



***Maharashtra State Electricity Transmission
Company Ltd.***

State Load Dispatch Center, Airoli

Daily system Report

for

05/Dec/2011

State Load Dispatch Center, Airoli (MSETCL)
Daily system Report for 05/Dec/2011 MONDAY

I GENERATION (MUs)			II EXCHANGES (MUs)		
A) MSGENCO	Daily	Monthly	E) Central Sector	Daily	Monthly
1) Thermal	110.121	588.197	1) Gujrat	1.252	21.399
2) Hydro	29.995	75.716	2) Madhya Pradesh	21.285	103.670
3) Gas	11.799	72.125	3) Chattisgarh	15.280	70.140
Total MSGENCO	151.915	736.038	4) Maharashtra	44.061	231.918
B) OTHERS			5) Goa	-6.192	-30.730
1) JSW JAIGAD	26.373	126.600	6) TAPS 1&2 Injection	7.741	38.903
2) WPCL	5.761	35.261	7) RGPPL Injection	30.049	149.853
3) Other CPP / IPP	7.001	35.825	8) Pench (Excess)	-0.479	-1.884
4) Wind Generation	0.827	8.099	# Total Cent. Sector	112.997	583.269
5) PENCH (MS)	0.479	1.884	F) Other Exchanges		
C) TPCL & REL			1) With TPCL (Excess)	-8.006	-44.304
1) TPCL Thermal	29.943	144.866	G) Bilateral Power *		
2) TPCL Hydro	4.679	16.851	1) MSEDCL Bilateral	25.281	172.161
TOTAL TPCL	34.622	161.717	Include PX	0.983	12.864
3) REL Thermal	12.602	63.069	2) MUMBAI Bilateral	12.910	64.712
D) STATE			Include PX	0.527	7.667
1) Thermal (A1+C1+C3)	152.666	796.132	3) MUMBAI Schedule	12.910	64.712
2) Hydro (A2+B5+C2)	35.153	94.451	H) ENERGY CATERED (MUs)		
3) Gas (A3)	11.799	72.125	1) MSEDCL	297.347	1482.672
4) Wind (B4)	0.827	8.099	2) TPCL	37.192	180.188
5) CPP (B1+B2+B3)	39.135	197.686	3) REL	18.035	88.892
TOTAL STATE	239.580	1168.493	TOTAL STATE	352.574	1751.752

DETAILS OF MAHARASHTRA STATE PEAK DEMAND(MW)

PARTICULARS	A. Morning Peak at 12 Hrs	B. Evening Peak at 19 Hrs	C. Night Minimum at 4 Hrs
MSGENCO Thermal	4502	4660	4481
MSGENCO Hydro	2190	1400	266
MSGENCO Gas	473	481	509
MSGENCO Total Generation	7165	6541	5256
Central Sector Receipt	5103	4878	4535
WIND	28	87	18
CPP / IPP	1631	1700	1701
Exchange with Mumbai	-452	-512	22
MSEDCL DEMAND MET	13501	12727	11411
Load Shedding (LS)	1964	1337	534
MSEDCL DEMAND (INCL. LS)	15465	14064	11945
TPCL GENERATION	1795	1736	1091
REL GENERATION	526	523	525
TPCL+REL DEMAND	2773	2771	1594
STATE DEMAND MET	16274	15498	13005
Load Management (LM)	2455	3773	1968
Total Load Relief (LS+LM)	4419	5110	2502
UNRESTRICTED STATE DEMAND	20693	20608	15507
Frequency (Hz)	49.55	49.53	49.78

FREQUENCY PARTICULARS

MAXIMUM FREQ.	MINIMUM FREQ.	AVERAGE FREQ.	FREQ. BELOW 49.2 Hz
50.04 Hz at 22:54 Hrs	48.81 Hz at 20:08 Hrs	49.57	4.47 % of Time(min)

* Displayed for information, not added in total. # Total Cent. Sector includes MSEDCL and TPCL bilateral power.

