

State Load Despatch Center, Airoli (MSETCL) Statement I
Daily system Report for 09/Nov/2017 THURSDAY

I GENERATION (MUs)			II EXCHANGES (MUs)		
A) MSPGCL	Daily	Monthly	E) InterState Exchanges	Daily	Monthly
1) Thermal	114.589	1055.137	1) Gujrat	-0.950	-0.795
2) Hydro	15.597	68.265	2) Madhya Pradesh	9.461	85.427
3) Gas	10.189	90.604	3) Chattisgarh	8.300	62.870
Total MSPGCL	140.375	1214.006	4) Maharashtra Net	118.906	1012.135
B) 1) APML	60.943	543.049	5) Goa (Amona)	-0.748	-7.370
2) JSWEL	26.215	205.338	Total	134.969	1152.267
3) VIPL	13.237	110.366	a) Mumbai Schedule	20.934	181.825
4) RPL(AMT)	17.828	144.393	b) Mumbai Drawl	26.182	247.595
5) WPCL	0.000	0.000	c) MSEDCL Bilateral *	36.826	297.131
6) PGPL	0.000	0.000	Include PX	3.216	-10.616
7) Other IPP	8.472	56.381	d) Mumbai Bilateral *	20.934	181.825
C) 1) TPCL Thermal	15.264	123.738	Include PX	2.818	26.099
2) TPCL Hydro	4.263	31.392	Include Standby	0.000	0.000
3) TPCL Gas	4.071	36.483	H) ENERGY CATERED (MUs)		
4) R-INFRA Thermal	10.826	89.391	1) MSEDCL	382.335	3302.992
D) STATE			2) Mumbai Discoms	60.606	528.594
1) Thermal	267.374	2327.793	TOTAL STATE	442.941	3831.586
(A1+C1+C4+(B1-B6))					
2) Hydro	19.860	99.657			
(A2+C2)					
3) Gas	14.260	127.087			
(A3+B6+C3)					
4) Wind	3.112	93.903			
6) SOLAR	3.366	30.884			
TOTAL STATE	307.972	2679.324			

* 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 19 Hrs	D. Night Minimum at 24 Hrs
MSPGCL Thermal	4906	4875	4976	4369
MSPGCL Hydro	1552	1319	443	98
MSPGCL Gas	413	389	417	430
MSPGCL Total Generation	6871	6583	5836	4897
Central Sector Receipt	6629	6717	5767	4631
WIND	99	79	158	285
CPP / IPP Thermal	5548	5553	5534	4434
CPP / IPP Gas	0	0	0	0
SOLAR	478	433	0	0
Exchange with Mumbai	-1224	-1138	-1174	-1253
MSEDCL DEMAND MET	18401	18227	16121	12994
Load Shedding	0	0	0	0
MSEDCL DEMAND	18401	18227	16121	12994
TPCL GENERATION	1342	1266	1261	697
R-INFRA GENERATION	499	502	500	376
MUMBAI DEMAND	3065	2906	2935	2326
STATE DEMAND MET	21466	21133	19056	15320
STATE DEMAND	21466	21133	19056	15320
Frequency (Hz)	49.95	50.01	49.97	49.98

FREQUENCY PARTICULARS

MAXIMUM FREQ.	MINIMUM FREQ.	AVERAGE FREQ.	FREQ. BELOW 49.2 Hz
50.15 Hz at 13.03 Hrs	49.75 Hz at 07.20 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 09/Nov/2017

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	0.01	0	0
Unit 8	0.00	46.46	0	0
Unit 9	10.92	80.31	542	420
Unit 10	11.85	102.30	542	460
Total	22.77	229.08		
Bhusawal				
Unit 2	0.00	0.00	0	0
Unit 3	0.00	0.00	0	0
Unit 4	7.68	74.84	355	300
Unit 5	7.78	75.76	360	300
Total	15.46	150.59		
Parli				
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
Unit 8	4.11	37.15	184	164
Total	4.11	37.15		
Chandrapur				
Unit 3	0.00	0.00	0	0
Unit 4	0.00	0.00	0	0
Unit 5	0.00	3.20	0	0
Unit 6	8.77	80.55	405	320
Unit 7	10.21	86.27	455	365
Unit 8	10.58	87.27	490	360
Unit 9	10.64	49.84	480	357
Total	40.20	307.12		
Paras				
Unit 3	5.54	44.96	250	188
Unit 4	5.57	44.69	250	185
Total	11.11	89.65		
Khaparkheda				
Unit 1	3.95	33.51	170	155
Unit 2	4.06	33.87	190	160
Unit 3	0.00	0.00	0	0
Unit 4	4.34	32.47	197	160
Unit 5	0.00	68.35	0	0
Total	12.34	168.20		
Nasik				
Unit 3	0.00	0.00	0	0
Unit 4	4.36	36.75	199	158
Unit 5	4.24	36.59	192	155
Total	8.60	73.34		
Uran				
All Units	10.19	90.60	447	389
Total	10.19	90.60		
PGPL				
Unit 1	0.00	0.00	0	0
Unit 2	0.00	0.00	0	0
Total	0.00	0.00		

