

Daily System Generation Summary on Friday

Friday, March 24, 2023

Availability at Daily Maximum Demand Hour

ST-Coal	0 MW
ST-Gas	0 MW
ST-Oil	0 MW
Hydro	1,627 MW
Distillate	0 MW
Total TNB	1,627 MW
Total IPP	17,895 MW
Total Co-Gen	0 MW
Total System	23,230 MW

Generation Mix

Type	MWh	Percentage
Hydro	12,524	3.34 %
Gas	63,410	16.90 %
Total TNB	75,934	20.24 %
ST-Coal	198,254	52.85 %
LSS	7,200	1.92 %
Gas	93,504	24.93 %
Total IPP	298,958	79.70 %
Co-Gen	808	0.22 %
Total Co-Gen	808	0.22 %
Total Generation	375,700	100.15 %
PLTG	1,853	0.49 %
HVDC	-1,278	-0.34 %
Interconnection	575	0.15 %
Net Energy	375,125	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:	15:30:00 Hour
Total Set On Bus	18,859 MW
TNB Generation	4,063 MW
IPP Generation	13,620 MW
Spinning Reserve	1,145 MW
Maximum Demand	17,664 MW
Net Energy	375,125 MWH
Load Factor	88.49 %

Fuel Cost

Total Cost:	105,860,548.14 RM
Cost per Unit	28.17 cents/kWH

Average Spinning Reserve During Peak Hour

Type	MW
GT	480
Hydro	349
Syncon	437
Thermal	315
Total	1,581

Time Weather Temperature

Afternoon	Hot	33
Morning	Sunny	28

Gas Usage

Station	(mmscfd)
GLGR	29
TJGS	179
Total TNB	208
EMPP	304
KLPP	55
NPRI	146
PCGP	89
PLPS	7
SPGP	210
Total IPP	810
Total Gas	1,018

Total Gas Required 1,018

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	15422	14647	14125	13670	13465	13539	13591	13478	13619	15068	15793	16269	16253	16133	16548	17546	17624	17152	16431	16322	17057	17238	16866	16584

