

State Load Despatch Center, Airoli (MSETCL) Statement I
Daily system Report for 02/Mar/2016 WEDNESDAY

I GENERATION (MUs)			II EXCHANGES (MUs)		
A) MSPGCL	Daily	Monthly	E) InterState Exchanges	Daily	Monthly
1) Thermal	102.974	208.372	1) Gujrat	-3.232	-8.552
2) Hydro	3.819	8.151	2) Madhya Pradesh	9.227	17.384
3) Gas	9.242	19.819	3) Chattisgarh	6.150	11.550
Total MSPGCL	116.035	236.342	4) Maharashtra Net	85.440	168.155
B) 1) APLM	63.468	124.122	5) Goa (Amona)	-0.630	-1.214
2) JSWEL	23.619	48.381	6) TAPS 1&2 Injection	3.562	7.127
3) VIPL	11.933	22.209	7) RGPPL Injection	11.294	22.927
4) RPL(AMT)	15.560	29.879	8) Pench (MS)	0.096	0.158
5) WPCL	4.438	9.431	9) Pench (Excess)	-0.096	-0.158
6) Other IPP	8.347	17.191	Total	111.715	217.219
C) 1) TPCL Thermal	9.795	19.785	a) Mumbai Schedule	21.522	38.921
2) TPCL Hydro	4.036	7.885	b) Mumbai Drawl	29.725	58.561
3) TPCL Gas	4.307	8.169	c) MSEDCL Bilateral *	29.840	57.775
4) R-INFRA Thermal	11.126	21.700	Include PX	0.000	0.000
D) STATE			d) Mumbai Bilateral *	21.522	38.921
1) Thermal	251.260	501.070	Include PX	3.931	7.158
(A1+C1+C4+(B1-B6))			Include Standby	0.000	0.000
2) Hydro	7.855	16.036	H) ENERGY CATERED (MUs)		
3) Gas	13.549	27.988	1) MSEDCL	333.866	664.674
4) Wind	7.413	16.433	2) Mumbai Discoms	58.989	116.100
6) SOLAR	1.063	2.028	TOTAL STATE	392.855	780.774
TOTAL STATE	281.140	563.555			

* 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 20 Hrs	D. Night Minimum at 5 Hrs
MSPGCL Thermal	4545	4467	4390	4026
MSPGCL Hydro	246	116	109	121
MSPGCL Gas	291	280	363	452
MSPGCL Total Generation	5082	4863	4862	4599
Central Sector Receipt	5478	5932	4854	3314
WIND	96	23	340	488
CPP / IPP	5835	5672	5431	4806
SOLAR	178	137	0	0
Exchange with Mumbai	-1441	-1398	-1301	-812
MSEDCL DEMAND MET	15228	15229	14186	12395
Load Shedding	4	4	4	4
MSEDCL DEMAND	15232	15233	14190	12399
TPCL GENERATION	1087	1005	1006	496
R-INFRA GENERATION	509	518	517	404
MUMBAI DEMAND	3037	2921	2824	1712
STATE DEMAND MET	18265	18150	17010	14107
STATE DEMAND	18269	18154	17014	14111
Frequency (Hz)	49.97	49.96	49.94	49.99

FREQUENCY PARTICULARS

MAXIMUM FREQ.	MINIMUM FREQ.	AVERAGE FREQ.	FREQ. BELOW 49.2 Hz
50.19 Hz at 18.16 Hrs	49.74 Hz at 20.34 Hrs	49.96	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 02/Mar/2016

