

State Load Despatch Center, Airoli (MSETCL) Statement I
Daily system Report for 29/Aug/2020 SATURDAY

I GENERATION (MUs)			II EXCHANGES (MUs)		
A) MSPGCL	Daily	Monthly	E) InterState Exchanges	Daily	Monthly
1) Thermal	102.913	2790.774	1) Gujrat	4.899	40.453
2) Hydro	8.812	241.167	2) Madhya Pradesh	3.086	192.178
3) Gas	6.568	147.490	3) Chattisgarh	5.780	143.800
Total MSPGCL	118.293	3179.431	4) Maharashtra	119.770	3209.660
B) 1) APML	30.522	816.358	5) Goa (Amona)	-1.621	-47.839
2) JSWEL	16.506	461.311	Total	131.914	3538.252
3) VIPL	0.000	0.000	a) Mumbai Schedule	21.580	703.214
4) RPL(AMT)	0.000	0.000	b) Mumbai Drawl	22.394	696.402
5) WPCL	2.589	129.247	c) MSEDCL Bilateral *	36.626	909.518
6) Other IPP	8.623	233.322	Include PX	7.853	171.746
7) PGPL	0.000	0.000	d) Mumbai Bilateral *	21.580	703.214
C) 1) TPCL Thermal	8.269	228.620	Include PX	13.564	412.921
2) TPCL Hydro	6.702	127.266	Standby	0.000	0.000
3) TPCL Gas	2.410	102.767	H) ENERGY CATERED (MUs)		
4) AEML Thermal	4.887	141.333	1) MSEDCL	327.521	9087.812
D) STATE			2) Mumbai Discoms	44.662	1296.386
1) Thermal	174.309	4800.965	TOTAL STATE	372.183	10384.198
(A1+C1+C4+(B1-B6))					
2) Hydro	15.514	368.433			
(A2+C2)					
3) Gas	8.978	250.257			
(A3+B7+C3)					
4) Wind	38.261	1299.165			
6) SOLAR	3.207	127.128			
TOTAL STATE	240.269	6845.948			

* 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 4 Hrs
MSPGCL Thermal	4660	4564	4142	4176
MSPGCL Hydro	593	181	1278	279
MSPGCL Gas	270	266	276	279
MSPGCL Total Generation	5523	5011	5696	4734
Central Sector Receipt	6821	6112	5137	4275
WIND	1658	1606	1707	1365
CPP / IPP Thermal	2493	2452	2692	2189
CPP / IPP Gas	0	0	0	0
SOLAR	305	380	0	0
Exchange with Mumbai	-986	-1039	-870	-843
MSEDCL DEMAND MET	15814	14522	14362	11720
Load Shedding	0	0	0	0
MSEDCL DEMAND	15814	14522	14362	11720
TPCL GENERATION	768	871	923	535
AEML GENERATION	238	247	250	189
MUMBAI DEMAND	1992	2157	2043	1567
STATE DEMAND MET	17806	16679	16405	13287
STATE DEMAND	17806	16679	16405	13287
Frequency (Hz)	49.95	49.96	50.01	49.99

FREQUENCY PARTICULARS

MAXIMUM FREQ.	MINIMUM FREQ.	AVERAGE FREQ.	FREQ. BELOW 49.2 Hz
50.14 Hz at 13.02 Hrs	49.8 Hz at 18.26 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 29/Aug/2020

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	9.85	177.44	460	313
Unit 9	9.44	159.29	460	350
Unit 10	8.47	101.45	385	310
Total	27.76	438.18		
Bhusawal				
Unit 3	0.00	0.00	0	0
Unit 4	9.30	128.99	455	355
Unit 5	9.31	226.92	450	350
Total	18.61	355.90		
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	0.00	0.00	0	0
Total	0.00	0.00		
Chandrapur				
Unit 3	0.59	29.60	90	0
Unit 4	0.00	92.66	0	0
Unit 5	9.15	251.02	415	340
Unit 6	0.00	194.84	0	0
Unit 7	0.00	44.52	0	0
Unit 8	10.24	205.15	485	360
Unit 9	6.12	277.95	460	0
Total	26.11	1095.73		
Paras				
Unit 3	4.84	115.98	240	175
Unit 4	4.14	116.83	191	114
Total	8.98	232.81		
Khaparkheda				
Unit 1	2.78	93.62	145	90
Unit 2	3.28	91.85	160	120
Unit 3	3.10	96.73	158	117
Unit 4	3.75	108.93	170	145
Unit 5	8.54	277.04	440	290
Total	21.46	668.16		
Nasik				
Unit 3	0.00	0.00	0	0
Unit 4	0.00	0.00	0	0
Unit 5	0.00	0.00	0	0
Total	0.00	0.00		
Uran				
All Units	6.57	147.49	289	255
Total	6.57	147.49		
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)	1.23	29.66	53	50

