

Daily System Generation Summary on Wednesday

Wednesday, July 12, 2023

Availability at Daily Maximum Demand Hour

ST-Coal	0 MW
ST-Gas	0 MW
ST-Oil	0 MW
Hydro	2,043 MW
Distillate	0 MW
Total TNB	2,043 MW
Total IPP	17,195 MW
Total Co-Gen	0 MW
Total System	23,240 MW

Generation Mix

Type	MWh	Percentage
Hydro	15,765	4.14 %
Gas	61,033	16.03 %
Total TNB	76,798	20.17 %
ST-Coal	207,312	54.45 %
LSS	6,089	1.60 %
Gas	91,052	23.92 %
Total IPP	304,453	79.97 %
Co-Gen	562	0.15 %
Total Co-Gen	562	0.15 %
Total Generation	381,813	100.29 %
PLTG	240	0.06 %
HVDC	856	0.22 %
Interconnection	1,096	0.29 %
Net Energy	380,717	100.00 %

Maximum Demand Record

Date: 5/11/2023	19,716 MW
Date: 5/11/2023	416,902 MWH

Set On Bus, TNB, IPP And MD

Daily Maximum Demand Hour at:	16:00:00 Hour
Total Set On Bus	19,220 MW
TNB Generation	4,264 MW
IPP Generation	13,715 MW
Spinning Reserve	1,224 MW
Maximum Demand	17,938 MW
Net Energy	380,717 MWH
Load Factor	88.43 %

Fuel Cost

Total Cost:	94,202,008.24 RM
Cost per Unit	24.64 cents/kWH

Average Spinning Reserve During Peak Hour

Type	MW
GT	450
Hydro	325
Syncon	562
Thermal	114
Total	1,451

Time Weather Temperature

Afternoon	Hot	35
Morning	Sunny	29

Gas Usage

Station	(mmscfd)
GLGR	52
TJGS	156
Total TNB	207
CBPS	47
EMPP	276
KLPP	39
NPRI	138
PCGP	83
SPGP	202
Total IPP	785
Total Gas	993

Total Gas Required 993

Alternate Fuel Usage

Station	(mmscfd)
Total	0

Hourly System MW Generation

	00:00	01:00	02:00	03:00	04:00	05:00	06:00	07:00	08:00	09:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
System Total	15580	14727	14220	13769	13380	13295	13602	13638	13969	15548	16414	16980	16857	16651	17313	17758	17938	17569	16566	16346	17377	17353	16847	16401

