/2021	01.28	PO	Pre-Monsoon Maintenance Work.
400/220/33 Kv, 167 Mva, Spare Ict @Khaparkheda	IntraState	28/05/2021	11.24	28/05/2021	15.19	PO	Premonsoon maintenance work.
400/220 kv 315MVA ICT II @ Parali (Girwali)	IntraState	28/05/2021	13.38		Continued.	EO	Attending Hot Spot
400/220/33 315MVA ICT-III @ KHADKA	IntraState	29/05/2021	07.59	29/05/2021	11.35	PO	Routine Maintenance Work
400/220/33 Kv 315 MVA ICT -I @Kharghar	IntraState	29/05/2021	13.18	29/05/2021	19.52	PO	Painting work
220 KV LINE Outages/Trippings							
Mudshingi Chikodi	InterState	24/09/2019	17.12		Continued.	PO	No Schedule(Charge from Mudshingi end only)
Talandage - Chikodi	InterState	01/10/2019	17.10		Continued.	PO	No Schedule(Close at Chikodi end only)
Tillari Amona	InterState	28/05/2021	11.01	28/05/2021	11.52	T	Distance Protection
Padghe - Jambhul 1	IntraState	28/05/2021	10.30	28/05/2021	14.52	EO	1) Replacement of faulty Backup relay 2) Attending Hot Spot on R, Y & bph CT , Tpad between A & B bus Isolator
Butibori-Butibori Rly Tss	IntraState	28/05/2021	12.14	28/05/2021	16.49	PO	CB CRM and timing and CT Tan delta measurement at both ends.
Chitegaon-Shendra Ckt-I	IntraState	28/05/2021	12.20	28/05/2021	22.48	EO	For 220kv B phase LA replacement work
Lamboti - Pandharpur li	IntraState	28/05/2021	13.05	28/05/2021	18.52	EO	Outage is required for OPGW joint creation work Loc No-507 / 509.
Lamboti(solapur)-Karkamb	IntraState	28/05/2021	13.05	28/05/2021	18.58	EO	Outage is required for OPGW joint creation work Loc No-507 / 509.
Versova Gorai Line	IntraState	29/05/2021	09.23	29/05/2021	17.36	PO	Annual Maintenance Work
Trombay MSETCL Tie 2	IntraState	29/05/2021	09.41	29/05/2021	16.25	PO	CVT Testing
Baramati - Kurkumbh	IntraState	29/05/2021	09.59	29/05/2021	11.57	PO	Replacement of Line LA counter broken cable
Kharghar-Borivali ckt I	IntraState	29/05/2021	10.12	29/05/2021	20.35	PO	Routine Maintenance Work
Raymond - Washala	IntraState	29/05/2021	11.15	29/05/2021	14.50	PO	Routine Maintenance Work
Halkarni-Mahalaxmi line	IntraState	29/05/2021	15.17	29/05/2021	23.10	T	Distance Protection
Lonikand-II- Kathapur	IntraState	29/05/2021	17.31	29/05/2021	21.45	T	Distance Protection
220 KV ICT Outages/Trippings							
220/132 KV 150MVA ICT I @ Boisar	IntraState	17/05/2021	11.19		Continued.	T	ICT Failed due to internal fault.
220/132 Kv 200 MVA ICT-I @Malegaon	IntraState	28/05/2021	08.05	28/05/2021	10.52	PO	Premonsoon maintenance work.
220/132 Kv 200 MVA ICT III @Ambazari	IntraState	28/05/2021	08.12	28/05/2021	13.20	PO	Pre-monsoon maintenance work.

HT : Hand Tripping, MT : Multiple Tripping, T : Tripping, PO : Planned Outage, EO : Emergency Outage, OO : Opportunity Outage

State Load Despatch Center, Airoli (MSETCL)
Details of Line outages/Tripping for 28/May/2021

Statement-VII

Position as on 6.30 Hrs of 29/May/2021

Name of Line	Inter State / Intra State	Tripped Date	Tripped Time	Sync. Date	Sync. Time	Outage Type	Reason of Outage
220/66 Kv 150 Mva Emco Ict 2 @Gadchandur	IntraState	28/05/2021	09.24	28/05/2021	19.35	PO	Pre-monsoon maintenance work.
220/100 Kv 125 Mva Hel Ict 2 @Jambhul	IntraState	28/05/2021	09.38	28/05/2021	19.02	PO	1) Routine maintenance works 2) Measurement of neutral earth pit resistance. 3) Servicing of nitrogen inj fire protection system.
220/33kv 125 MVA Transformer 1 @REL Borivali	IntraState	28/05/2021	09.40	28/05/2021	12.10	PO	Premonsoon Maintenance of Transformer
220/33kv 100 Mva Transformer 4 @Aarey R/S	IntraState	28/05/2021	09.58	28/05/2021	12.34	PO	Premonsoon maintenance work.
220/33kv 100 Mva Transformer 3 @Versova R/S	IntraState	28/05/2021	10.40	28/05/2021	12.56	PO	Premonsoon maintenance of Transformer.
220/132 Kv 200 Mva Vijay Ict 2 @Malegaon	IntraState	28/05/2021	11.15	28/05/2021	12.25	PO	Premonsoon maintenance work.
220/132 Kv 100 Mva Vijai Ict 2 @Virur	IntraState	28/05/2021	12.07	28/05/2021	18.20	PO	1) Nitrogen filling fire protection system checking of healthiness & testing thereof 2) DC Separation & relay checking by testing engineers.
220/100 Kv 100 MVA ICT II @Kandalgaon	IntraState	28/05/2021	12.08	28/05/2021	17.15	PO	Pre-monsoon maintenance work.
220/33kv 125 Mva Transformer 2 @Rel Borivali	IntraState	28/05/2021	14.14	28/05/2021	17.14	PO	Premonsoon Maintenance of Transformer
100MVA ICT - II @ Boisar-II	IntraState	28/05/2021	16.18	28/05/2021	20.01	PO	Premonsoon maintenance work.
220/33 Kv 100 Mva Alstom Ptr 1 @Valve	IntraState	28/05/2021	18.50	28/05/2021	21.25	T	LV side B-Ph CT jumper broken.
220/132 Kv 200 Mva Cgl Ict 1 @Raymond (Nasik 2)	IntraState	29/05/2021	10.38	29/05/2021	16.23	PO	Testing Work
200MVA ICT - IV @ Nasik	IntraState	29/05/2021	12.11	29/05/2021	13.18	PO	Pre-Monsoon Maintenance work
220/132 Kv 100 Mva Cgl Ict 1 @Amalner	IntraState	29/05/2021	12.50	29/05/2021	13.50	PO	Pre-Monsoon Maintenance work
220/132 KV ICT-2 @Nagar	IntraState	29/05/2021	14.03	29/05/2021	17.10	PO	Pre-Monsoon maintenance work
220/33 kV 100MVA @ Shivaji Nagar	IntraState	29/05/2021	17.15	29/05/2021	19.30	PO	Pre-Monsoon Maintenance work

HT : Hand Tripping, MT : Multiple Tripping, T : Tripping, PO : Planned Outage, EO : Emergency Outage, OO : Opportunity Outage