Generating unit	Generation			
	Daily (Mus)	Monthly (Mus)	Max (MW)	Min (MW)
Koradi				
Unit 5	0.00	0.00	0	0
Unit 6	0.00	0.00	0	0
Unit 7	0.00	4.01	0	0
Unit 8	8.54	17.41	390	350
Total	8.54	21.42		
Bhusawal				
Unit 2	0.00	1.70	0	0
Unit 3	3.14	7.16	175	0
Unit 4	0.00	0.00	0	0
Unit 5	8.64	18.00	370	350
Total	11.78	26.86		
Parli				
Unit 3	0.00	0.00	0	0
Unit 4	0.00	0.00	0	0
Unit 5	0.00	0.00	0	0
Unit 6	0.00	0.00	0	0
Unit 7	0.00	0.00	0	0
Total	0.00	0.00		
Chandrapur				
Unit 1	0.00	0.00	0	0
Unit 2	0.00	0.00	0	0
Unit 3	4.42	8.58	206	163
Unit 4	4.36	8.48	197	165
Unit 5	9.81	19.00	465	360
Unit 6	9.51	18.60	435	355
Unit 7	9.69	18.80	450	360
Total	37.79	73.46		
Paras				
Unit 3	0.00	4.57	0	0
Unit 4	5.35	5.35	258	0
Total	5.35	9.92		
Khaparkheda				
Unit 1	3.98	7.82	185	160
Unit 2	4.04	7.94	185	160
Unit 3	4.14	8.06	202	160
Unit 4	4.18	8.11	205	158
Unit 5	10.77	20.61	520	365
Total	27.11	52.55		
Nasik				
Unit 3	4.00	7.96	195	160
Unit 4	3.44	7.34	169	0
Unit 5	3.98	7.89	197	160
Total	11.43	23.19		
Uran				
All Units	9.24	19.82	454	269
Total	9.24	19.82		

Generating unit	Generation			
	Daily (Mus)	Monthly (Mus)	Max (MW)	Min (MW)
PENCH (MS)				
Pench (MS)	0.10	0.16	24	0
Total	0.10	0.16		
Koyna				
Stage 1-2	1.78	3.80	200	40
Stage 4	0.10	0.68	99	0
Stage 3	0.00	0.00	68	0
Total	1.87	4.48		
Hydro				
KDPH	0.42	0.83	18	17
VTRNA	0.00	0.00	0	0
TILLARI	0.19	0.19	63	0
BHTGR/VEER	0.00	0.00	0	0
BHIRA T.R.	0.16	0.46	40	0
RNGR+BHTSA	0.24	0.24	11	10
BHANDARDRA	0.00	0.00	0	0
ELDARY	0.00	0.00	0	0
SMLHY_PTN	0.95	1.95	40	39
GHATGHAR	0.00	0.00	0	0
Total	1.94	3.67		
Wind				
Total	7.41	16.43	0	0
Total	7.41	16.43		
CPP				
APML(Mus)	63.47	124.12	0	0
JSWEL(Mus)	23.62	48.38	0	0
VIPL(Mus)	11.93	22.21	0	0
RPLAMT(Mus)	15.56	29.88	0	0
WPCL(Mus)	4.44	9.43	0	0
Other(Mus)	8.35	17.19	0	0
Total	127.36	251.21		
SOLAR				
Total	1.06	2.03	0	0
Total	1.06	2.03		
Tata				
Trombay 5	9.53	19.52	495	314
Trombay 6	0.00	0.00	0	0
Trombay 7A	2.70	5.07	114	101
Trombay 7B	1.60	3.10	68	63
Trombay 8	0.27	0.27	122	2
TATA Hydro	4.04	7.88	443	0
Total	18.14	35.84		
R-INFRA				
1-2	11.13	21.70	518	402
Total	11.13	21.70		

Infirm Power	Chandrapur 8	0.00	Koradi 9	0.97
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Summary		
Particulars	Daily (Mus)	Monthly (Mus)
MSPGCL Thermal	102.97	208.37
MSPGCL Thml+Gas	112.22	228.19

Summary		
Particulars	Daily (Mus)	Monthly (Mus)
MSPGCL Hydro	3.82	8.15
MSPGCL Total	116.04	236.34

Summary		
Particulars	Daily (Mus)	Monthly (Mus)
Koyna 1,2 & 4 Total	1.87	4.48
State Total	281.14	563.56

State Load Despatch Center,Airoli (MSETCL)

