

Daily System Generation Summary on Friday

Friday, October 7, 2022

Availability at Daily Maximum Demand Hour

ST-Coal	0 MW
ST-Gas	0 MW
ST-Oil	0 MW
Hydro	2,347 MW
Distillate	0 MW
Total TNB	2,347 MW
Total IPP	19,472 MW
Total Co-Gen	0 MW
Total System	25,103 MW

Generation Mix

Type	MWh	Percentage
Hydro	22,386	6.24 %
Gas	31,064	8.66 %
Total TNB	53,450	14.90 %
ST-Coal	218,499	60.89 %
LSS	4,197	1.17 %
Gas	81,862	22.81 %
Total IPP	304,558	84.87 %
Co-Gen	517	0.14 %
Total Co-Gen	517	0.14 %
Total Generation	358,525	99.91 %
PLTG	-320	-0.09 %
Interconnection	-320	-0.09 %
Net Energy	358,845	100.00 %

Maximum Demand Record

Date: 5/24/2022	19,183 MW
Date: 5/24/2022	398,523 MWH

Set On Bus, TNB, IPP And MD

Daily Maximum Demand Hour at:	11:30:00 Hour
Total Set On Bus	18,009 MW
TNB Generation	2,378 MW
IPP Generation	13,997 MW
Spinning Reserve	1,617 MW
Maximum Demand	16,406 MW
Net Energy	358,845 MWH
Load Factor	91.14 %

Fuel Cost

Total Cost:	120,173,395.09 RM
Cost per Unit	33.52 cents/kWH

Average Spinning Reserve During Peak Hour

Type	MW
GT	488
Hydro	441
Syncon	387
Thermal	425
Total	1,741

Time	Weather	Temperature
Afternoon	Rainy	32
Morning	Rainy	23

Gas Usage

Station	(mmcsfd)
GLGR	29
TJGS	91
Total TNB	119
CBPS	38
EMPP	293
NPRI	70
PCGP	88
PLPS	37
SPGP	96
Total IPP	622
Total Gas	741
Total Gas Required	741

Alternate Fuel Usage

Station	(mmcsfd)
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	14931	14245	13743	13348	13018	12938	13104	13259	13486	15008	15861	16343	16078	15660	15760	16270	16368	16178	15489	15956	16198	15799	15056	14595

Prepared By: -Select Name-

Checked By: -Select Name-

Printed on: Wednesday, November 2, 2022 2:50:31 PM
(Ir. Shanmugam Thoppalan)
Head
Grid System Operator