State Load Dispatch Center, Airoli (MSETCL)

Daily and Progressive Generation, Maximum, Minimum, OLC Details for 05/Dec/2011

Generating unit	Generation				OLC (MW)	Generating unit	Generation				OLC (MW)	
	Daily (Mus)	Monthly (Mus)	Max (MW)	Min (MW)			Daily (Mus)	Monthly (Mus)	Max (MW)	Min (MW)		
Koradi						Hydro						
Unit 5	3.60	14.93	166	134	130	KDPH	0.47	2.35	20	19	20	
Unit 6	0.00	5.29	0	0	0	VTRNA	0.00	0.00	0	0	0	
Unit 7	4.06	16.97	190	149	155	TILLARI	0.00	0.00	0	0	0	
Total	7.66	37.19			285	BHTGR/VEER	0.13	1.39	6	5	5	
Bhusawal						BHIRA T.R.	0.16	0.96	41	0	80	
Unit 2	4.20	21.18	185	150	190	RNGR+BHTSA	0.38	1.80	16	15	12	
Unit 3	4.44	22.40	195	175	190	BHANDARDRA	0.00	0.00	0	0	0	
Unit 4	0.00	0.00	0	0	0	ELDARY	0.00	0.00	0	0	0	
Total	8.64	43.58			380	SMLHY_PTN	1.06	5.61	53	41	15	
Parli						GHATGHAR	0.08	3.81	80	0	0	
Unit 3	0.00	0.00	0	0	0	Total	2.29	15.92			132	
Unit 4	3.92	19.04	180	129	150	Wind						
Unit 5	2.86	11.72	135	97	130	MalharPeth	0.02	0.33				
Unit 6	4.94	23.35	250	152	170	Vankuswadi	0.10	1.07				
Unit 7	4.71	22.08	238	134	150	ATIT	0.01	0.13				
Total	16.44	76.19			600	Kale	0.04	0.24				
Chandrapur						Satara	0.30	1.46				
Unit 1	3.81	18.94	162	155	160	Shirala	0.02	0.21				
Unit 2	1.00	2.00	132	0	125	K Mahankal	0.00	0.84				
Unit 3	4.40	21.17	185	180	185	Supa	0.00	0.30				
Unit 4	4.95	24.59	210	202	210	Vita	0.14	1.32				
Unit 5	10.89	54.70	465	430	450	Dondaicha	0.01	0.93				
Unit 6	0.37	42.45	349	0	0	Sakri	0.01	0.10				
Unit 7	9.69	46.87	411	380	400	Nandurbar	0.00	0.14				
Total	35.11	210.72			1530	Khandke	0.03	0.51				
Paras						Khaparale	0.15	0.50				
Unit 3	3.81	19.65	185	137	160	Total	0.83	8.10				
Unit 4	3.79	19.70	173	143	160	CPP						
Total	7.60	39.35			320	JSW JAIGAD	26.37	126.60	1170	960	1055	
Khaparkheda						WARDHA	5.76	35.26	243	236	240	
Unit 1	4.26	22.10	200	160	180	Other CPPs	7.00	35.82				
Unit 2	4.21	21.62	187	160	180	Total	39.14	197.69			1295	
Unit 3	4.67	23.71	208	184	200	Tata						
Unit 4	4.60	22.48	201	178	200	Trombay 4	0.00	0.00	0	0	0	
Unit 5	2.56	19.72	197	56	0	Trombay 5	11.80	57.50	495	486	495	
Total	20.30	109.64			760	Trombay 6	7.76	36.00	452	156	500	
Nasik						Trombay 7A	2.80	13.73	124	88	120	
Unit 3	5.13	25.34	215	210	210	Trombay 7B	1.56	7.71	67	57	60	
Unit 4	4.83	24.12	210	182	210	Trombay 8	6.03	29.92	253	248	250	
Unit 5	4.40	22.08	188	169	180	TATA Hydro	4.68	16.85	459	0	447	
Total	14.37	71.53			600	Total	34.62	161.72			1872	
Uran						REL						
All Units	11.80	72.12	515	470	475	1&2	12.60	63.07	527	523	500	
Total	11.80	72.12			475	Total	12.60	63.07			500	
PENCH (MS)						Cent Sect						
Pench (MS)	0.48	1.88	47	0	0	Share					4759	
Total	0.48	1.88			0	Total					4759	
Koyna												
Stage 1-2	7.76	22.88	535	45	600							
Stage 4	15.28	26.17	1120	59	250							
Stage 3	4.67	10.73	320	0	320							
Total	27.71	59.79			1170							
Koyna 12&4 Total	23.04	49.06			850							
							MS	Thermal	110.12	588.20		4475
							PG	Thml+Gas	121.92	660.32		4950
							CL	Hydro	30.00	75.72		1302
								Total	151.92	736.04		6252
							State Total		239.58	1168.49		14678