Annexure-2

Hourly Load Data As on 02/Mar/2016

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													
1	4024	111	451	4586	229	4802	0	4166	4336	-1115	12838	4	12842	2012	14854	49.96
2	4022	116	451	4589	217	4807	0	3906	4135	-944	12804	4	12808	1847	14655	49.96
3	4039	106	431	4576	281	4799	0	3507	3650	-852	12454	4	12458	1751	14209	49.98
4	4029	111	451	4591	413	4801	0	3650	3412	-806	12411	4	12415	1703	14118	50.00
5	4026	121	452	4599	488	4806	0	3749	3314	-812	12395	4	12399	1712	14111	49.99
6	4108	111	453	4672	556	4815	0	4535	3867	-876	13034	4	13038	1771	14809	49.99
7	4216	116	454	4786	519	5057	0	5025	4647	-1062	13947	4	13951	1961	15912	49.96
8	4458	111	454	5023	453	5357	17	5161	5021	-1174	14697	4	14701	2128	16829	49.96
9	4627	111	444	5182	238	5535	56	5312	5007	-1285	14733	4	14737	2368	17105	50.00
10	4645	304	375	5324	117	5469	126	5389	5569	-1342	15263	4	15267	2721	17988	49.92
11	4654	504	280	5438	119	5648	156	5487	5354	-1438	15277	4	15281	2954	18235	49.96
12	4545	246	291	5082	96	5835	178	5550	5478	-1441	15228	4	15232	3037	18269	49.97
13	4462	211	279	4952	32	5802	178	5541	5417	-1395	14986	4	14990	3030	18020	49.94
14	4467	116	280	4863	23	5672	137	5514	5932	-1398	15229	4	15233	2921	18154	49.96
15	4447	212	269	4928	58	5674	106	5502	5730	-1345	15151	4	15155	2884	18039	49.93
16	4446	335	293	5074	99	5677	75	5510	5559	-1394	15090	4	15094	2959	18053	49.93
17	4506	125	330	4961	325	5556	29	5368	5162	-1523	14510	4	14514	2946	17460	49.97
18	4413	153	355	4921	401	5424	5	4209	4130	-1527	13354	4	13358	2874	16232	49.93
19	4366	164	349	4879	475	5421	0	4331	4136	-1324	13587	4	13591	2787	16378	49.97
20	4390	109	363	4862	340	5431	0	5023	4854	-1301	14186	4	14190	2824	17014	49.94
21	4152	108	405	4665	509	5328	0	4638	4423	-1334	13591	4	13595	2638	16233	49.89
22	4091	123	448	4662	294	5265	0	4549	4419	-1403	13237	4	13241	2495	15736	49.97
23	4023	118	433	4574	468	5240	0	4313	4277	-1347	13212	4	13216	2374	15590	49.89
24	3818	113	451	4382	663	5143	0	4413	3886	-1287	12787	4	12791	2292	15083	49.99
MUs	102.97	3.96	9.24	116.17	7.41	127.37	1.06	114.35	111.72	-29.72	334.00	0.10	334.10	58.99	393.09	49.96