Generating unit	Generation			
	Daily (Mus)	Monthly (Mus)	Max (MW)	Min (MW)
Total	1.23	29.66		
Koyna				
Stage 1-2	3.25	76.13	385	40
Stage 4	1.38	34.37	670	0
Stage 3	1.82	53.44	160	0
Total	6.45	163.94		
Hydro				
KDPH	0.00	8.79	0	0
VTRNA	0.00	0.61	0	0
TILLARI	0.38	18.88	58	0
BHTGR/VEER	0.00	0.00	0	0
BHIRA T.R.	0.46	11.43	40	0
RNGR+BHTSA	0.00	0.41	0	0
BHANDARDRA	0.34	7.72	15	14
ELDARY	0.52	7.56	22	21
SMLHY_PTN	0.65	21.83	28	27
GHATGHAR	0.00	0.00	0	0
Total	2.36	77.23		
Wind				
Total	38.26	1299.16	0	0
Total	38.26	1299.16		
CPP				
APML(Mus)	30.52	816.36	0	0
JSWEL(Mus)	16.51	461.31	0	0
VIPL(Mus)	0.00	0.00	0	0
RPLAMT(Mus)	0.00	0.00	0	0
WPCL(Mus)	2.59	129.25	0	0
Other(Mus)	8.62	233.32	0	0
Total	58.24	1640.24		
SOLAR				
Total	3.21	127.13	0	0
Total	3.21	127.13		
Tata				
Trombay 5	8.27	228.62	449	281
Trombay 6	0.00	0.00	0	0
Trombay 7A	1.35	62.94	58	55
Trombay 7B	1.06	39.82	46	44
Trombay 8	0.00	0.00	0	0
TATA Hydro	6.70	127.27	393	126
Total	17.38	458.65		
AEML				
DTPS U-1&2	4.89	141.33	251	187
Total	4.89	141.33		

* Infirm Power			Summary			Summary		
Particulars	Daily (Mus)	Monthly	Particulars	Daily (Mus)	Monthly (Mus)	Particulars	Daily (Mus)	Monthly (Mus)
			MSPGCL Thermal	102.91	2790.77	MSPGCL Total	118.29	3179.43
			MSPGCL Thml+Gas	109.48	2938.26	Koyna 1,2 & 4 Total	4.64	110.50
			MSPGCL Hydro	8.81	241.17	State Total	240.27	6845.95

State Load Despatch Center,Airoli (MSETCL)

Annexure-2

Hourly Load Data As on 29/Aug/2020

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	4190	163	279	4632	1590	2128	0	0	4344	4234	-892	11692	0	11692	1740	13432	49.97
2	4170	193	269	4632	1985	2234	0	0	4243	4261	-873	12239	0	12239	1656	13895	49.98
3	4138	293	269	4700	1278	2203	0	0	4639	4429	-904	11706	0	11706	1599	13305	49.93
4	4176	279	279	4734	1365	2189	0	0	4462	4275	-843	11720	0	11720	1567	13287	49.99
5	4217	333	289	4839	1405	2224	0	0	4759	4673	-833	12308	0	12308	1548	13856	49.94
6	4259	323	269	4851	1389	2313	0	9	5509	5248	-859	12951	0	12951	1573	14524	49.97
7	4262	298	279	4839	1360	2403	0	20	6457	6532	-779	14375	0	14375	1583	15958	49.95
8	4545	296	280	5121	1472	2503	0	99	6823	6970	-809	15356	0	15356	1643	16999	50.01
9	4645	366	279	5290	1533	2509	0	207	6967	7096	-934	15701	0	15701	1791	17492	49.96
10	4660	593	270	5523	1658	2493	0	305	6891	6821	-986	15814	0	15814	1992	17806	49.95
11	4694	358	278	5330	1471	2495	0	359	6725	6690	-1036	15309	0	15309	2116	17425	49.99
12	4583	343	276	5202	1555	2458	0	372	6387	6275	-1088	14774	0	14774	2163	16937	50.00
13	4564	181	266	5011	1606	2452	0	380	6283	6112	-1039	14522	0	14522	2157	16679	49.96
14	4482	148	275	4905	1681	2376	0	415	5961	5826	-1120	14083	0	14083	2070	16153	50.04
15	4304	158	255	4717	2011	2299	0	429	5785	5730	-1170	14016	0	14016	2051	16067	49.99
16	3960	273	275	4508	2088	2344	0	324	5684	5731	-1064	13931	0	13931	1997	15928	49.98
17	3997	430	275	4702	2002	2468	0	212	5577	5535	-1029	13890	0	13890	1973	15863	49.96
18	4103	220	266	4589	1905	2486	0	70	5972	5777	-924	13903	0	13903	1956	15859	50.01
19	4115	723	266	5104	1618	2589	0	6	5913	5645	-918	14044	0	14044	2013	16057	49.96
20	4142	1278	276	5696	1707	2692	0	0	5343	5137	-870	14362	0	14362	2043	16405	50.01
21	4145	467	267	4879	1368	2702	0	0	5166	5224	-817	13356	0	13356	1960	15316	50.01
22	4244	607	276	5127	1405	2675	0	0	4676	4634	-861	12980	0	12980	1886	14866	49.99
23	4241	281	277	4799	1472	2664	0	0	4954	4430	-887	12478	0	12478	1823	14301	50.02
24	4077	208	278	4563	1337	2341	0	0	5060	4629	-859	12011	0	12011	1762	13773	50.01
MUs	102.91	8.81	6.57	118.29	38.26	58.24	0.00	3.21	134.58	131.91	-22.39	327.52	0.00	327.52	44.66	372.18	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 29/Aug/2020

