

State Load Despatch Center, Airoli (MSETCL) Statement I
Daily system Report for 20/May/2016 FRIDAY

I GENERATION (MUs)			II EXCHANGES (MUs)		
A) MSPGCL	Daily	Monthly	E) InterState Exchanges	Daily	Monthly
1) Thermal	118.642	2553.391	1) Gujrat	-7.133	-77.751
2) Hydro	4.296	205.886	2) Madhya Pradesh	9.267	254.329
3) Gas	10.434	204.023	3) Chattisgarh	6.730	126.870
Total MSPGCL	133.372	2963.300	4) Maharashtra Net	102.501	2016.616
B) 1) APML	11.736	671.540	5) Goa (Amona)	-1.058	-12.968
2) JSWEL	24.573	540.682	6) TAPS 1&2 Injection	3.464	37.605
3) VIPL	9.328	251.693	7) RGPPL Injection	11.709	231.395
4) RPL(AMT)	23.366	328.684	8) Pench (MS)	0.029	0.705
5) WPCL	2.735	58.087	9) Pench (Excess)	-0.029	-0.705
6) Other IPP	4.932	105.383	Total	125.451	2575.391
C) 1) TPCL Thermal	15.904	314.210	a) Mumbai Schedule	24.203	499.768
2) TPCL Hydro	3.078	57.689	b) Mumbai Drawl	35.490	609.229
3) TPCL Gas	3.929	80.186	c) MSEDCL Bilateral *	36.390	648.868
4) R-INFRA Thermal	11.052	222.823	Include PX	0.000	-4.896
D) STATE			d) Mumbai Bilateral *	24.203	499.768
1) Thermal	222.268	5046.493	Include PX	4.315	49.675
(A1+C1+C4+(B1-B6))			Include Standby	0.000	0.000
2) Hydro	7.374	263.575	H) ENERGY CATERED (MUs)		
3) Gas	14.363	284.209	1) MSEDCL	345.167	7230.146
4) Wind	43.895	318.264	2) Mumbai Discoms	69.453	1284.107
6) SOLAR	1.269	26.351	TOTAL STATE	414.620	8514.253
TOTAL STATE	289.169	5938.892			

* Displayed for information, not added in total.

DETAILS OF MAHARASHTRA STATE PEAK DEMAND(MW) Statement II

PARTICULARS	A. Morning Peak at 11 Hrs	B. Day Peak at 16 Hrs	C. Evening Peak at 21 Hrs	D. Night Minimum at 4 Hrs
MSPGCL Thermal	5002	4848	4894	4840
MSPGCL Hydro	165	470	286	82
MSPGCL Gas	425	449	438	441
MSPGCL Total Generation	5592	5767	5618	5363
Central Sector Receipt	5421	5407	5552	4941
WIND	1684	1633	1892	1930
CPP / IPP	3246	3304	3208	3118
SOLAR	148	121	0	0
Exchange with Mumbai	-1668	-1639	-1433	-1216
MSEDCL DEMAND MET	14423	14593	14837	14136
Load Shedding	0	0	0	0
MSEDCL DEMAND	14423	14593	14837	14136
TPCL GENERATION	1099	1293	1040	688
R-INFRA GENERATION	512	512	505	403
MUMBAI DEMAND	3279	3444	2978	2307
STATE DEMAND MET	17702	18037	17815	16443
STATE DEMAND	17702	18037	17815	16443
Frequency (Hz)	50.01	49.97	49.99	49.99

FREQUENCY PARTICULARS

MAXIMUM FREQ.	MINIMUM FREQ.	AVERAGE FREQ.	FREQ. BELOW 49.2 Hz
50.19 Hz at 17:02 Hrs	49.77 Hz at 12:38 Hrs	49.98	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 20/May/2016