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 02/Mar/2016

Position as on 6.30 Hrs of 03/Mar/2016

Generating Company	Name of Generating Unit	Capacity	Tripped Date	Tripped Time	Sync.Date	Sync. Time	Reason of Outage	Expected Date
PLANNED OUTAGE								
CENT.SECTOR	Tarapur 2	160	10/09/2015	12.55		Continued.	Refuelling work	
MSPGCL	Koyana Unit 10	80	29/12/2015	08:00		Continued.	Annual Overhaul	
FORCED OUTAGE								
RGPL	Dabhol 1B	230	28/05/2013	22:02		Continued.	Gas Shortage.	
RGPL	Dabhol 3A	230	06/06/2013	08.28		Continued.	Gas Shortage	
RGPL	Dabhol 1X	290	27/06/2013	21.46		Continued.	Gas Shortage	
RGPL	Dabhol 1A	230	27/06/2013	21.47		Continued.	Gas Shortage	
IPP	Dhariwal	300	28/05/2014	02.27		Continued.	No schedule	
MSPGCL	Chandrapur Unit 1	210	28/08/2014	07:15		Continued.	Economic Shutdown.	
MSPGCL	Koradi Unit 6	210	20/03/2015	01.02		Continued.	Economic shutdown	
MSPGCL	Parli Unit 3	210	14/06/2015	12.58		Continued.	Water Shortage	
MSPGCL	Parli Unit 6	250	25/06/2015	15.03		Continued.	Water Shortage	
MSPGCL	Parli Unit 4	210	05/07/2015	18.45		Continued.	Water Shortage	
MSPGCL	Parli Unit 5	210	06/07/2015	14.55		Continued.	Water Shortage.	
MSPGCL	Parli Unit 7	250	08/07/2015	12.08		Continued.	Water Shortage	
TPC-G	Trombay 6	500	15/07/2015	17.08		Continued.	Economic shutdown	
MSPGCL	Chandrapur Unit-8	500	10/11/2015	12.10		Continued.	Drum level low	
RGPL	Dabhol 3B	230	07/01/2016	17:51		Continued.	Change Over.	
MSPGCL	Chandrapur Unit 2	210	12/01/2016	04.47		Continued.	Boiler Tube Leakage	
RGPL	Dabhol 3X	290	03/02/2016	15:36		Continued.	Change Over	
TPC_G	Trombay 8	250	07/02/2016	17.40	02/03/2016	20.57	Boiler Maintenance Work,Bearing Inspection.	
MSPGCL	Ghatghar Unit-2	125	09/02/2016	18.00		Continued.	oil filtration work.	
MSPGCL	Bhusawal Unit 4	500	14/02/2016	12.10		Continued.	Zero Schedule Given by MSEDCL.	
MSPGCL	Ghatghar Unit-1	125	15/02/2016	00.00		Continued.	Attending Water valve Leakage.	
IPP	RPL(AMT) U-2	270	16/02/2016	01.14		Continued.	Due to Zero Schedule Given by MSEDCL.	
IPP	RPL(AMT) U-3	270	16/02/2016	01.17		Continued.	Due to Zero Schedule Given by MSEDCL.	
CPP	WPCL U-1	135	16/02/2016	17.09		Continued.	Change Over , No Schedule	
MSPGCL	Koradi Unit 5	200	18/02/2016	11.21		Continued.	MSEDCL Zero Shedule.	
IPP	WPCL U-2	135	29/02/2016	21.46		Continued.	Change over against Unit III	
MSPGCL	Bhusawal Unit 2	210	01/03/2016	10.13		Continued.	Boiler Tube Leakage	
MSPGCL	Uran Unit 5	108	01/03/2016	13.09		Continued.	Gas Pressure Low.	
MSPGCL	Paras Unit 3	250	01/03/2016	22.09		Continued.	Boiler Tube Leakage	
MSPGCL	Koradi Unit 7	210	01/03/2016	23.55		Continued.	Zero Schedule Given by MSEDCL.	
MSPGCL	Uran Unit A0	120	02/03/2016	09.23	02/03/2016	20.18	Filter Replacement.	

State Load Despatch Center,Airoli (MSETCL) Statement-VI
Details of Generating Unit Outages/Trippings for 02/Mar/2016

Position as on 6.30 Hrs of 03/Mar/2016

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	02/03/2016	09.31	02/03/2016	15.06	Filter Replacemnt.	
MSPGCL	Bhusawal Unit 3	210	02/03/2016	11.28	02/03/2016	15.56	Due to Hot Spot on R, Y ph CT	
IPP	JSW (J) U3	300	02/03/2016	13.45		Continued.	Cooling Water Leakage.	
MSPGCL	Nasik Unit 4	210	02/03/2016	16.33	02/03/2016	18.35	Tripped on Jerk of 220kb nashik BBLR -II ckt.	
MSPGCL	Paras Unit 4	250	02/03/2016	22.50		Continued.	Air heater problem	