Position as on 6.30 Hrs of 30/Aug/2020

Generating Company	Name of Generating Unit	Capacity	Tripped Date	Tripped Time	Sync.Date	Sync. Time	Reason of Outage	Expected Date
PLANNED OUTAGE								
IPP	JSW (J) U4	300	20/08/2020	15.57		Continued.	Annual Overhaul	
FORCED OUTAGE								
IPP	SWPGL U-1	135	16/02/2016	17.09		Continued.	No PPA.	
PGPL	PGPL U1	262	07/02/2017	17.30		Continued.	No Schedule	
PGPL	PGPL U2	126	07/02/2017	17.30		Continued.	No Schedule	
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	
IPP	VIPL U-2	300	17/01/2019	00.15		Continued.	Coal Shortage	
MSPGCL	Koradi Unit 7	210	27/08/2019	09.52		Continued.	Coal Flow Problem Due To Wet Coal.(Converted To Zero Schedule From 12.09.2019 At 10.00 hrs)	
MSPGCL	Bhusawal Unit 3	210	01/09/2019	17.56		Continued.	Zero Schedule from 18:00hrs of 28/09/2019	
MSPGCL	Koradi Unit 6	210	06/09/2019	15.41		Continued.	Zero Schedule By MSEDCL	
IPP	RPL(AMT) U-4	270	12/11/2019	00.00		Continued.	Zero Schedule By MSEDCL.	
MSPGCL	Nasik Unit 5	210	12/12/2019	10.25		Continued.	PA Fan Problem (Under Case 4 Bidding From 11.00Hrs DT. 13-12-2019)	
IPP	RPL(AMT) U-3	270	11/02/2020	18.00		Continued.	Zero Schedule By MSEDCL.	
IPP	RPL(AMT) U-5	270	11/02/2020	19.30		Continued.	Zero Schedule By MSEDCL.	
MSPGCL	Nasik Unit 3	210	17/02/2020	00:00		Continued.	C W PUMP High Vibrations(convert to Zero Schedule from 00.00Hrs DT. 18-02-2020)	
MSPGCL	Uran Unit 8	108	01/03/2020	20.57		Continued.	Gas shortage	
IPP	RPL(AMT) U-1	270	04/03/2020	19.30		Continued.	Zero Schedule By MSEDCL	
MSPGCL	Ghatghar Unit-2	125	09/03/2020	10:50	30/08/2020	13.00	Expansion joint leakage.	
IPP	RPL(AMT) U-2	270	09/03/2020	20.15		Continued.	Zero Schedule By MSEDCL	
MSPGCL	Parli Unit 6	250	21/03/2020	17.31		Continued.	Zero Schedule By MSEDCL	
MSPGCL	Nasik Unit 4	210	25/03/2020	19.45		Continued.	Reserve Shut Down.(Converted zero schedule from 25.03.2020)	
TPC_G	Trombay 8	250	11/04/2020	16.55		Continued.	Zero Schedule.	
MSPGCL	Parli Unit 7	250	12/05/2020	19.34		Continued.	Zero Schedule.	
MSPGCL	Uran Unit B0	120	25/05/2020	12.51		Continued.	Turbine Blade Failure	
MSPGCL	Uran Unit 7	108	25/05/2020	12.51		Continued.	Turbine Blade Failure	
MSPGCL	Parli Unit 8	250	01/06/2020	13.13		Continued.	Zero schedule By MSEDCL	
IPP	Adani U-1	660	03/06/2020	15.02		Continued.	Converted zero schedule from 03.06.2020	
IPP	Adani U-5	660	04/06/2020	12.29		Continued.	Zero Schedule.	
IPP	Adani U-4	660	12/06/2020	10.30		Continued.	Zero Schedule	