Generating unit	Generation			
	Daily (Mus)	Monthly (Mus)	Max (MW)	Min (MW)
PENCH (MS)				
Pench (MS)	0.10	1.71	47	0
Total	0.10	1.71		
Koyna				
Stage 1-2	4.42	25.34	460	40
Stage 4	6.15	17.38	750	0
Stage 3	1.87	9.55	160	0
Total	12.43	52.28		
Hydro				
KDPH	0.43	2.29	18	18
VTRNA	0.00	0.28	0	0
TILLARI	0.30	1.62	63	0
BHTGR/VEER	0.00	0.00	0	0
BHIRA T.R.	0.32	2.02	80	0
RNGR+BHTSA	0.39	3.45	17	16
BHANDARDRA	0.00	0.00	0	0
ELDARY	0.00	0.00	0	0
SMLHY_PTN	0.59	1.09	25	24
GHATGHAR	1.15	5.24	125	0
Total	3.17	15.98		
Wind				
Total	3.11	93.90	0	0
Total	3.11	93.90		
CPP				
APML(Mus)	60.94	543.05	0	0
JSWEL(Mus)	26.22	205.34	0	0
VIPL(Mus)	13.24	110.37	0	0
RPLAMT(Mus)	17.83	144.39	0	0
WPCL(Mus)	0.00	0.00	0	0
Other(Mus)	8.47	56.38	0	0
Total	126.70	1059.53		
SOLAR				
Total	3.37	30.88	0	0
Total	3.37	30.88		
Tata				
Trombay 5	9.87	77.47	489	300
Trombay 6	0.00	0.00	0	0
Trombay 7A	2.55	22.80	116	79
Trombay 7B	1.52	13.68	67	55
Trombay 8	5.40	46.27	245	199
TATA Hydro	4.26	31.39	431	0
Total	23.60	191.61		
R-INFRA				
DTPS U-1&2	10.83	89.39	504	374
Total	10.83	89.39		

* Infirm Power			Summary			Summary		
Particulars	Daily (Mus)	Monthly	Particulars	Daily (Mus)	Monthly (Mus)	Particulars	Daily (Mus)	Monthly (Mus)
			MSPGCL Thermal	114.59	1055.14	MSPGCL Total	140.38	1214.01
			MSPGCL Thml+Gas	124.78	1145.74	Koyna 1,2 & 4 Total	10.56	42.73
			MSPGCL Hydro	15.60	68.26	State Total	307.97	2679.32

State Load Despatch Center,Airoli (MSETCL)