State Load Despatch Center,Airoli (MSETCL)
Details of Line outages/Trippings for 02/Mar/2016

Statement-VII

Position as on 6.30 Hrs of 03/Mar/2016

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							
Dhule Sar'Sarovar I	InterState	01/03/2016	17.10	02/03/2016	09.47	HT	Over Voltage
Kolhapur Solapur(PG) I	InterState	01/03/2016	20.31	02/03/2016	07.29	HT	Over Voltage
Dhule Sar'Sarovar I	InterState	02/03/2016	17.18		Continued.	HT	Over Voltage
Kolhapur Solapur(PG) I	InterState	02/03/2016	18.20		Continued.	HT	Over Voltage
Akola II - Taptitanda ckt-II	IntraState	31/12/2015	18.16		Continued.	HT	Change over
Babhaleshwar-Taptitanda ckt-II	IntraState	11/02/2016	18.40		Continued.	HT	CHANGE OVER
Bhusawal-Aurangabad	IntraState	01/03/2016	09.10		Continued.	PO	89 C Isolator Maintenance Work(RFC @ 20.56 Hrs).
Chandrapur - Khaperkheda	IntraState	01/03/2016	11.45	02/03/2016	08.54	EO	To Attend Hot Spot(RFC @ 19.27 Hrs).
karad -kolhapur-I	IntraState	01/03/2016	16.19	02/03/2016	09.38	HT	Over Voltage
Karad - Jaigad - II	IntraState	01/03/2016	17.51	02/03/2016	09.59	HT	Over Voltage
Lonikand I - Koyna stage-IV	IntraState	01/03/2016	20.39	02/03/2016	09.12	HT	Over Voltage
Main Bus-II @ Koradi III	IntraState	02/03/2016	09.03	02/03/2016	18.49	PO	Annual Maintenance Work
Chandrapur - Khaperkheda	IntraState	02/03/2016	09.34	02/03/2016	18.58	T	Distance Protection
Khadka- Deepnagar Ckt 1	IntraState	02/03/2016	09.40	02/03/2016	16.55	PO	Testing Work
Padghe - Nagothane - I	IntraState	02/03/2016	09.53		Continued.	PO	Faulty String Repalcement Work.
Akola II - Taptitanda ckt-II	IntraState	02/03/2016	10.34		Continued.	PO	For Commissioning 765kv Ekt Uni s/s.
karad -kolhapur-II	IntraState	02/03/2016	16.20		Continued.	HT	Over Voltage
Karad-Jaigad - I	IntraState	02/03/2016	16.34		Continued.	HT	Over Voltage
Girwali- Lonikand 2	IntraState	02/03/2016	16.51	02/03/2016	19.21	T	Distance Protection
Lonikand I - Koyna stage-IV	IntraState	02/03/2016	18.17	02/03/2016	19.32	HT	Over Voltage
Lonikand I - Koyna stage-IV	IntraState	02/03/2016	23.58	03/03/2016	06.22	HT	Over Voltage
400 KV ICT Outages/Trippings							
400/220 KV 500 MVA ICT- III @ Aurangabad	IntraState	01/03/2016	21.36	02/03/2016	01.32	T	NDR
400/220 KV 500 MVA ICT-II @Warora	IntraState	02/03/2016	10.20	02/03/2016	19.12	PO	Testing Work
220 KV LINE Outages/Trippings							
Hingoli- Girawali	InterState	14/02/2016	12.37		Continued.	HT	To Improve Voltage @ Hingoli.
Chandrapur GCR - Warora - I	IntraState	05/04/2015	09.13		Continued.	PO	Bunching of conductor Loc no 86 Disconnecting of jumer at Loc no 86 & 107 and de-energising the line bet.86 to 107.
Chandrapur GCR - Wani	IntraState	05/04/2015	09.15		Continued.	PO	Bunching of conductor Loc no 86 Disconnecting of jumer at Loc no 86 & 107 and de-energising the line bet.86 to 107.
Kalwa - Borivali	IntraState	10/01/2016	09:15		Continued.	PO	Tower Erection Work.
GIS Bhandup - Borivali	IntraState	11/01/2016	07.42		Continued.	PO	Tower Erection Work.
Padghe - Vasai	IntraState	24/01/2016	08.32		Continued.	PO	For Formation of Temp. Padgha-Borivali (Charge upto 51/1).
Bableshtar- Alephata	IntraState	03/02/2016	06.28		Continued.	HT	controlling bblsr ICT Overloading
Bableshtar- Ranjangaon	IntraState	03/02/2016	07.12		Continued.	HT	controlling bblsr ICT Overloading
Khadka-Chalisgaon-1	IntraState	29/02/2016	10:08		Continued.	PO	For Diversion of CKT Which Submerges in Waghur Dam.
Khadka-Chalisgaon-2	IntraState	29/02/2016	10:14		Continued.	PO	For Diversion of CKT Which Submerges in Waghur Dam.
Pirangut - Hinjewadi I	IntraState	29/02/2016	11.38	02/03/2016	10.15	PO	Taken on TBC of Breaker Overhauling.
Karad - Sadawagpur I	IntraState	01/03/2016	11.55		Continued.	PO	Maintenanace of CT.
Chinchwad-Hinjewadi I	IntraState	01/03/2016	20.25	02/03/2016	05.51	HT	For Chinchwad Outage.