Prepared By: -Select Name-

Checked By: -Select Name-

Printed on: Thursday, July 13, 2023 8:44:58 AM

(Ir. Shanmugam Thoppalan)
Head
Grid System Operator

Daily MW Generation on Wednesday

Station	Unit	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300																								
JMAH	U001	703	705	707	704	706	706	703	706	707	708	704	706	702	707	703	707	706	707	706	703	706	705	702	700	705	707	708	704	705	705	707	705	707	705	704													
JMAH	U002	705	703	706	702	700	708	706	706	703	705	705	704	706	705	709	706	703	703	706	700	707	705	706	700	704	707	705	704	703	705	706	704	706	707	703	701	705	704										
JMHE	U001	975	980	907	901	896	903	846	849	851	847	848	850	849	848	837	854	850	927	976	976	976	971	977	977	970	972	976	972	976	973	975	975	979	980	981	978	976	975	979	977	977	977	977	977	980	979	976	975
JMHE	U002	497	501	501	500	499	498	501	498	501	499	498	502	500	498	499	501	499	501	502	500	497	499	501	499	500	500	500	502	500	503	500	498	501	497	500	497	501	499	500	499	500	499	500	499	500	499	500	
JMJG	U002	680	683	677	678	680	680	679	682	679	679	682	682	675	680	677	685	677	677	679	678	681	676	677	686	680	672	678	679	675	678	668	679	671	685	666	678	678	671	674	675	674	684	669	658	677	675	673	672
JMJG	U003	671	677	671	675	673	679	678	677	679	674	673	675	677	677	667	666	671	676	669	671	672	667	667	672	672	640	583	598	607	599	595	596	592	593	600	597	584	585	589	591	591	588	588	589	588	586	590	590
JMJG	U004	977	975	964	905	897	903	873	854	853	848	849	852	851	852	851	855	851	871	926	974	972	973	976	976	976	977	977	978	973	973	977	980	975	971	977	977	978	975	974	976	977	977	977	977	973	978	976	975
JMJG	U005	979	983	944	900	899	899	900	904	901	897	896	900	901	901	900	901	900	950	979	983	983	979	983	980	983	980	979	983	981	981	983	982	978	982	981	980	981	982	979	982	981	979	985	985	980	981		
PKLG	U003	277	275	276	275	276	276	276	277	276	275	277	275	277	278	275	275	276	275	276	275	275	276	275	276	275	276	275	276	275	276	275	276	275	276	275	277	276	275	277	276	275	274	275	275	276			
PKLG	U005	467	462	467	458	468	472	468	460	466	467	464	467	468	467	464	468	469	464	466	464	466	469	474	464	470	463	470	471	464	467	464	464	467	467	466	467	474	468	456	470	467	466	463	467	468	466	470	
PKLG	U006	450	425	444	447	446	445	447	447	446	446	449	448	449	449	440	442	449	449	447	449	445	449	447	446	449	447	450	447	444	449	449	450	449	450	448	447	448	449	445	449	449	448	436	449	451	441	449	
TBIN	U001	697	699	697	697	697	702	692	696	695	696	697	698	701	698	701	698	698	698	696	701	698	699	698	700	695	696	700	696	698	701	700	700	699	699	698	700	700	698	700	699	701	699	699	698	698	699	703	700
TBIN	U003	693	692	692	694	693	694	693	694	694	693	694	693	693	694	695	695	693	695	692	694	692	695	694	695	693	695	693	693	693	694	693	692	699	695	693	695	696	695	694	693	694	697	691	692	692	691	693	695
Total ST-Coal		8771	8760	8653	8536	8530	8565	8463	8449	8450	8436	8434	8454	8450	8451	8418	8454	8442	8589	8721	8771	8768	8766	8772	8790	8759	8743	8683	8703	8705	8696	8689	8697	8693	8709	8695	8705	8694	8688	8697	8679	8698	8710	8679	8656	8688	8696	8682	8692
Total ST-Oil		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total ST-Gas		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
CBPS	BLK2	359	222	222	222	221	220	222	220	221	222	221	221	221	221	221	221	222	303	350	349	350	355	355	355	355	355	355	355	354	354	355	355	355	355	355	354	354	222	331	359	360	360	359	360	360	361	359	360
EMPP	BLK1	670	606	596	558	468	410	387	408	410	405	401	409	469	539	420	400	441	541	656	710	710	688	710	710	680	687	709	699	700	709	709	702	697	686	695	686	689	710	713	683	718	715	709	689	689	710	683	699
EMPP	BLK2	667	595	600	564	466	411	389	408	410	406	401	410	473	539	424	399	440	547	655	710	710	689	711	710	681	687	710	697	698	708	709	700	697	686	697	684	687	709	712	684	718	715	709	690	690	710	681	700
EMPP	BLK3	670	597	600	564	468	411	388	408	409	405	401	409	472	538	422	400	438	545	656	709	711	688	711	710	681	687	711	695	693	708	709	705	698	686	704	684	688	710	712	683	717	716	709	690	690	710	684	701
GLGR	GT01	84	84	84	85	84	84	83	85	84	83	83	86	86	84	84	65	67	66	66	67	66	66	67	65	65	64	65	79	104	103	104	102	103	103	103	68	65	66	66	85	108	107	107	106	86	67	66	65
GLGR	GT02	84	84	84	83	84	84	84	84	84	84	84	84	84	84	84	66	66	66	66	66	66	67	66	66	66	66	66	80	104	103	103	103	103	103	103	68	66	66	67	86	106	106	106	107	84	65	66	66
GLGR	ST1C	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	75	70	70	71	70	70	71	71	71	71	70	71	74	93	94	94	94	94	93	93	78	71	71	71	79	97	97	97	96	87	72	71	70
KLPP	GT14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
KLPP	GT15	0	0	0	0	0	0	0	0	14	18	18	14	14	22	33	54	64	146	145	146	148	133	133	129	126	130	130	146	147	145	142	145	144	142	141	128	113	114	117	147	146	146	145	146	113	117	113	113
KLPP	ST17	0	0	0	0	0	0	0	0	0	0	0	0	6	22	32	38	72	69	69	69	65	68	67	67	67	67	70	69	69	69	56	121	144	145	139	132	131	131	148	144	145	145	144	130	131	130	67	
NPRI	BLK1	495	461	332	332	332	329	313	329	333	323	327	332	332	333	318	332	332	330	471	524	518	526	523	510	515	524	521	521	522	520	518	520	513	521	515	517	524	526	520	529	528	524	517	518	526	514	519	
NPRI	BLK2	493	457	326	326	326	323	305	326	326	319	315	324	328	327	329	311	327	329	325	385	524	518	525	524	509	515	526	520	523	524	525	520	512	520	514	517	526	528	519	532	531	523	517	519	525	512	518	
PCGP	PGRG	572	574	603	600	600	597	574	399	399	396	395	395	400	402	401	397	401	602	600	602	602	591	601	600	582	589	601	595	600	602	602	597	595	585	594	588	591	603	606	593	617	610	602	594	595	602	587	594
SPGP	BLK1	722	722	720	720	721	721	725	637	537	536	537	538	538	537	636	636	687	720	720	718	718	716	711	700	702	708	703	709	701	700	705	704	717	717	719	719	717	711	704	709	711	713	716	716	716	717	714	
SPGP	BLK2	701	701	729	728	728	725	704	640	539	529	528	535	541	538	639	620	688	729	727	731	729	717	722	720	700	723	722	715	716	719	719	716	714	707	715	708	716	723	720	709	727	723	724	711	712	727	717	719
TJGS	GT1A	105	118	125	126	126	126	111	126	127	124	122</																																					