Annexure-2

Hourly Load Data As on 09/Nov/2017

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	4371	115	429	4915	143	4779	0	0	4875	4640	-1187	13290	0	13290	2205	15495	49.96
2	4346	300	444	5090	137	4524	0	0	4783	5058	-995	13814	0	13814	2010	15824	49.95
3	4401	295	444	5140	128	4748	0	0	5057	5168	-874	14310	0	14310	1890	16200	49.99
4	4700	104	447	5251	136	4852	0	0	5044	5119	-798	14560	0	14560	1810	16370	49.95
5	4766	269	445	5480	141	5012	0	0	5069	5074	-730	14977	0	14977	1796	16773	49.96
6	4893	434	446	5773	143	5414	0	0	5213	5261	-600	15991	0	15991	1902	17893	49.95
7	4971	826	444	6241	196	5710	0	4	5199	5529	-636	17044	0	17044	2024	19068	49.96
8	4896	1277	446	6619	171	5703	0	102	5449	5299	-748	17146	0	17146	2175	19321	49.91
9	4908	611	442	5961	119	5591	0	263	5529	5640	-990	16584	0	16584	2455	19039	49.95
10	4845	504	413	5762	128	5554	0	369	5681	5952	-1089	16677	0	16677	2782	19459	49.94
11	4868	877	417	6162	99	5534	0	450	6100	6546	-1207	17584	0	17584	3008	20592	49.94
12	4906	1552	413	6871	99	5548	0	478	6606	6629	-1224	18401	0	18401	3065	21466	49.95
13	4874	1362	407	6643	92	5553	0	492	6639	6513	-1220	18073	0	18073	3021	21094	49.95
14	4875	1319	389	6583	79	5553	0	433	6298	6717	-1138	18227	0	18227	2906	21133	50.01
15	4910	1217	409	6536	91	5523	0	384	6715	6661	-1149	18046	0	18046	2960	21006	49.92
16	4955	1328	390	6673	85	5516	0	263	6726	6647	-1176	18008	0	18008	2987	20995	49.98
17	4942	1138	402	6482	85	5521	0	115	6472	6522	-1185	17540	0	17540	2958	20498	49.95
18	4956	909	414	6279	102	5547	0	13	5653	5631	-1126	16446	0	16446	2911	19357	49.94
19	4976	443	417	5836	158	5534	0	0	5555	5767	-1174	16121	0	16121	2935	19056	49.97
20	4973	249	424	5646	156	5426	0	0	5454	5508	-1434	15302	0	15302	2799	18101	49.98
21	4957	159	422	5538	118	5197	0	0	5024	4840	-1461	14232	0	14232	2687	16919	50.00
22	4536	108	424	5068	99	5073	0	0	4796	4837	-1418	13659	0	13659	2555	16214	50.01
23	4395	103	431	4929	122	4845	0	0	5054	4780	-1370	13306	0	13306	2439	15745	49.98
24	4369	98	430	4897	285	4434	0	0	5046	4631	-1253	12994	0	12994	2326	15320	49.98
MUs	114.59	15.60	10.19	140.38	3.11	126.70	0.00	3.37	134.04	134.97	-26.18	382.34	0.00	382.34	60.61	442.94	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 09/Nov/2017

Position as on 6.30 Hrs of 10/Nov/2017

Generating Company	Name of Generating Unit	Capacity	Tripped Date	Tripped Time	Sync.Date	Sync. Time	Reason of Outage	Expected Date
PLANNED OUTAGE								
TPC-G	Trombay 6	500	15/07/2015	17.08		Continued.	Economic shutdown.	
CENT.SECTOR	TARAPUR 4	540	23/04/2017	19:55		Continued.	Annual Maintenance	
CENT.SECTOR	Tarapur 1	160	04/06/2017	19.09		Continued.	3 months outage for refuelling.	
MSPGCL	Chandrapur Unit 5	500	01/11/2017	09.20		Continued.	Annual Overhaul	
FORCED OUTAGE								
RGPL	Dabhol 1B	230	28/05/2013	22:02		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	
MSPGCL	Koradi Unit 6	210	09/07/2015	00.00		Continued.	EE R&M LE Work	
IPP	SWPGL U-1	135	16/02/2016	17.09		Continued.	No PPA.	
IPP	SWPGL U-2	135	29/02/2016	21.46		Continued.	No PPA	
MSPGCL	Parli Unit 5	210	01/04/2016	00.00		Continued.	Economic shutdown	
MSPGCL	Parli Unit 4	210	01/04/2016	00.00		Continued.	Economic shutdown	
MSPGCL	Bhusawal Unit 2	210	14/06/2016	19.35		Continued.	Shutdown	
MSPGCL	Uran Unit 8	108	14/08/2016	07.56		Continued.	Maintenance work	
RGPL	Dabhol 2A	230	24/08/2016	13.31		Continued.	Change Over.	
MSPGCL	Koradi Unit 5	200	05/09/2016	00.21		Continued.	ID Fan problem, Converted to Zero Schedule By MSEDCL from 00.00hrs/22-9-16. Shutdown taken on 18.10.2016 at 00:00Hrs for Turbine inspection and maintenance work	
PGPL	PGPL U1	262	07/02/2017	17.30		Continued.	No Schedule	
PGPL	PGPL U2	126	07/02/2017	17.30		Continued.	No Schedule	
MSPGCL	Ghatghar Unit-2	125	28/07/2017	00.00		Continued.	due to common pressure shaft with unit 1.	
CPP	SWPGL U-3	135	26/08/2017	17.40		Continued.	Boiler Tube Leakage	
MSPGCL	Khaparkheda Unit 3	210	12/09/2017	00.00		Continued.	Coal Shortage	
IPP	RPL(AMT) U-3	270	17/09/2017	00.02		Continued.	Coal Shortage	
IPP	RPL(AMT) U-5	270	17/09/2017	02.01		Continued.	Coal Shortage	
MSPGCL	Parli Unit 7	250	12/10/2017	00.00		Continued.	Zero Schedule from 12.10.2017 to 31.10.2017, Shutdown due to coal shortage from 00:00Hrs of 01.11.2017	
MSPGCL	Parli Unit 6	250	14/10/2017	17.04		Continued.	Zero Schedule from 14.10.2017 to 31.10.2017, Shutdown due to coal shortage from 00:00Hrs of 01.11.2017	
MSPGCL	Chandrapur Unit 3	210	25/10/2017	00.45		Continued.	Boiler tube leakage. Continued due to shortage of water from dt.01/11/17 0:00 hrs	