Prepared By: -Select Name-

Checked By: -Select Name-

Printed on: Tuesday, April 4, 2023 10:25:24 AM

(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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32	145	214	216	283	388	566	698	704	706	707	704	708	704	707	705	715	705	709	705	707	707	705	708	705	704	704	705	706	706	707					
JMHE	U001	979	981	955	894	849	849	849	851	850	849	850	850	849	848	850	972	975	975	978	974	978	975	975	972	977	979	976	978	973	974	979	975	974	976	975	976	977	975	975	975	976	977	973	978	979	980				
JMHE	U002	983	983	956	895	850	851	850	850	852	851	849	851	848	853	850	974	979	978	980	979	980	979	976	976	979	981	980	982	980	979	981	978	977	981	978	979	979	978	980	978	978	978	978	980	981	977				
JMJG	U001	680	678	681	677	672	673	679	681	677	675	678	677	675	678	676	678	672	673	685	678	678	679	671	677	682	681	679	676	678	682	678	675	678	673	679	677	672	677	675	679	678	674	679	679	683	672	680	678		
JMJG	U002	677	679	688	676	680	681	683	682	680	680	679	676	682	679	675	677	679	683	680	672	679	678	678	682	680	680	678	678	678	665	683	672	682	677	678	679	682	682	679	682	681	685	677	683	678	679	683	687		
JMJG	U003	677	671	678	673	676	678	675	678	673	673	675	677	675	673	676	673	678	676	664	677	673	677	675	676	673	670	678	672	673	675	674	680	675	673	678	671	674	673	677	678	676	675	679	671	674	673	673			
JMJG	U004	977	976	974	917	855	858	856	857	856	857	856	856	857	857	860	859	885	942	974	977	974	977	981	979	977	977	980	979	979	979	978	981	978	977	982	975	973	979	983	980	980	978	977	975	977	979	980			
JMJG	U005	975	977	970	897	845	852	850	853	849	850	852	852	850	848	851	854	847	899	949	976	977	975	976	974	980	976	976	976	977	972	976	977	978	972	974	978	974	974	977	975	975	972	977	974	977	975	972			
PKLG	U003	278	247	155	155	152	150	150	151	150	150	151	151	150	151	150	130	153	208	271	283	281	280	279	280	245	243	264	274	279	281	279	280	270	274	277	277	277	278	276	276	278	278	278	278	278	277				
PKLG	U004	275	249	173	153	152	152	154	154	152	157	157	160	160	159	158	159	158	158	212	251	264	274	276	273	272	235	239	256	271	272	275	276	274	243	235	235	237	237	234	238	235	234	262	276	278	275	278			
PKLG	U006	451	449	449	449	448	450	448	446	449	448	448	450	451	449	450	447	450	449	449	448	447	451	446	445	449	448	447	449	446	447	449	449	447	450	449	449	449	450	448	449	447	448	448	449	449	447	450			
TBIN	U001	210	211	209	210	210	212	211	210	210	211	210	210	213	212	211	209	211	211	211	210	211	210	211	210	211	210	209	214	211	211	209	211	211	211	211	209	211	211	210	211	211	209	210	209	211					
TBIN	U002	212	211	210	211	210	211	209	211	210	211	211	210	211	212	211	212	213	211	211	210	211	212	211	211	210	211	209	212	212	212	211	212	212	211	210	212	211	211	212	211	211	210	212	211	212					
TBIN	U004	752	754	752	753	753	751	752	753	752	751	752	753	752	753	751	752	752	751	753	753	753	753	751	752	752	752	753	752	753	752	753	753	753	752	752	753	752	753	752	754	752	752	751	753	754	753	752			
Total ST-Coal		8126	8066	7850	7560	7352	7368	7366	7377	7360	7363	7370	7372	7375	7370	7365	7376	7341	7731	8073	8275	8331	8393	8506	8680	8814	8740	8748	8796	8809	8819	8822	8815	8840	8783	8767	8793	8773	8778	8779	8795	8791	8778	8802	8829	8814	8821	8829	8834		
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	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	0		
EMPP	BLK1	704	701	671	679	705	704	537	414	450	614	655	651	661	666	632	573	526	709	684	710	710	688	710	691	689	709	691	711	712	721	709	710	710	704	703	707	690	711	710	708	711	709	709	710	699	711	713	710		
EMPP	BLK2	702	703	669	676	702	702	701	701	634	611	657	655	659	666	639	573	709	709	690	710	709	687	709	692	686	709	691	711	712	721	708	711	711	704	703	707	690	711	710	708	712	709	710	710	699	710	713	709		
EMPP	BLK3	702	703	669	676	701	703	701	699	635	611	656	654	658	666	635	573	710	708	690	709	710	687	711	692	688	709	692	711	713	721	709	711	710	705	704	707	690	710	711	708	713	709	710	709	699	710	713	709		
GLGR	GT01	94	94	92	91	94	93	94	93	94	93	93	93	94	93	92	92	93	94	94	95	95	93	94	94	93	94	95	95	95	94	94	94	93	93	94	93	95	93	94	94	94	93	93	93	93	93	93			
GLGR	ST1C	41	41	41	41	41	41	42	41	41	41	41	41	41	41	41	41	41	41	41	41	41	42	42	42	41	41	41	42	42	42	42	42	42	42	42	41	41	42	42	42	42	41	41	41	41	42	42			
KLPP	GT13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	53	138	137	138	138	140	110	110	117
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	66	151	152	153	157	155	119	114	114	126	158	157	159	157	114	114	123	
KLPP	GT15	112	113	112	113	113	113	112	112	112	113	113	114	112	113	112	112	112	112	112	116	113	113	112	113	112	112	116	116	118	109	117	125	135	131	128	121	115	112	110	126	149	149	149	149	111	112	116			
KLPP	ST17	61	62	61	62	62	62	62	62	62	62	62	62	60	62	62	62	62	62	62	62	61	62	60	62	61	61	63	61	63	62	55	143	141	142	143	142	130	131	131	204	214	213	213	214	192	194	205			
NPRI	BLK1	515	514	502	505	499	369	329	334	320	323	324	323	325	325	332	332	332	478	516	447	521	513	521	514	470	506	479	516	515	515	470	518	503	500	482	511	483	517	518	516	520	518	517	520	493	521	515	504		
NPRI	BLK2	524	518	508	509	334	374	330	331	329	328	329	331	331	330	332	328	329	451	517	448	523	515	522	516	467	503	466	521	515	520	446	521	511	504	434	478	461	522	523	509	524	523	521	523	500	511	512	506		
PCGP	PGRG	604	601	579	585	605	604	603	604	603	600	602	600	604	605	599	599	605	603	593	603	606	590	604	593	584	600	593	608	603	624	601	605	595	588	584	590	565	603	603	594	608	603	601	603	579	606	594	595		
PLPS	GT13	126	125	125	125	126	125	124	124	125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
PLPS	ST18	57	59	57	57	56	56	57	58	56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
SPGP	BLK1	718	718	708	709	718	720	719	719	719	718	720	719	719	719	716	713	720																																	