State Load Dispatch Center, Airoli (MSETCL)

Hourly Load Data As on 05/Dec/2011

TIME SR. NO.	MSPGCL GEN.			TOTAL	WIND	CPP / IPP	CS SHARE	CS RECPT	Mum.S CH.	Mum. NET EXCH.	MSEDCL DEMAND MET	# LOAD RELIEF (LS+LM)	MSEDCL DEMAND WITH LS	TPCL + REL DEMAND	STATE DEM. WITH LS+LM	FREQ. (Hz)
	THM	HY	GAS													
1	4859	578	503	5940	26	1545	4414	4685	-531	-270	11926	2261	12133	1886	16073	49.63
2	4449	555	504	5508	22	1494	4257	4743	-425	-114	11653	2363	12073	1734	15750	49.73
3	4476	451	506	5433	17	1523	4219	4794	-371	-33	11734	2226	12251	1648	15608	49.74
4	4481	266	509	5256	18	1580	4185	4535	-346	22	11411	2502	11945	1594	15507	49.78
5	4586	418	506	5510	19	1589	4199	4650	-331	33	11801	2508	12348	1581	15890	49.75
6	4690	1001	511	6202	25	1618	4430	4643	-341	-25	12476	2840	13252	1642	16958	49.62
7	4766	1025	510	6301	23	1628	4474	4566	-400	-178	12363	3947	14061	1788	18098	49.48
8	4704	1381	515	6600	29	1626	4512	4418	-435	-231	12466	4297	14230	1901	18664	49.47
9	4670	1446	507	6623	32	1617	4565	4576	-551	-337	12538	4478	14306	2152	19168	49.54
10	4658	1818	496	6972	24	1592	4576	4644	-601	-388	12869	4585	14859	2490	19944	49.58
11	4497	2052	485	7034	28	1605	4437	4888	-726	-470	13110	4476	15137	2731	20317	49.43
12	4502	2190	473	7165	28	1631	4625	5103	-824	-452	13501	4419	15465	2773	20693	49.55
13	4475	1953	470	6898	28	1641	4785	4847	-634	-429	13010	5111	15668	2769	20890	49.56
14	4506	1833	473	6812	15	1652	4695	5199	-575	-488	13215	4512	15330	2708	20435	49.68
15	4543	1871	471	6885	27	1650	4650	5189	-575	-463	13302	4656	15763	2757	20715	49.78
16	4545	1977	470	6992	25	1655	4596	4479	-526	-462	12689	4432	14989	2770	19891	49.56
17	4593	1628	476	6697	45	1700	4520	4491	-522	-411	12522	4464	14466	2758	19744	49.47
18	4624	904	486	6014	47	1695	4613	4510	-526	-447	11832	4472	13361	2744	19048	49.59
19	4660	1400	481	6541	87	1700	4737	4878	-638	-512	12727	5110	14064	2771	20608	49.53
20	4735	1490	476	6701	75	1658	4660	4562	-638	-491	12552	4855	13567	2716	20123	49.39
21	4677	1190	487	6354	65	1667	4596	4494	-633	-489	12138	4655	12967	2560	19353	49.42
22	4487	856	492	5835	55	1678	4575	4580	-604	-462	11733	4451	12371	2390	18574	49.56
23	4515	694	496	5705	37	1703	4572	4833	-604	-479	11840	4076	12416	2258	18174	49.53
24	4423	1018	496	5937	30	1688	4443	4690	-555	-430	11939	3475	12319	2109	17523	49.42
MUs	110.12	30.00	11.80	151.92	0.83	39.14	108.34	113.00	-12.91	-8.01	297.35	95.17	329.34	55.23	447.75	49.57

NOTE : ALL VALUES IN MW

Mumbai Sch./Net Exch is shown with reference to MSETCL System. (+) indicates Mum. to MSETCL and (-) indicates MSETCL to Mum. Mumbai Schedule is calculated for MSETCL periphery (taking 4% loss for import & 4.85% MSETCL loss # Without Applying Load Diversity Factor