State Load Despatch Center,Airoli (MSETCL) Statement-VI
Details of Generating Unit Outages/Trippings for 09/Nov/2017

Position as on 6.30 Hrs of 10/Nov/2017

Generating Company	Name of Generating Unit	Capacity	Tripped Date	Tripped Time	Sync.Date	Sync. Time	Reason of Outage	Expected Date
IPP	Dhariwal	300	27/10/2017	17.31		Continued.	Drum level Not Maintained	
MSPGCL	Chandrapur Unit 4	210	29/10/2017	04.45		Continued.	Auxiliary supply failure. Continued due to water shortage from dt. 01/11/17 0:00 hrs.	
MSPGCL	Nasik Unit 3	210	30/10/2017	23.35		Continued.	GOVERNING SYSTEM PROBLEM.(Coal Shortage since 07.11.2017)	
MSPGCL	Bhusawal Unit 3	210	31/10/2017	22.37		Continued.	Coal Shortage	
CPP	SWPGL U-4	135	01/11/2017	00.02		Continued.	Boiler Tube Leakage	
MSPGCL	Koradi Unit 7	210	01/11/2017	00.05		Continued.	Poor Coal Receipt.	
MSPGCL	Koradi Unit-8	660	07/11/2017	00.06		Continued.	poor coal receipt.	
MSPGCL	Khaparkheda Unit 5	500	08/11/2017	08.56		Continued.	Boiler Tube Leakage	
MSPGCL	Ghatghar Unit-1	125	09/11/2017	20.00		Continued.	Generator T/F Problem	
IPP	RPL(AMT) U-2	270	10/11/2017	00.00		Continued.	Coal Shortage	
MSPGCL	Koyana Unit 6	75	10/11/2017	01.10	10/11/2017	03.50	LLB Trip. load Affected Nil.	
MSPGCL	Koyana Unit 7	80	10/11/2017	01.10	10/11/2017	04.00	LLB Trip. load Affected Nil.	
MSPGCL	Koyana Unit 8	80	10/11/2017	01.10	10/11/2017	02.35	LLB Trip. load Affected Nil.	
MSPGCL	Koyana Unit 5	80	10/11/2017	01.10	10/11/2017	03.00	LLB Trip. load Affected Nil.	
IPP	Adani U-1	660	10/11/2017	02.29		Continued.	Coal Shortage	

State Load Despatch Center,Airoli (MSETCL)
Details of Line outages/Trippings for 09/Nov/2017