Daily MW Generation on Friday

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	705	591	287	210	212	214	213	214	212	213	214	213	214	213	214	214	213	213	212	213	214	213	214	212	213	214
JMAH	U002	513	504	562	686	701	413	211	213	213	214	214	214	213	214	214	213	213	214	213	214	213	214	212	213	214	
JMHE	U001	978	975	975	926	900	852	847	850	846	849	851	850	849	851	847	851	848	954	977	977	975	977	977	975	980	
JMHE	U002	981	754	748	503	500	402	398	400	401	399	400	399	400	400	398	502	498	498	500	500	500	752	751	752	746	
JMJG	U001	658	671	666	669	668	668	662	664	668	666	667	667	668	666	669	669	667	667	668	666	667	666	666	666	666	667
JMJG	U002	597	607	599	601	605	596	601	603	598	607	591	596	598	591	607	598	604	598	683	671	679	675	679	669	679	676
JMJG	U003	0	0	0	0	0	0	0	0	0	0	0	0	238	358	468	536	517	557	545	543	562	572	620	662	679	
JMJG	U004	975	975	975	935	906	906	911	907	908	908	906	904	905	903	905	905	906	925	979	976	976	976	974	975	977	976
JMJG	U005	846	841	843	841	835	837	838	840	838	840	840	839	843	839	843	843	845	845	846	843	847	843	846	844	844	845
PKLG	U003	147	146	146	145	146	145	147	146	146	145	147	147	146	146	146	146	146	146	146	145	166	216	212	269	283	282
PKLG	U004	217	148	147	152	151	153	151	148	148	152	152	155	155	151	153	152	153	151	151	152	152	151	149	153	153	152
PKLG	U005	396	318	266	272	269	268	269	269	268	269	268	270	268	270	269	269	269	268	269	268	269	270	268	273	271	268
PKLG	U006	442	420	341	283	268	268	268	269	269	268	270	268	270	268	269	269	269	267	269	268	268	269	269	269	269	268
TBIN	U002	698	700	706	700	700	702	700	706	699	700	702	700	700	702	701	699	701	700	700	700	702	700	700	700	700	702
TBIN	U003	703	701	700	699	700	700	700	701	702	702	702	700	697	699	698	699	701	700	699	703	699	701	700	698	697	700
TBIN	U004	935	935	933	918	903	853	855	853	855	852	853	853	852	854	854	852	852	902	939	938	938	938	938	937	936	934
Total ST-Coal		9791	9286	8894	8540	8464	7977	7771	7783	7771	7786	7776	7776	8018	8126	8251	8418	8404	8609	8803	8780	8954	9389	9636	9698	9778	9937
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
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
CBPS	BLK2	201	202	197	199	196	202	236	245	200	201	201	201	201	198	193	198	201	202	236	244	245	248	248	233	194	201
EMPP	BLK1	443	410	699	711	689	709	706	709	631	568	542	508	515	575	409	400	411	568	706	710	707	708	713	712	674	450
EMPP	BLK2	446	689	707	711	704	710	706	710	646	566	515	477	519	549	407	400	411	570	706	710	710	708	711	712	688	703
EMPP	BLK3	490	709	698	711	688	710	706	710	707	708	711	711	710	709	706	681	705	708	709	710	708	704	711	712	674	688
GLGR	GT02	91	92	92	91	92	92	91	92	91	92	91	92	91	92	92	91	92	91	92	91	92	91	92	92	92	91
GLGR	ST1C	41	40	41	41	41	41	41	40	40	40	40	40	41	40	41	41	41	40	41	41	40	40	41	41	40	40
NPRI	BLK2	425	334	328	342	328	519	425	345	375	473	460	442	446	458	360	322	348	335	352	528	515	505	518	526	486	327
PCGP	PGRG	602	603	592	598	588	603	598	600	602	601	601	601	602	603	593	578	592	601	604	603	596	593	600	603	563	585
PLPS	GT11	128	128	129	128	129	129	129	128	129	129	129	129	128	130	129	129	128	127	129	129	130	128	129	129	128	129
PLPS	ST18	57	57	57	58	57	57	59	56	56	58	57	57	58	57	58	57	57	57	57	58	58	58	58	58	58	57
SPGP	BLK1	498	496	494	496	491	499	496	499	499	498	498	498	499	498	713	699	714	719	717	720	716	714	716	719	695	708
TJGS	GT1A	135	137	133	137	140	137	135	137	136	133	138	137	136	137	137	130	134	139	133	155	237	136	136	137	124	139
TJGS	ST1C	77	77	77	76	76	76	77	77	76	77	77	77	77	77	77	75	77	77	77	81	116	86	78	77	76	77
TJGS	GT2B	160	160	160	160	160	160	160	160	159	159	160	160	159	161	160	160	159	160	160	219	222	152	153	153	153	159
TJGS	ST2C	95	96	96	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	119	119	93	94	93	93	93
Total CCGT-Gas		3889	4230	4500	4554	4474	4739	4660	4603	4442	4398	4316	4224	4276	4383	4174	4054	4161	4490	4778	5110	5210	4962	4995	5010	4777	4437
Total 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
BSIA	HY01	22	22	22	22	22	21	22	21	21	21	21	21	21	11	11	11	11	11	12	11	11	12	12	11	21	21
BSIA	HY02	20	20	20	20	20	20	20	20	20	20	20	20	20	11	11	12	12	12	12	12	12	12	12	20	20	20
BSIA	HY03	23	23	23	23	22	23	23	22	22	22	22	22	22	11	11	11	11	12	11	11	11	12	11	22	22	22
CEND	HY01	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
CEND	HY02	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
CEND	HY03	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
CEND	HY04	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
HTRG	HY02	100	100	63	63	63	63	63	63	62	62	62	62	63	63	63	63	62	62	62	100	100	100	100	100	99	63
HTRG	HY03	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
KNRG	HY01	32	32	32	32	32	32	32	32	32	33	33	33	33	33	33	33	33	32	32	32	32	32	32	32	32	32
KNRG	HY02	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38