Generating unit	Generation			
	Daily (Mus)	Monthly (Mus)	Max (MW)	Min (MW)
Koradi				
Unit 5	3.10	12.64	140	115
Unit 6	0.00	0.00	0	0
Unit 7	3.91	25.50	175	150
Unit 8	12.13	193.14	600	475
Total	19.14	231.28		
Bhusawal				
Unit 2	0.01	43.32	8	0
Unit 3	3.86	78.94	170	155
Unit 4	8.63	207.38	480	350
Unit 5	8.75	204.31	490	350
Total	21.25	533.96		
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	4.10	86.80	195	150
Unit 4	4.08	86.09	190	163
Unit 5	8.98	148.15	446	360
Unit 6	9.03	206.28	444	350
Unit 7	0.00	151.22	0	0
Total	26.19	678.53		
Paras				
Unit 3	0.00	104.54	0	0
Unit 4	5.04	112.08	250	198
Total	5.04	216.62		
Khaparkheda				
Unit 1	3.56	69.75	165	120
Unit 2	3.46	78.10	155	135
Unit 3	3.92	80.64	167	161
Unit 4	4.09	68.74	175	162
Unit 5	11.61	194.74	500	390
Total	26.64	491.96		
Nasik				
Unit 3	3.96	84.27	170	160
Unit 4	2.38	76.74	181	0
Unit 5	3.99	84.27	170	162
Total	10.32	245.28		
Uran				
All Units	10.43	204.02	451	421
Total	10.43	204.02		

Generating unit	Generation			
	Daily (Mus)	Monthly (Mus)	Max (MW)	Min (MW)
PENCH (MS)				
Pench (MS)	0.03	0.70	23	0
Total	0.03	0.70		
Koyna				
Stage 1-2	1.65	67.60	210	40
Stage 4	0.00	62.94	0	0
Stage 3	0.35	29.58	80	0
Total	2.00	160.12		
Hydro				
KDPH	0.49	10.10	21	20
VTRNA	0.00	0.29	0	0
TILLARI	0.22	6.04	60	0
BHTGR/VEER	0.00	0.00	0	0
BHIRA T.R.	0.20	3.23	80	0
RNGR+BHTSA	0.17	3.08	10	0
BHANDARDRA	0.20	2.68	9	8
ELDARY	0.00	0.00	0	0
SMLHY_PTN	0.14	3.63	6	5
GHATGHAR	0.88	16.71	250	0
Total	2.29	45.77		
Wind				
Total	43.90	318.26	0	0
Total	43.90	318.26		
CPP				
APML(Mus)	11.74	671.54	0	0
JSWEL(Mus)	24.57	540.68	0	0
VIPL(Mus)	9.33	251.69	0	0
RPLAMT(Mus)	23.37	328.68	0	0
WPCL(Mus)	2.74	58.09	0	0
Other(Mus)	4.93	105.38	0	0
Total	76.67	1956.07		
SOLAR				
Total	1.27	26.35	0	0
Total	1.27	26.35		
Tata				
Trombay 5	10.34	198.74	493	313
Trombay 6	0.00	0.00	0	0
Trombay 7A	2.49	51.24	115	94
Trombay 7B	1.44	28.94	63	57
Trombay 8	5.57	115.47	249	200
TATA Hydro	3.08	57.69	407	0
Total	22.91	452.08		
R-INFRA				
1-2	11.05	222.82	513	401
Total	11.05	222.82		

* Infirm Power			Summary			Summary		
Particulars	Daily (Mus)	Monthly	Particulars	Daily (Mus)	Monthly (Mus)	Particulars	Daily (Mus)	Monthly (Mus)
Chandrapur 8	0.00	0.00	MSPGCL Thermal	118.64	2553.39	MSPGCL Total	133.37	2963.30
Chandrapur 9	0.00	1.92	MSPGCL Thml+Gas	129.08	2757.41	Koyna 1,2 & 4 Total	1.65	130.54
Koradi 9	10.05	153.83	MSPGCL Hydro	4.30	205.89	State Total	289.17	5938.89
Parli 8	0.00	0.00						