State Load Dispatch Center, Airoli (MSETCL)
Details of Generating Unit Outages/Trippings for 05/Dec/2011

Position as on 6.30 Hrs of 06/Dec/2011

Name of Generating Unit	Capacity	Tripped Date	Tripped Time	Sync.Date	Sync. Time	Reason of Outage	Expected Date
PLANNED OUTAGE							
Cent_Sect TARAPUR-4	540	06/11/2011	01.00		Continued.	Annual Overhaul	25/12/2011
Parli Unit 3	210	12/11/2011	21.25		Continued.	Annual Overhaul.	22/12/2011
FORCED OUTAGE							
Bhusawal Unit 4	500	17/10/2011	03.55		Continued.	Hand Tripped	
CPP WPCL U-4	135	02/11/2011	04.40		Continued.	ID Fan Problem, Preparation for P.G. Test.	06/12/2011
Dabhol 1A	230	14/11/2011	12:00		Continued.	Gas Shortage.	
Dabhol 1B	230	23/11/2011	03.45		Continued.	Gas Shortage	
Dabhol 1X	290	23/11/2011	03.45		Continued.	Gas Shortage	
Koradi Unit 6	210	03/12/2011	11.16	06/12/2011	06.28	BLR T/L.	06/12/2011
Cent_Sect NTPC(V-10)	500	03/12/2011	13.58	05/12/2011	12.27	Boiler tube leakage.	
CPP WPCL U-3	135	03/12/2011	17.47	06/12/2011	03.15	Bottom Ash problem.	
Chandrapur Unit 6	500	05/12/2011	01.09		Continued.	BLR T/L.	
Chandrapur Unit 2	210	05/12/2011	07.55	05/12/2011	11.19	Tripped on UAT backup protection operated.	
Chandrapur Unit 2	210	05/12/2011	11.24	06/12/2011	00.40	Main steam temp.low.	
Cent_Sect NTPC(K-7)	500	05/12/2011	18.27		Continued.	CT burst of Bus-III at Korba yard.	
Cent_Sect NTPC(K-5)	500	05/12/2011	18.28	05/12/2011	23.24	CT burst of Bus-III at Korba yard.	
Uran Unit 8	108	05/12/2011	23.45	06/12/2011	Continued.	Boiler validity expired.	
Bhusawal Unit 3	210	06/12/2011	00.20		Continued.	General service line leakage.	06/12/2011

State Load Dispatch Center,Airoli (MSETCL)
Details of Line outages/Trippings for 05/Dec/2011