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/Trippings for 02/Mar/2016

Statement-VII

Position as on 6.30 Hrs of 03/Mar/2016

Name of Line	Inter State / Intra State	Tripped Date	Tripped Time	Sync. Date	Sync. Time	Outage Type	Reason of Outage
Chakan-Chinchwad	IntraState	01/03/2016	20.30	02/03/2016	05.37	PO	Erection of Narow Base M/C Tower.
Telco- Chinchwad	IntraState	01/03/2016	20.37	02/03/2016	04.57	PO	Erection of Narow Base M/C Tower.
Flagship-Nandedcity	IntraState	02/03/2016	05.47	02/03/2016	20.23	HT	For Chinchwad Outage.
Eklahara(Gcr)(Nasik)- Bableswhar 2	IntraState	02/03/2016	16.33	02/03/2016	17.57	T	Distance Protection
Karad(400kv) -Mudshingi Ckt 2-Tak	IntraState	02/03/2016	18.53	02/03/2016	19.40	T	Distance Protection
Kharepatan -Pawas Line	IntraState	02/03/2016	19.45	02/03/2016	22.45	T	Y Ph Bus PT Burst.
Oni Kharepatan Line	IntraState	02/03/2016	19.45	02/03/2016	21.22	T	Y Ph Bus PT Burst.
Karad - Vita Ckt- I	IntraState	02/03/2016	20.14		Continued.	T	Distance Protection
Chakan-Chinchwad	IntraState	02/03/2016	20.58	03/03/2016	05.22	PO	Erection of Narow Base M/C Tower.
Chinchwad-Hinjewadi I	IntraState	02/03/2016	21.08	03/03/2016	05.32	HT	Over Voltage
Telco- Chinchwad	IntraState	02/03/2016	21.10	03/03/2016	05.24	PO	Erection of Narow Base M/C Tower.
220 KV ICT Outages/Trippings							
220/100 Kv 200 MVA ICT III @Borivali	IntraState	21/09/2014	09.16		Continued.	T	Failed on internal Fault(Now repaired and ready for commissioning)
220/132 Kv 200 Mva Ict - 2 @Harangul	IntraState	15/02/2016	13.04		Continued.	PO	Work of Oil Filtration of ICT.
220/33kv 100 MVA ICT-II @ Boisar	IntraState	20/02/2016	14.51		Continued.	T	Diffrential Protn.Optd./Internal Fault.Declared Faulty.
220/132 Kv 200 Mva Emco Ict 2 @Raymond (Nasik 2)	IntraState	02/03/2016	10.36	02/03/2016	18.58	PO	E/O Attending Oil Leakage.

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