State Load Despatch Center,Airoli (MSETCL)
Hourly Load Data As on 20/May/2016

Annexure-2

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	5472	217	451	6140	1558	3162	0	5847	5724	-1402	15182	0	15182	2819	18001	50.01
2	5261	75	431	5767	1795	2944	0	5649	5603	-1319	14790	0	14790	2596	17386	50.00
3	5169	75	442	5686	1878	2957	0	5401	5294	-1320	14495	0	14495	2419	16914	49.99
4	4840	82	441	5363	1930	3118	0	5246	4941	-1216	14136	0	14136	2307	16443	49.99
5	4863	85	441	5389	1942	3142	0	4922	4905	-1169	14209	0	14209	2257	16466	49.98
6	4871	84	434	5389	1984	3197	0	4876	4916	-1172	14314	0	14314	2257	16571	50.01
7	4862	84	433	5379	2123	3286	6	4964	4764	-1140	14418	0	14418	2223	16641	50.00
8	4852	94	430	5376	1912	3242	38	5190	4943	-1239	14272	0	14272	2321	16593	50.01
9	4911	89	450	5450	2060	3231	81	5486	5137	-1501	14458	0	14458	2590	17048	49.98
10	4956	104	427	5487	1833	3252	114	5489	5494	-1646	14534	0	14534	3007	17541	49.99
11	5002	165	425	5592	1684	3246	148	5799	5421	-1668	14423	0	14423	3279	17702	50.01
12	4975	170	421	5566	1615	3187	160	5557	5384	-1665	14247	0	14247	3388	17635	49.97
13	4849	205	433	5487	1433	3197	174	5018	5162	-1608	13845	0	13845	3409	17254	49.87
14	4912	370	433	5715	1406	3200	168	5031	5227	-1577	14139	0	14139	3319	17458	49.94
15	4851	535	422	5808	1507	3193	152	5113	5285	-1601	14344	0	14344	3405	17749	49.90
16	4848	470	449	5767	1633	3304	121	5149	5407	-1639	14593	0	14593	3444	18037	49.97
17	4884	176	425	5485	1801	3255	73	5102	5074	-1693	13995	0	13995	3400	17395	50.01
18	4895	125	437	5457	1987	3197	30	4479	4160	-1684	13147	0	13147	3297	16444	50.04
19	4896	145	429	5470	1947	3203	4	4052	4257	-1594	13287	0	13287	3064	16351	49.96
20	4879	363	429	5671	1944	3202	0	4855	5161	-1466	14512	0	14512	3015	17527	49.91
21	4894	286	438	5618	1892	3208	0	5444	5552	-1433	14837	0	14837	2978	17815	49.99
22	4886	74	441	5401	1969	3209	0	5675	5461	-1583	14457	0	14457	2892	17349	50.00
23	4917	74	442	5433	2053	3249	0	5631	6173	-1556	15352	0	15352	2863	18215	49.99
24	4897	149	430	5476	2009	3289	0	5489	6006	-1599	15181	0	15181	2904	18085	49.98
MUs	118.64	4.30	10.43	133.37	43.89	76.67	1.27	125.46	125.45	-35.49	345.17	0.00	345.17	69.45	414.62	49.98

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 20/May/2016

Position as on 6.30 Hrs of 21/May/2016

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,(AOH for 06.03.2016 To 04.04.2016) Unit Test synch.07.04.2016 (12.03 To 12.30hrs)After overhaul	
CENT.SECTOR	Tarapur 2	160	10/09/2015	12.55		Continued.	Refuelling work	
MSPGCL	Koyna 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 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	
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	
CPP	WPCL U-1	135	16/02/2016	17.09		Continued.	No Schedule	
IPP	WPCL U-2	135	29/02/2016	21.46		Continued.	Change over against Unit III	
MSPGCL	Koyna Unit 11	80	11/03/2016	13.53		Continued.	stator earth fault	
IPP	Adani U-3	660	20/04/2016	03.33		Continued.	Furnace Pressure High	
MSPGCL	Uran Unit 8	108	02/05/2016	14.47		Continued.	Gas shortage	
CPP	WPCL U-4	135	03/05/2016	00.00		Continued.	ESP Back Filter DP High	
IPP	Adani U-5	660	05/05/2016	23.09		Continued.	Due to Unavailblity of Water.	
RGPL	Dabhol 3X	290	07/05/2016	18.40		Continued.	Low Vaccum	
RGPL	Dabhol 3A	230	07/05/2016	18.44		Continued.	Low Vaccum	
IPP	Adani U-1	660	13/05/2016	22.53		Continued.	Water Shortage	
IPP	Adani U-2	660	15/05/2016	00.58		Continued.	Water Shortage	
MSPGCL	Chandrapur Unit 7	500	18/05/2016	15.41		Continued.	Boiler Tube Leakage	
MSPGCL	Nasik Unit 4	210	18/05/2016	17.00		Continued.	Boiler Validity Extension.	
MSPGCL	Paras Unit 3	250	19/05/2016	16.24		Continued.	BTL.	
IPP	VIPL U-2	300	19/05/2016	20.18	20/05/2016	03.12	GT Class a Operated.	