Daily MW Generation on Wednesday

Station	Unit	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
HTRG	HY04	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
KNRG	HY01	37	37	37	38	37	37	37	37	37	37	37	37	37	0	0	0	0	23	22	22	22	22	23	23
KNRG	HY02	0	0	0	0	0	0	0	0	0	0	0	0	39	39	39	39	39	38	38	38	24	25	25	24
KNRG	HY03	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	20	20	22	22	22	22	22	22	22
KNYR	HY02	95	95	100	100	100	99	98	98	97	97	100	100	100	97	99	99	99	99	100	100	99	99	98	97
KNYR	HY03	92	92	93	92	92	91	89	90	89	89	90	90	92	93	93	92	92	91	91	90	90	89	90	91
KNYR	HY04	96	95	100	100	100	99	99	99	97	97	100	100	100	97	99	100	100	100	100	99	98	98	99	100
LPIA	HY01	18	18	18	18	18	18	18	18	18	18	18	18	18	19	18	18	18	0	0	0	0	0	0	14
LPIA	HY02	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	20	20	20	20	14	14
MNOR	HY01	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
PGAU	HY01	-1	-1	-1	-1	-1	-1	-1	-1	-1	19	18	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
PGAU	HY02	18	17	0	0	0	0	0	0	0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
PGAU	HY04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	21	21	19	20	0	0
SIHY	HY01	31	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30	50	50	50	50	30	30
SIHY	HY02	31	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	50	50	50	30	30	30
SIHY	HY03	31	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	50	50
SYPS	HY01	24	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	24	24	25	25	25	24
SYPS	HY03	25	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25	25	25
SYPS	HY04	25	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	25	25	25	25	25	25	25
TMGR	HY01	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	32	33	33	33	33	77	76	75	-1	-1
TMGR	HY03	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33	33	33	83	83	81	82
TMGR	HY04	37	36	41	48	41	41	36	41	39	38	40	43	41	42	37	46	45	40	85	42	41	81	41	39
UJLI	HY01	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	87	89	107	142	143	137
UJLI	HY02	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	87	89	107	142	143	137
UPIA	HY02	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Total Hydro		607	604	437	445	436	435	418	432	430	428	425	446	457	437	437	424	439	439	433	479	438	526	593	550
Total Distillate		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BDLS	LSS1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BKLS	LSS2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BSLS	LSS2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CHLS	LSS1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GBLS	LSS1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GELS	LSS2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GNLS	LSS1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JELS	LSS2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JSLs	LSS1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
KDLS	LSS3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
KKLS	LSS1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
KMLS	LSS2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
KNLS	LSS3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
KRLS	LSS2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MALS	LSS2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MCLS	LSS1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MNLS	LSS3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PKLS	LSS3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SNLS	LSS4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SPLS	LSS1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Daily MW Generation on Wednesday