Daily MW Generation on Friday

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		
KNYR	HY01	100	99	100	99	99	100	99	100	99	100	99	100	99	100	100	60	60	99	99	100	99	99	99	99	100	100	100	99	99	99	99	100	99	99	100	99	99	99	99	99	100	100	100	99	99	99			
KNYR	HY02	101	100	101	101	101	101	101	100	100	101	101	101	101	101	101	101	59	60	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103		
KNYR	HY03	101	101	101	100	100	99	99	99	99	99	99	100	100	101	101	59	100	101	101	100	100	99	99	98	98	99	99	100	100	101	101	101	101	100	100	99	99	98	98	98	98	98	98	98	98	98	100	100	
KNYR	HY04	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	59	100	100	100	101	100	100	100	101	100	100	99	100	100	100	100	101	101	101	101	100	100	100	99	101	101	101	101	100	100	100	100	100	
LPIA	HY01	22	22	22	22	22	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	21	21	21	21	21	20	20	20	20	20	17	17	18	19	19	19	19	19	19	20	21	21	22	22	22	22	22		
LPIA	HY02	22	22	22	20	20	20	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	20	20	20	20	20	16	17	19	19	19	19	19	19	19	20	21	21	22	22	22	22	22	22		
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	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3			
PGAU	HY01	82	82	22	22	22	22	82	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	21	21	21	22	22	22	22	22	22			
PGAU	HY02	83	22	22	22	22	22	83	22	22	22	22	22	22	22	22	22	22	23	22	23	23	23	23	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22		
SIHY	HY01	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	50	50	50	50	50	50	50	0		
SYPS	HY03	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	17	17	17	17	17	17	0		
SYPS	HY04	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	17	17	17	17	17	17	0			
TMGR	HY01	79	79	0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	80	79	79	79	79	79	79	79	80	-1	-1	-1	-1	-1	-1	-1	79	79	79	79	80	33	32	79	79	31	34	79	79	30	-1	-1	0
TMGR	HY02	45	45	46	43	42	78	46	44	58	45	51	48	46	55	46	43	45	57	65	84	68	49	59	84	39	44	44	45	44	46	67	49	81	84	84	47	46	44	84	46	40	84	84	44	59	44	52		
TMGR	HY03	79	79	30	30	0	0	0	0	0	0	0	0	0	0	0	-1	0	0	0	79	79	79	79	79	28	32	32	32	32	32	32	79	79	79	79	32	31	30	31	79	29	32	79	79	28	32	32		
TMGR	HY04	79	79	30	31	1	1	1	1	1	1	1	1	1	1	1	1	70	79	79	79	79	79	79	79	28	32	32	33	32	33	33	79	79	79	79	80	80	32	79	79	79	80	79	79	80	32	80	32	
UJLI	HY01	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1				
UJLI	HY02	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1				
UPIA	HY01	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6			
UPIA	HY02	6	6	5	5	5	6	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	6	6	6	6	6	6	6	5	6	5	5	5	5		
Total Hydro		1183	1120	848	841	779	816	902	779	790	780	785	784	783	792	784	585	819	1003	1009	1070	1051	1031	1042	1067	916	842	841	843	842	838	861	1019	1093	1114	1062	975	924	871	1007	1102	995	1051	1144	1104	1002	944	977	855	
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	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	1	5	4	14	11	7	9	11	16	16	12	31	6	3	9	13	28	5	5	6	4	2	0	0	0	0	0	0	0	0	0	0		
BKLS	LSS1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	10	8	16	25	21	25	31	35	18	8	26	6	20	20	14	8	6	4	4	2	1	1	1	0	0	0	0	0	0	0	0	
BSLS	LSS1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	8	11	27	17	25	30	25	20	28	12	14	32	17	17	4	9	8	6	6	2	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	1	4	7	13	9	20	34	28	12	2	3	6	12	16	10	4	4	3	3	6	8	3	1	1	1	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	1	3	14	24	27	25	27	28	24	38	41	8	11	31	33	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
GELS	LSS1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	7	5	10	9	10	14	15	22	26	9	8	3	26	29	4	14	0	0	1	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	1	5	8	15	18	22	41	47	38	42	34	30	23	17	50	27	16	23	2	6	7	0	0	0	0	0	0	0	0	0	0	0		
JELS	LSS1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5	10	17	16	28	29	27	12	27	25	20	19	22	14	15	12	6	8	3	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	3	6	9	13	20	18	28	12	33	32	24	12	5	5	4	4	6	6	5	2	3	0	0	0	0	0	0	0	0	0	0	0	0	
KDLS	LSS1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	23	32	54	53	68	70	60	68	75	28	42	78	43	36	6	18	19	18	18	5	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	8	18	20	21	21	25	42	32	31	38	9	22	17	25	6	8	14	8	7	7	2	1	0	0	0	0	0	0	0	0	0	0	0	
KMLS	LSS1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	8	12	11	23	25	25	24	23	30	9	14	29	16	30	1	3	6	7	2	0	0	0	0	0	0	0	0	0	0	0	0		
KNLS	LSS1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	11	30	25	38	53	98	86	30	63	59	61	33	23	19	56	40	51	47	28	24	9	2	0	0	0	0	0	0	0	0	0	0	
KRLS	LSS1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	10	8	12	22	29	26	24	24	18	14	14	6	5	13	16	23	14	9	7	3	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	2	4	4	6	34	40	13	20	34	22	26	11	9	27	21	12	0	1	0	0	1	1	0	0	0	0								