Position as on 6.30 Hrs of 06/Dec/2011

Name of Line	Tripped Date	Tripped Time	Synchronise d Date	Synchronise d Time	Reason of Outage
InterState					
Voltage Level : 220KV			Outage Type PLANNED OUTAGE		
Boiser - Tarapur	30/10/2011	08.31		Continued.	60 Days outage for Dismantling of existing tower and re-stringing work for Mumbai Strengthening Scheme(Converted as Borivali-Tarapur
Talandge-Halkarni	05/12/2011	10.15	05/12/2011	18.54	Making out print on newly erected inline tower for Kolhapur-Ponda line LILO at Hamidwada.
Voltage Level : 400KV			Outage Type HAND TRIPPED		
Parli-Parli (PGCIL) I	19/10/2011	21.40		Continued.	Over Voltage.
Parli (PG)-Bhadravati I	27/11/2011	20.15		Continued.	Over Voltage.
Parli (PG) - Wardha (PG) - II	28/11/2011	16.55		Continued.	Isolator Problem
Kolhapur - Mapusa - I	02/12/2011	16.12	05/12/2011	09.09	Over Voltage.
Dhule-Sar'Sarovar - I	05/12/2011	12.07		Continued.	Due to heavy leakage in control valve of TBC(Ckt was charged through TBC).
Kolhapur-Mapusa-II	05/12/2011	22.03		Continued.	Over Voltage.
Voltage Level : 132KV			Outage Type HAND TRIPPED		
Pench - Kanhan	23/11/2011	21.55		Continued.	Hand Tripped.
Voltage Level : 400KV			Outage Type TRIPPED		
Dhule-S'Sarovar I	30/11/2011	17.00		Continued.	B Ph.main C B Pole Burst at Dhule end.line ready to be taken I/S.@ 17.40 Hrs/04.12.2011
IntraState					
Voltage Level : 400KV			Outage Type PLANNED OUTAGE		
400/220KV 105 MVA Spare ICT at Parly II	22/04/2011	13.50		Continued.	To Remove Trip Coil Assembly for Bus Coupler.
Karad-New Koyna II	05/12/2011	08.55	05/12/2011	18.30	Takan on TBC.Testing work.
400/220KV,200MVA Spare ICT at Kalwa.	05/12/2011	10.39	05/12/2011	13.23	Tan delta work.
Voltage Level : 220KV			Outage Type PLANNED OUTAGE		
Babaleshwar - Chalisgaon	15/12/2010	13.42		Continued.	Conversion of S/C to D/C
220/132 KV 250 MVA ICT at Ambazari	05/08/2011	10.41	05/12/2011	12.07	ICT is to be replaced by 200 MVA ICT
Bhoisor - Borivali	30/10/2011	08.06		Continued.	60 Days outage for Dismantling of existing tower and re-stringing work for Mumbai Strengthening Scheme(Converted as Borivali-Tarapur
220/100KV,125 MVA T/F-II at Jambhul	08/11/2011	13.50		Continued.	Inspection and Rectification of Gas Formation upto 29/11/2011
220/100KV 200MVA ICT-IV at Kalwa	15/11/2011	22.15		Continued.	Filteration work.
220/7 KV 20 MVA Stn.T/F-IV at Korady	23/11/2011	16.53		Continued.	(L V Side is on TBC) Rep, of 29B Isolator.
220/132 KV 100 MVA ICT-I @ Girawali	24/11/2011	10.46		Continued.	Augmentation of ICT BY 200 MVA ICT.
Main Bus-I at Koradi.	28/11/2011	11.19		Continued.	Replacement of 29A Bus-I isolator of various feeders under LES.
Koradi-Ambazari-I	29/11/2011	16.34		Continued.	Isolator replacement work(Ckt is on TBC)

State Load Dispatch Center,Airoli (MSETCL)
Details of Line outages/Trippings for 05/Dec/2011

Position as on 6.30 Hrs of 06/Dec/2011

Name of Line	Tripped Date	Tripped Time	Synchronise d Date	Synchronise d Time	Reason of Outage
Kalwa-Trombay	30/11/2011	09.20		Continued.	Replacement of Breaker (Taken on TBC upto 14/12/2011).
Miraj -Ichalkarajni	05/12/2011	09.25	05/12/2011	13.00	Maintenance work.
Mudsinghi - Mumewadi - I	05/12/2011	10.10	05/12/2011	18.35	Making out print on newly erected inline tower for Kolhapur-Ponda line LILO at Hamidwada.
220/132 KV 250 MVA ICT at Ambazari	05/12/2011	10.41	05/12/2011	12.07	ICT is to be replaced by 200 MVA ICT.
220/110KV,200MVA T/F-III at Miraj	05/12/2011	10.50	05/12/2011	17.30	Retrofitting work.
Bhandara - Rly TSS - II	05/12/2011	11.00	05/12/2011	15.17	Overhaul of main breaker.
220/132 KV 200 MVA ICT @ Ambazari	05/12/2011	11.37	05/12/2011	12.52	ICT was on load.Air realising work.
Miraj -Vita	05/12/2011	15.04	05/12/2011	17.56	Crimping work.
Chandrapur - Warora	05/12/2011	17.03	05/12/2011	20.02	To attend hot spot on R ph.CT clamp on line side.
Voltage Level : 132KV Outage Type PLANNED OUTAGE					
Hingna-Mankapur-I	29/11/2011	08.10		Continued.	Replacement of Conductor
Voltage Level : 110KV Outage Type PLANNED OUTAGE					
Miraj-Kurduwadi	05/12/2011	12.20	05/12/2011	14.38	Crimping work.
Voltage Level : 100KV Outage Type PLANNED OUTAGE					
Chinchwad - Talegaon	25/11/2011	11.29		Continued.	Line Strengthening.
Voltage Level : 400KV Outage Type HAND TRIPPED					
400/220 KV 100 MVA Spare Unit @ Koradi	17/11/2011	20.32		Continued.	Buccolz alarm problem.
400/220KV,500MVA ICT-II at Khaparkheda.	20/11/2011	08.02		Continued.	Due to low nitrogen pressure fire alarm received.
Karad - Kolhapur - I	04/12/2011	16.19	05/12/2011	10.57	Over Voltage.
Bhusawal- Aurangabad	04/12/2011	22.17	05/12/2011	07.12	Over Voltage.
Karad - Kolhapur - II	05/12/2011	16.22		Continued.	Over Voltage.
Bhusawal- Aurangabad	05/12/2011	20.50		Continued.	Over Voltage.
Voltage Level : 220KV Outage Type HAND TRIPPED					
Dondaicha - Jamde - I	05/12/2011	13.05	05/12/2011	16.20	Ckt was on TBC.Due to Ckt.breaker trials.
Voltage Level : 500KV Outage Type TRIPPED					
HVDC POLE II - CHDPR	04/12/2011	23.13	05/12/2011	01.04	Y ph.CT of tie bay burst.
HVDC POLE I -CHDPR	04/12/2011	23.13	05/12/2011	01.04	Y ph.CT of tie bay burst.
HVDC POLE I -CHDPR	05/12/2011	22.59	05/12/2011	23.34	Over current protection operated.
Voltage Level : 220KV Outage Type TRIPPED					
220/100KV 200MVA ICT-III at Kalwa	03/04/2011	16.00		Continued.	Buchholz Trip,Diff.Prot.operated,PRV tripped(Failed).
Vita-Maisal	04/12/2011	17.15	05/12/2011	02.02	Fault at Loc.No.61 R-Ph cut point conductor snapped.
Vita-Maisal	05/12/2011	16.32		Continued.	Distance protection.R-E.Zone-1.
Voltage Level : 132KV Outage Type TRIPPED					
Bhatghar-Shirwal	04/12/2011	16.55	05/12/2011	02.35	Loc.No.1 R-Ph conductor snapped near Bhatghar.