Station	Unit	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300																								
SSLS	LSS1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	7	12	19	27	30	34	38	41	19	22	31	12	20	22	27	6	0	0	1	1	1	2	0	0	0	0	0	0	0	0	0			
STLS	LSS2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	7	11	14	18	19	24	25	8	31	9	28	28	27	25	12	13	16	13	5	5	3	0	0	0	0	0	0	0	0	0	0		
TBLS	LSS2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5	8	17	30	30	30	21	16	17	30	30	30	30	30	30	30	30	25	19	11	0	0	0	0	0	0	0	0	0	0	0	0		
Total LSS		0	0	0	0	0	0	0	0	0	0	0	0	0	24	127	289	426	524	614	736	727	779	809	819	734	888	862	781	659	592	576	482	351	206	109	52	21	2	0	0	0	0	0	0	0	0	0	
ESTL	ESTL	10	13	11	12	17	16	22	20	20	20	18	17	15	15	16	18	20	21	21	18	18	17	18	14	16	14	14	12	12	15	15	17	18	16	17	16	16	3	13	12	14	12	17	18	18	14		
KHTC	BLK1	-19	-17	-19	-17	-17	-17	-15	-17	-14	-14	-12	-14	-14	-15	-14	-13	-19	-19	-25	-29	-33	-33	-36	-39	-40	-41	-42	-43	-37	-37	-36	-34	-32	-35	-36	-35	-31	-31	-33	-32	-32	-32	-28	-25	-24	-26	-28	
PCUF	CUFG	5	4	5	3	4	4	5	5	5	4	5	4	4	5	4	5	3	4	5	4	5	3	4	4	5	4	4	5	5	4	4	4	4	5	5	5	5	4	3	4	5	5	4	3				
PCUF	CUFK	26	26	25	24	26	26	27	25	25	26	26	26	26	25	24	26	27	26	26	25	26	28	25	25	26	27	26	27	25	26	25	26	25	27	26	26	27	27	26	26	27	26	25	26	26	26		
PFTZ	PFTZ	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	5	4	4	4	4	5	5	5	4	4	4	5	4	4			
Total Co-Gen		26	30	26	26	34	33	42	37	40	40	41	37	35	34	34	39	38	36	29	23	19	22	15	11	7	9	10	6	12	9	11	14	17	16	18	16	21	21	19	6	17	15	15	17	28	29	26	19
Total Gen		15618	15206	14750	14525	14240	14085	13803	13600	13427	13364	13336	13426	13638	13831	13679	13568	13985	14997	15574	16130	16448	16856	17025	17099	16907	16764	16678	17124	17382	17722	17783	17973	17996	17948	17621	17121	16654	16318	16421	17087	17412	17502	17407	17261	16912	16690	16461	16090
TIE-EGAT		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
TIE-HVDC		34	35	35	34	32	33	31	34	33	33	34	33	38	34	39	31	36	35	33	35	36	36	39	37	36	36	36	36	35	35	38	38	35	38	39	36	38	36	38	38	36	38	37	38	38	37		
TIE-PLTG		4	13	-12	-12	-12	7	3	4	14	4	7	-7	-2	-3	2	-3	-20	-2	-7	0	-2	14	6	21	13	23	-9	33	33	6	-10	5	20	19	14	25	52	35	40	26	-3	10	17	34	27	-1	22	32
Interconnection		38	48	23	22	20	41	34	38	47	37	41	25	36	31	41	28	16	33	26	35	34	50	45	58	50	58	27	69	69	41	25	43	58	54	52	64	88	73	75	64	35	46	54	72	65	37	60	69
System Total		15580	15158	14727	14503	14220	14044	13769	13562	13380	13327	13295	13401	13602	13800	13638	13540	13969	14964	15548	16095	16414	16806	16980	17041	16857	16706	16651	17055	17313	17681	17758	17930	17938	17894	17569	17057	16566	16245	16346	17023	17377	17456	17353	17189	16847	16653	16401	16021
SRev ST-Coal		119	130	237	350	346	318	340	335	334	344	348	330	331	330	357	335	340	263	169	119	122	124	118	100	131	57	117	97	95	104	111	103	107	91	105	95	106	112	103	121	102	90	121	144	112	104	118	108
SRev OCGT-Gas		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
SRev CCGT-Gas		871	1273	1451	1567	1845	2033	2205	2403	2731	2778	2802	2749	2542	2379	2498	2661	2349	1668	1347	979	703	506	394	343	513	593	590	576	529	250	238	402	406	356	270	465	721	1024	902	370	135	157	195	284	561	843	1015	961
SRev ST-Gas		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SRev LSS		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SRev Co-Gen		-2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	-1	0	0	0	0	0	0	0	0	0	0	-1	0	1	0	
Syncon		739	739	739	739	739	739	739	739	739	739	609	609	760	760	760	890	890	890	890	890	703	552	552	552	802	802	802	615	428	428	302	302	302	516	552	890	890	739	703	703	516	516	516	516	365	703		
Hydro		202	205	97	89	98	99	116	102	104	106	109	238	227	96	96	109	94	94	100	54	95	194	278	321	338	147	142	247	357	440	514	383	409	428	484	466	236	206	352	279	217	329	355	391	506	455	646	243
S.Reserve Total		1929	2347	2524	2745	3028	3189	3401	3579	3908	3967	3998	3926	3709	3565	3711	3865	3543	2915	2506	2042	1810	1527	1342	1316	1534	1599	1651	1722	1596	1222	1293	1190	1224	1177	1374	1578	1953	2232	2096	1473	1157	1092	1187	1335	1694	1918	2145	2015