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
HTRG	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
HTRG	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
HTRG	HY03	3	3	3	3	3	3	3	3	3	3	3	4	4	4	3	3	3	3	3	4	4	4	3	3
HTRG	HY04	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	3	3
KNRG	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
KNRG	HY02	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
KNRG	HY03	21	21	21	21	21	21	21	21	21	21	21	21	38	37	38	38	38	38	38	20	20	20	20	20
KNYR	HY01	100	60	60	60	61	61	61	61	60	61	61	60	-2	-2	-2	-2	-2	-2	-2	61	100	100	100	100
KNYR	HY02	100	59	59	59	60	59	59	60	59	60	59	59	59	59	60	101	101	101	101	99	99	99	99	100
KNYR	HY03	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	97	98	98	98	98	100
LPIA	HY01	15	15	15	15	15	15	15	15	15	15	15	15	16	16	16	16	15	15	15	15	15	15	15	15
LPIA	HY02	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
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
SIHY	HY01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30	30	30	30	30
SIHY	HY02	30	30	30	31	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30	30	30	30	30
SIHY	HY03	30	30	30	31	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30	30	30	30	30
SYPS	HY01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	17	17	17	17
SYPS	HY03	17	17	17	17	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	17	17	17	17
SYPS	HY04	17	17	17	17	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	17	17	17	17
TMGR	HY02	34	35	33	34	35	35	35	34	34	34	35	35	35	35	35	35	34	35	89	89	89	88	88	88
TMGR	HY04	67	52	40	39	71	85	84	65	68	83	85	86	76	84	85	83	85	84	41	57	86	42	82	47
UJLI	HY01	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	98	107	108	101	99
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
UPIA	HY01	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
UPIA	HY02	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Total Hydro		500	405	391	393	428	345	344	326	328	342	343	346	337	345	344	280	282	299	254	271	302	257	299	358
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	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
BSLS	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
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	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
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	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
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	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
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	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
KNLS	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
KRLS	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
MALS	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
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	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
PKLS	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
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
SSLS	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 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			
STLS	LSS1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	5	8	11	8	16	13	8	8	10	25	18	6	4	7	13	17	13	4	4	2	2	0	0	0	0	0	0	0	0	0	0		