State Load Despatch Center, Airoli (MSETCL) Statement-VI
Details of Generating Unit Outages/Trippings for 20/May/2016

Position as on 6.30 Hrs of 21/May/2016

Generating Company	Name of Generating Unit	Capacity	Tripped Date	Tripped Time	Sync.Date	Sync. Time	Reason of Outage	Expected Date
IPP	JSW (J) U1	300	19/05/2016	22.52	20/05/2016	02.38	Due to Electrical Problem	
MSPGCL	Bhusawal Unit 2	210	20/05/2016	00.05		Continued.	Boiler Tube Leakage	

State Load Despatch Center, Airoli (MSETCL)
Details of Line outages/Trippings for 20/May/2016

Statement-VII

Position as on 6.30 Hrs of 21/May/2016

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	20/05/2016	09.38	20/05/2016	20.05	PO	Conductor Repairing Work.
400 KV LINE Outages/Trippings							
Dhule Sar'Sarovar I	InterState	17/05/2016	18.09		Continued.	HT	Over Voltage
Dabhol New koyna I	InterState	18/05/2016	12.20		Continued.	PO	Replacement of Porcelain Insulator String(RFC @ 20.03).
Dhule Sar'Sarovar I	InterState	19/05/2016	17.38	20/05/2016	06.57	HT	Over Voltage
Kolhapur Solapur (PG) II	InterState	19/05/2016	18.01	20/05/2016	06.16	HT	Over Voltage
Dhule Sar'Sarovar II	InterState	20/05/2016	07.40		Continued.	PO	Relay Retrofitting work.
Padgha - Boisar (PG)	InterState	20/05/2016	08.50	20/05/2016	20.08	PO	Line Maintenance work
Kolhapur Solapur(PG) I	InterState	21/05/2016	02.27		Continued.	HT	Over Voltage
Akola II - Taptitanda ckt-I	IntraState	27/04/2016	11.41		Continued.	PO	Dismantling of Conductor Reorientation.
Padgha-HVDC(AC)-II	IntraState	15/05/2016	12.45	20/05/2016	08.30	PO	Attending Hot Spot & Shifted on TBC
Ektuni-Bableshwar ckt II	IntraState	19/05/2016	09.44		Continued.	HT	To Control BBLR Padghe Loading.
Jaigad-New Koyna Ckt-II	IntraState	19/05/2016	14.35		Continued.	T	Distance Protection
karad -kolhapur-II	IntraState	19/05/2016	16.30		Continued.	HT	Over Voltage
Khadka-Aurangabad (Waluj)	IntraState	19/05/2016	17.45		Continued.	HT	Over Voltage
New Koyna - Dabhol-I	IntraState	20/05/2016	08.04		Continued.	PO	Replacement of Porcelain Insulator String.
Chandrapur2-Parali 2 ckt 2	IntraState	20/05/2016	08.42	20/05/2016	20.37	PO	765kv PG Wardha-Hyderabad Crossing.
Babhaleshwar - Bhusawal II	IntraState	21/05/2016	03.32		Continued.	T	Over Voltage
Babhaleshwar - Padghe-II	IntraState	21/05/2016	06.05		Continued.	PO	765kv Line Contraction Crossing Work.
400 KV ICT Outages/Trippings							
400/220 KV 500 MVA ICT- I @Warora	IntraState	06/05/2016	14.37		Continued.	PO	To Dismantle & Transport To Babhaleshwar.
400/220 KV 500 MVA ICT- II @Warora	IntraState	13/05/2016	14.39		Continued.	PO	For Dismanteling Of ICT-I
400/220kv, 500 MVA ICT-III @Babhleshwar	IntraState	19/05/2016	09.11		Continued.	PO	Taken on TBC to Attend open Jumper Work.
400/220/22 Kv 100 Mva Ict 1 @Koradi	IntraState	20/05/2016	16.55		Continued.	HT	Due to LA Chattering.
220 KV LINE Outages/Trippings							
Nasik Navsari I	InterState	16/05/2016	18.32		Continued.	HT	O/L of Interconnector betn. Nsk OCR & GCR
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.
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).
Bableshwar- Ranjangaon	IntraState	03/02/2016	07.12		Continued.	HT	To Control BBLSR ICT O/L
Bableshwar- Alephata	IntraState	19/03/2016	19.44		Continued.	HT	To control BBLSR ICT Loading
Khaparkhedha-Kaulewada-I	IntraState	18/05/2016	00.27		Continued.	T	Distance Protection
Chinchwad-Hinjewadi I	IntraState	18/05/2016	09.36		Continued.	HT	To Control Urse Chinchwad Loading.
Karad - Sadawagpur I	IntraState	18/05/2016	16.13		Continued.	T	Tripped @ Sadavagapur End Only
Temghar - Kalwa	IntraState	20/05/2016	07.03	20/05/2016	16.15	PO	To attend Hot Spot