Statement-VII

Position as on 6.30 Hrs of 10/Nov/2017

Name of Line	Inter State / Intra State	Tripped Date	Tripped Time	Sync. Date	Sync. Time	Outage Type	Reason of Outage
765 KV LINE Outages/Trippings							
Koradi-III - Tirora ckt-II	IntraState	09/11/2017	09.35	09/11/2017	17.46	PO	Routine Maintenance Work
500 KV LINE Outages/Trippings							
HVDC Pole-I	IntraState	08/11/2017	06.25		Continued.	PO	Annual Maintenance Work
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 I	InterState	06/11/2017	18.57		Continued.	HT	Over Voltage
Ektuni-Bableshwar ckt II	IntraState	08/11/2017	12.41		Continued.	HT	Over Voltage
karad -kolhapur-I	IntraState	08/11/2017	20.30	09/11/2017	08.08	HT	Over Voltage
Karad - Jaigad - II	IntraState	08/11/2017	20.35	09/11/2017	08.13	HT	Over Voltage
Khadka-Aurangabad (Waluj)	IntraState	08/11/2017	20.38	09/11/2017	07.06	HT	Over Voltage
Karad-Jaigad - I	IntraState	09/11/2017	10.02	09/11/2017	16.44	PO	Routine Maintenance Work
Warora -IEPL	IntraState	09/11/2017	12.47	09/11/2017	18.48	PO	Attending Hot Spot
Khadka-Aurangabad (Waluj)	IntraState	09/11/2017	19.07		Continued.	HT	Over Voltage
Karad - Jaigad - II	IntraState	09/11/2017	19.51		Continued.	HT	Over Voltage
karad -kolhapur-II	IntraState	09/11/2017	19.57		Continued.	HT	Over Voltage
400 KV ICT Outages/Trippings							
400/220 KV 315 MVA ICT- I @Koradi	IntraState	09/11/2017	10.16	09/11/2017	23.07	PO	Routine Maintenance Work
400/220 KV 315 MVA ICT-I @ Nagothane	IntraState	09/11/2017	11.00	09/11/2017	19.48	PO	CTR Maintenance work
220 KV LINE Outages/Trippings							
Talandage - Chikodi	InterState	01/06/2017	00.01		Continued.	PO	NO SCHEDULE.
Mudshingi - Chikodi	InterState	01/06/2017	00.06		Continued.	PO	NO SCHEDULE.
Solapur(PG)- Jeur	InterState	09/11/2017	14.18	09/11/2017	18.56	PO	String Replacement by hot line
Chandrapur GCR - Warora - I	IntraState	05/04/2015	09.13		Continued.	PO	Bunching of conductor Loc no 86 Disconnecting of jumper 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 jumper at Loc no 86 & 107 and de-energising the line bet.86 to 107.
Kharghar-Borivali ckt II	IntraState	07/06/2017	12.23		Continued.	T	Distance Protection Ry phase fault, 36KA practice in progress fault clear near borivali end.
Pedambe-Nerle	IntraState	23/09/2017	00.50		Continued.	T	B Phase CT Burst at Pedambe End
Kalwa - Borivali	IntraState	07/11/2017	08.00	09/11/2017	17.50	PO	Taken on TBC for Isolator replacement
Lamboti - Pandharpur li	IntraState	08/11/2017	20.41	09/11/2017	06.06	HT	Over Voltage
Theur-Phursungi	IntraState	09/11/2017	09.37	09/11/2017	17.28	PO	Routine Maintenance Work
Urse - Talegaon (Ambi) Ckt 1	IntraState	09/11/2017	10.20	09/11/2017	16.46	PO	Routine Maintenance Work
Karad(400kv) - Ogalewadi Ckt 1	IntraState	09/11/2017	10.50	09/11/2017	14.21	PO	Routine Maintenance Work
Paras-Balapur li	IntraState	09/11/2017	11.04	09/11/2017	18.18	PO	Measurment of Tan Delta of CT Measurment of CB timing and CRM measurment of IR Values of CT
Yeotmal- Pusad	IntraState	09/11/2017	13.36	09/11/2017	15.06	PO	Line Maintenance work
Kandalgaon - Bhira	IntraState	09/11/2017	14.30	09/11/2017	18.02	PO	Isolator work
Pophali - New Koyna	IntraState	10/11/2017	01.10	10/11/2017	02.15	T	LLB Trip. load Affected Nil.
Pophali - Nerale	IntraState	10/11/2017	01.10	10/11/2017	03.05	T	LLB Trip. load Affected Nil.
Bus Section II @ Pophali	IntraState	10/11/2017	01.10	10/11/2017	02.15	T	LLB Trip. load Affected Nil.

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 09/Nov/2017

Statement-VII

Position as on 6.30 Hrs of 10/Nov/2017

Name of Line	Inter State / Intra State	Tripped Date	Tripped Time	Sync. Date	Sync. Time	Outage Type	Reason of Outage
Pedambe-Pophali	IntraState	10/11/2017	01.10	10/11/2017	02.55	T	LLB Trip. load Affected Nil.
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)
220/33kV 100 MVA Transformer 3 @Ghodbunder R/S	IntraState	29/10/2017	09:26		Continued.	PO	Refurbishment of 100 MVA-3 Transformer under SIS DPR scheme
220/132 KV 100 MVA ICT - II @ Ghatodi	IntraState	09/11/2017	10.23	09/11/2017	18.19	PO	Testing Work
100/22 Kv 50 Mva Apex Ptr 1 @Kolshet	IntraState	09/11/2017	10.25	09/11/2017	16.26	PO	Attending Hot Spot
220/22 Kv 50 Mva Ptr 1 @Chakan	IntraState	09/11/2017	10.40	09/11/2017	18.03	PO	Routine Maintenance Work
220/22 Kv 50 Mva Vijai Make Ptr 1 @Uran	IntraState	09/11/2017	11.00	09/11/2017	20.00	PO	Routine Maintenance Work
220/22kv 50mva Ptr 2 @Talegaon	IntraState	09/11/2017	13.54	09/11/2017	18.02	PO	Routine Maintenance Work
220/132 kV 200 MVA ICT- I @ Nanded	IntraState	09/11/2017	15.04	09/11/2017	17.44	PO	Attending Hot Spot

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