TBLS	LSS1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	6	12	20	30	29	30	30	30	30	30	30	30	30	30	30	30	30	21	11	8	2	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	0	0	12	123	285	442	600	700	818	871	884	867	886	899	891	886	821	913	791	738	669	525	403	229	119	39	1	1	0	0	0	0	0	0	0	0	0
ESTL	ESTL	10	15	15	18	12	12	12	20	9	19	19	20	18	13	14	15	16	25	23	10	10	23	21	17	13	13	11	17	21	10	22	15	20	20	1	0	23	12	22	24	18	20	22	23	24	23	20	20		
KHTC	BLK1	0	3	1	0	2	2	3	2	4	3	3	3	2	4	2	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
PCUF	CUFG	4	5	4	3	4	4	3	3	4	4	4	3	6	2	3	4	3	4	5	5	4	3	3	4	3	3	4	5	6	4	4	4	3	4	4	3	4	4	2	2	3	4	3	4	4	4				
PCUF	CUFK	6	7	7	8	7	7	7	7	7	7	7	8	6	6	8	7	7	6	7	6	7	7	6	6	7	8	7	8	7	8	7	6	7	6	7	6	7	6	7	6	6	8	7	8						
PFTZ	PFTZ	5	5	5	5	5	5	5	5	5	5	5	5	5	6	6	5	5	5	5	5	6	6	6	6	6	6	6	6	6	6	6	5	7	7	7	7	7	7	6	6	6	5	5	5	5	5				
Total Co-Gen		25	35	32	34	30	30	30	37	29	38	38	38	39	31	31	35	33	41	38	27	27	40	37	32	29	29	28	33	39	28	40	31	37	39	18	19	41	29	37	41	34	35	36	37	39	39	36	37		
Total Gen		15445	15045	14616	14367	14135	13982	13720	13602	13468	13427	13577	13577	13594	13605	13487	13268	13598	14613	15093	15407	15740	16027	16288	16438	16224	16289	16164	16495	16613	17270	17605	17714	17715	17549	17132	16860	16472	16272	16398	16604	17104	17275	17308	17148	16963	16835	16627	16490		
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	0		
TIE-HVDC		30	30	31	31	31	31	30	30	29	29	30	30	31	31	31	31	-50	-98	-98	-98	-97	-98	-99	-97	-97	-97	-97	-98	-100	-100	-97	-99	-98	-96	-97	-99	-100	-99	-100	-97	-100	-99	-99	-99	-97	-97	-97	-49		
TIE-PLTG		-8	-29	-61	4	-21	-5	19	-7	-27	6	8	1	-28	-8	-22	-15	28	132	123	56	44	77	118	116	69	95	129	192	164	117	156	148	190	115	77	92	140	113	176	119	147	139	169	143	194	118	140	64		
Interconnection		23	2	-31	34	10	26	50	24	3	35	38	31	3	23	9	16	-21	35	25	-42	-53	-20	19	19	-29	-2	31	94	65	17	59	50	91	19	-20	-7	41	14	76	22	47	40	70	44	97	21	43	15		
System Total		15422	15043	14647	14333	14125	13956	13670	13578	13465	13392	13539	13546	13591	13582	13478	13252	13619	14578	15068	15449	15793	16047	16269	16419	16253	16291	16133	16401	16548	17253	17546	17664	17624	17530	17152	16867	16431	16258	16322	16582	17057	17235	17238	17104	16866	16814	16584	16475		
SRev ST-Coal		280	323	369	626	633	629	627	621	632	633	630	627	635	633	631	634	638	550	456	406	361	370	361	360	289	333	328	310	297	292	286	293	266	310	317	293	314	307	306	291	294	272	249	223	289	286	276	274		
SRev CCGT-Gas		565	820	1016	979	1034	1120	1379	1497	1608	1460	1318	1323	1301	1285	1397	1579	1325	887	858	910	764	625	569	660	927	824	950	694	595	238	392	340	271	309	400	304	468	568	382	434	267	221	227	213	335	356	359	361		
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 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 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	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	0		
Syncon		727	727	727	727	727	727	727	727	727	727	727	727	727	727	727	829	829	829	829	829	829	829	829	829	829	829	829	829	829	829	540	126	126	126	126	439	727	727	727	727	540	252	126	126	252	252	439	626	626	
Hydro		202	297	311	309	274	207	208	226	224	210	209	206	215	207	208	170	168	151	196	179	148	193	151	92	153	136	155	125	120	268	428	386	504	508	340	325	377	360	349	413	329	417	403	479	529	456	254	267		
S.Reserve Total		1774	2167	2423	2641	2668	2683	2941	3071	3191	3030	2884	2883	2878	2852	2963	3212	2960	2417	2339	2324	2102	2017	1910	1941	2198	2122	2262	1958	1841	1338	1232	1145	1167	1253	1496	1649	1886	1962	1764	1678	1142	1036	1005	1167	1405	1537	1515	1528		