State Load Despatch Center,Airoli (MSETCL) Statement-VI
Details of Generating Unit Outages/Trippings for 29/Aug/2020

Position as on 6.30 Hrs of 30/Aug/2020

Generating Company	Name of Generating Unit	Capacity	Tripped Date	Tripped Time	Sync.Date	Sync. Time	Reason of Outage	Expected Date
AEML	AEML Unit 1	250	27/06/2020	23.55		Continued.	Zero schedule.	
MSPGCL	Chandrapur Unit 7	500	06/08/2020	03.33		Continued.	Sparkling in generator R phase winding.	
MSPGCL	Chandrapur Unit 3	210	11/08/2020	10.00	29/08/2020	13.51	PA Fan problem	
CPP	SWPGL U-4	135	12/08/2020	00.45		Continued.	Zero Schedule by MSEDCL	
CPP	SWPGL U-3	135	12/08/2020	00.45		Continued.	Zero Schedule by MSEDCL	
MSPGCL	Ghatghar Unit-1	125	27/08/2020	05.25		Continued.	Runner band Drainage valve Leakage	
MSPGCL	Chandrapur Unit 6	500	27/08/2020	10.55		Continued.	Boiler Tube Leakage	
MSPGCL	Chandrapur Unit 4	210	27/08/2020	18.00		Continued.	Boiler Tube Leakage	
MSPGCL	Chandrapur Unit 9	500	29/08/2020	15.30		Continued.	Boiler Tube Leakage	

State Load Despatch Center,Airoli (MSETCL)
Details of Line outages/Trippings for 29/Aug/2020

Statement-VII

Position as on 6.30 Hrs of 30/Aug/2020

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	03/05/2017	11:49		Continued.	PO	Line Converted As 220 Kv Solapur (PG)- Jeur From LOC 403
Dhule Khandwa I	InterState	26/08/2020	23.44	30/08/2020	10.34	HT	Over Voltage
Dhule Sar'Sarovar I	InterState	28/08/2020	20.27	29/08/2020	11.42	HT	Over Voltage
Dhule Sar'Sarovar II	InterState	29/08/2020	19.12	30/08/2020	08.31	HT	Over Voltage
Dhule Khandwa II	InterState	29/08/2020	19.15		Continued.	T	Due To Fire At 48 Volt DC Charger.
BABHALESHWAR - RPL(NASHIK) CKT - 1	IntraState	11/06/2020	10.40		Continued.	HT	Over Voltage
Padghe - Nagothane - II	IntraState	07/08/2020	23.23		Continued.	HT	Over Voltage
Jaigad-Karad Ckt-II	IntraState	13/08/2020	10.59		Continued.	EO	To attend CB problem
Dhule- Bableshwar - I	IntraState	23/08/2020	19.46		Continued.	HT	Over Voltage
Khadka-Aurangabad (Waluj)	IntraState	25/08/2020	17.28		Continued.	HT	Over Voltage
Akola II - RPL(Rattanindia) Ckt I	IntraState	27/08/2020	21.57		Continued.	HT	Over Voltage
Padghe - Kalwa- I	IntraState	28/08/2020	20.47	29/08/2020	08.11	HT	Over Voltage
Lonikand I - Koyna stage-IV	IntraState	28/08/2020	22.15	29/08/2020	09.11	HT	Over Voltage
Babhaleshwar - Padghe-I	IntraState	28/08/2020	22.40	29/08/2020	09.17	HT	Over Voltage
Padghe - Kalwa- I	IntraState	29/08/2020	20.58		Continued.	HT	Over Voltage
Lonikand I - Koyna stage-IV	IntraState	29/08/2020	22.33	30/08/2020	09.11	HT	Over Voltage
Babhaleshwar - Padghe-I	IntraState	29/08/2020	23.32	30/08/2020	09.12	HT	Over Voltage
Koradi-Khaperkheda I	IntraState	30/08/2020	04.32		Continued.	T	Over Voltage
Babhaleshwar - Padghe-II	IntraState	30/08/2020	09.33	30/08/2020	18.28	PO	Quarterly Maintenance Work & Relay Testing Chemical Cleaning Of strings.
Lonikand I - Koyna stage-IV	IntraState	30/08/2020	19.47		Continued.	HT	Over Voltage
karad -kolhapur-II	IntraState	30/08/2020	19.50		Continued.	HT	Over Voltage
Babhaleshwar - Padghe-I	IntraState	30/08/2020	23.48		Continued.	HT	Over Voltage
400 KV ICT Outages/Trippings							
400/220/33 Kv 315 Mva ICT 1 @Padghe	IntraState	15/11/2018	10.07		Continued.	T	Differential Protection,Declared Faulty.
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.
400/220/33 Kv 500 Mva Ict 3 @Dhule	IntraState	29/08/2020	19.15		Continued.	T	Fire at 48V DC Charger.
400/220 Kv 500 Mva ICT- I @Jejuri	IntraState	30/08/2020	01.13	30/08/2020	03.02	T	Suspension String Insulator Decapping.
220 KV LINE Outages/Trippings							
Mudshingi Chikodi	InterState	24/09/2019	17.12		Continued.	PO	No Schedule.
Talandage - Chikodi	InterState	01/10/2019	17.10		Continued.	PO	No Schedule.(close at Chikodi end only)
BADNERA - WARDHA (PG) (Deoli)	InterState	29/08/2020	10.05	29/08/2020	18.18	PO	for AMP Work.
BOISAR BORIVALI	IntraState	24/07/2018	13.18		Continued.	HT	To Control Line Loading(H/T from Boisar end)
Kharghar-Borivali ckt II	IntraState	11/08/2020	08.45		Continued.	T	Cable Faulty
Theur-Phursungi	IntraState	14/08/2020	09.46		Continued.	HT	Outage arrangement HTLS work.
Theur- Magar Patta City	IntraState	14/08/2020	10.27		Continued.	HT	Outage arrangement HTLS work.
Lonikand1 (400 Kv)-Theur I	IntraState	14/08/2020	10.38		Continued.	PO	Replacement of Existing 0.4 DEER Conductor, hardware & Insulator to HTLS Conductor.
Parli 3 (Old Gcr)-Girwali Ckt-3	IntraState	20/08/2020	13.05		Continued.	PO	Erection of Tower due to Railway crossing
Parli 3(Old Gcr)- Girwali Ckt 4	IntraState	20/08/2020	13.06		Continued.	PO	Erection of Tower due to Railway crossing