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 20/May/2016

Statement-VII

Position as on 6.30 Hrs of 21/May/2016

Name of Line	Inter State / Intra State	Tripped Date	Tripped Time	Sync. Date	Sync. Time	Outage Type	Reason of Outage
New Koyna - Loteparshuram	IntraState	20/05/2016	08.11	20/05/2016	10.40	EO	For Attending Hot Spot on Wave Trap.
Tambati - Adlabs	IntraState	20/05/2016	10.45	20/05/2016	19.40	PO	Relay Retrofitting Work.
Talandge(400)- Mudshingi 2 Line	IntraState	20/05/2016	10.55	20/05/2016	12.31	PO	On TBC Breaker Timing.
Nagothane-Wadkhal-I	IntraState	20/05/2016	11.28		Continued.	PO	CT Replacement work.
Karad(400kv) -Mudshingi Ckt 2-Tak	IntraState	20/05/2016	12.45	20/05/2016	13.48	PO	ON TBC Breaker Timing.
Lonand-Baramati	IntraState	20/05/2016	16.05	20/05/2016	18.40	PO	Annual Maintenance Work
Jejuri-Parvati	IntraState	20/05/2016	16.51	20/05/2016	17.26	PO	Bus Change work.
Pophali - New Koyna	IntraState	21/05/2016	05.43		Continued.	PO	Bus Outage at Pophali End.
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)
220/132kv 150MVA ICT-II @ Satana	IntraState	17/05/2016	10.15		Continued.	PO	Testing Work
220/66 Kv 50 Mva Bhel Ptr 1 @Wardha	IntraState	17/05/2016	17.05		Continued.	T	L V CB Burst of T/F-1.
220/132 Kv 100 Mva Bhel Ict 1 @Padegaon	IntraState	18/05/2016	16.07		Continued.	T	Bus Bar Protection Operated as 220/132KV 100MVA ICT-1 HV Side B Ph CT Burst.
220/100 Kv 200 MVA ICT-IV@Kalwa	IntraState	19/05/2016	10.05	20/05/2016	13.22	PO	Attending Oil Leakage
220kv 200MVA ICT IV @ OCR Nashik	IntraState	20/05/2016	09.04	20/05/2016	13.14	PO	Testing Work
220/132kv 200mva Vijai Ptr 2 @Lonand	IntraState	20/05/2016	09.34	20/05/2016	14.48	PO	Testing Work
220/132kv 150MVA ICT-II @ Satana	IntraState	20/05/2016	15.40		Continued.	PO	R-PH Bushing Replacement work.
132 KV LINE Outages/Trippings							
Chalishaon-Chalishaon- 1	IntraState	17/05/2016	21.11		Continued.	T	Due to Bursting of Y Ph HV Side CT of 132/11 16 MVA T/F @ Chalishaon S/S.
Chitegaon - Garware	IntraState	17/05/2016	21.11		Continued.	T	Due to Bursting of B Ph Line CT of Chitegaon Ckt.
110 KV LINE Outages/Trippings							
Jath-Sankh	IntraState	18/05/2016	16.15		Continued.	T	Tower Collapse.
Kandalgaon - Roha 2	IntraState	20/05/2016	12.20	20/05/2016	18.00	EO	Attending Oil Leakages of ICT

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