State Load Dispatch Center, Airoli (MSETCL)

Details of On Line Capacity for 06/Dec/2011

Generating unit	Derated Capacity (MW)	OLC (MW)
Koradi		
Unit 5	200	150
Unit 6	210	0
Unit 7	210	150
	620	300
Bhusawal		
Unit 2	210	190
Unit 3	210	0
Unit 4	500	0
	920	190
Parli		
Unit 3	210	0
Unit 4	210	170
Unit 5	210	125
Unit 6	250	180
Unit 7	250	180
	1130	655
Chandrapur		
Unit 1	210	160
Unit 2	210	100
Unit 3	210	185
Unit 4	210	210
Unit 5	500	450
Unit 6	500	0
Unit 7	500	400
	2340	1505
Paras		
Unit 3	250	180
Unit 4	250	180
	500	360
Khaparkheda		
Unit 1	210	170
Unit 2	210	170
Unit 3	210	170
Unit 4	210	170
Unit 5	500	
	1340	680
Nasik		
Unit 3	210	210
Unit 4	210	210
Unit 5	210	180
	630	600
Uran		
All Units	852	475
	852	475
PENCH (MS)		
Pench (MS)	53	
	53	
Koyna		
Stage 1-2	600	600
Stage 4	1000	250
Stage 3	320	320
	1920	1170
Hydro		
KDPH	40	20
VTRNA	60	0
TILLARI	60	0

Generating unit	Derated Capacity (MW)	OLC (MW)
BHTGR/VEER	21	6
BHIRA T.R.	80	80
RNGR+BHTSA	20	16
BHANDARDRA	45	0
ELDARY	23	0
SMLHY_PTN	12	11
GHATGHAR	250	0
	611	133
Wind		
MalharPeth	0	
Vankuswadi	0	
ATIT	0	
Kale	0	
Satara	0	
Shirala	0	
K Mahankal	0	
Supa	0	
Vita	0	
Dondaicha	0	
Sakri	0	
Nandurbar	0	
Khandke	0	
Khaparale	0	
	0	
CPP		
JSW_JAIGAD	600	1055
WARDHA	405	360
Other_CPPs	0	
	1005	1415
Tata		
Trombay 4	150	0
Trombay 5	500	490
Trombay 6	500	500
Trombay 7A	120	120
Trombay 7B	60	60
Trombay 8	250	250
TATA Hydro	444	447
	2024	1867
REL		
1&2	500	500
	500	500
Cent Sect		
Share	3455	4916
	3455	4916