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 29/Aug/2020

Statement-VII

Position as on 6.30 Hrs of 30/Aug/2020

Name of Line	Inter State / Intra State	Tripped Date	Tripped Time	Sync. Date	Sync. Time	Outage Type	Reason of Outage
Parli 3 (Old Gcr)-Girwali Ckt 2	IntraState	28/08/2020	09.10	29/08/2020	01.32	PO	B Ph CT Burst
Boisar Versova Line	IntraState	29/08/2020	04.45	29/08/2020	13.54	T	Distance Protection
Nanded-Ghatodi	IntraState	29/08/2020	12.15	29/08/2020	15.20	PO	String Replacement work.
chandrapur-Tadali	IntraState	29/08/2020	13.11	29/08/2020	15.41	EO	C.T Attending Hot Spot.
Adlabs - Pedambe	IntraState	29/08/2020	15.22	29/08/2020	16.05	T	Distance Protection
Pusad-Ghatodi	IntraState	29/08/2020	15.25	29/08/2020	18.55	HT	For Load management.
Pusad-WardhaPG(Deoli)	IntraState	29/08/2020	15.35	29/08/2020	18.51	T	Flash over Insulator Replacement.
Parli 3 (Old Gcr)-Girwali Ckt 2	IntraState	29/08/2020	19.43	30/08/2020	14.59	EO	Attending Hot Spot
Jejuri-Phursungi ckt-2	IntraState	30/08/2020	01.13	30/08/2020	03.02	T	Suspension String Insulator Decapping.
Jejuri (400 Kv)- Baramati li	IntraState	30/08/2020	01.13	30/08/2020	03.01	T	Suspension String Insulator Decapping.
Jejuri (400 Kv)-Jejuri ckt-I	IntraState	30/08/2020	01.13	30/08/2020	03.22	T	Suspension String Insulator Decapping.
220 KV ICT Outages/Trippings							
220/33kv 100 Mva Transformer 4 @Aarey R/S	IntraState	29/08/2020	13.26	29/08/2020	19.13	T	R-PH Cable Termination Fail.
220/132 KV 100MVA ICT-I @ Bhokar	IntraState	29/08/2020	14.15	29/08/2020	16.20	PO	Retrofitting of Relay.

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