Daily MW Generation on Friday

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	
PCUF	CUFK	5	5	4	5	4	7	5	4	2	3	5	5	3	5	5	7	4	3	6	3	3	5	3	3	4	5	6	6	5	4	4	6	5	5	3	6	4	4	3	4	5	6	5	4	4	4	4	5
Total Co-Gen		20	20	18	19	19	24	19	19	17	18	21	22	19	22	20	23	16	16	20	16	16	19	16	17	17	18	19	19	23	16	27	25	23	26	25	17	16	29	27	29	33	29	23	21	26	29	28	34
Total Gen		14883	14656	14260	13954	13736	13556	13352	13184	13020	12982	12898	12806	13096	13323	13229	13104	13517	14350	14933	15461	15830	16079	16357	16392	16154	15859	15600	15657	15698	15978	16210	16301	16328	16312	16197	15787	15564	15495	15985	16429	16216	15957	15744	15505	15076	14834	14624	14502
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	0	
TIE-HVDC		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	
TIE-PLTG		-48	-7	15	-14	-7	-59	4	-3	2	-4	-40	-48	-8	-9	-30	-4	31	2	-75	-62	-31	-24	14	-14	76	-15	-60	-54	-62	-86	-60	-47	-40	-32	19	30	75	60	29	32	18	-89	-55	4	20	-22	29	10
Interconnection		-48	-7	15	-14	-7	-59	4	-3	2	-4	-40	-48	-8	-9	-30	-4	31	2	-75	-62	-31	-24	14	-14	76	-15	-60	-54	-62	-86	-60	-47	-40	-32	19	30	75	60	29	32	18	-89	-55	4	20	-22	29	10
System Total		14931	14663	14245	13968	13743	13615	13348	13187	13018	12986	12938	12854	13104	13332	13259	13108	13486	14348	15008	15523	15861	16103	16343	16406	16078	15874	15660	15711	15760	16064	16270	16348	16368	16344	16178	15757	15489	15435	15956	16397	16198	16046	15799	15501	15056	14856	14595	14492
SRev ST-Coal		371	544	517	499	548	894	1095	1085	678	663	677	680	937	914	787	829	786	633	443	465	486	658	477	412	335	428	352	333	355	343	354	341	373	427	412	351	336	427	397	346	415	435	431	432	488	689	625	613
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		1413	1072	728	674	754	504	583	640	801	845	927	1019	967	860	1289	1409	1302	973	685	353	277	501	468	453	686	1026	1222	1165	1106	875	577	497	494	421	430	676	735	774	464	378	405	192	172	262	436	292	309	326
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	
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	
SRev Co-Gen		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	
Syncon		374	374	374	375	462	462	462	462	462	462	462	462	462	550	462	462	374	374	374	374	374	374	374	374	374	462	462	462	462	462	374	374	374	374	374	374	374	374	374	374	374	374	374	374	462	462	374	
Hydro		262	325	510	516	404	367	281	404	393	403	398	399	400	390	399	598	539	442	436	375	394	414	403	378	529	515	516	514	515	519	496	426	352	331	383	470	521	574	438	443	550	494	401	441	543	513	480	503
S.Reserve Total		2420	2315	2129	2064	2168	2314	2508	2678	2421	2460	2551	2647	2853	2714	3024	3385	3088	2422	1938	1567	1531	1947	1722	1617	1924	2431	2552	2474	2438	2199	1889	1638	1593	1553	1599	1871	1966	2149	1673	1541	1744	1495	1378	1509	1841	1956	1876	1903