

Daily System Generation Summary on Thursday

Thursday, November 19, 2020

Availability at Daily Maximum Demand Hour

ST-Coal	0 MW
ST-Gas	0 MW
ST-Oil	0 MW
Hydro	2,372 MW
Distillate	0 MW
Total TNB	2,372 MW
Total IPP	16,469 MW
Total Co-Gen	0 MW
Total System	21,664 MW

Generation Mix

Type	MWh	Percentage
Hydro	18,620	5.17 %
Gas	52,339	14.55 %
Total TNB	70,959	19.72 %
ST-Coal	227,137	63.13 %
LSS	2,854	0.79 %
Gas	58,240	16.19 %
Total IPP	288,231	80.11 %
Co-Gen	212	0.06 %
Total Co-Gen	212	0.06 %
Total Generation	359,402	99.89 %
PLTG	295	0.08 %
HVDC	-700	-0.19 %
Interconnection	-405	-0.11 %
Net Energy	359,807	100.00 %

Maximum Demand Record

Date: 3/10/2020	18,808 MW
Date: 3/10/2020	394,238 MWH

Set On Bus, TNB, IPP And MD

Daily Maximum Demand Hour at:	14:30:00 Hour
Total Set On Bus	18,618 MW
TNB Generation	3,813 MW
IPP Generation	13,267 MW
Spinning Reserve	1,528 MW
Maximum Demand	17,177 MW
Net Energy	359,807 MWH
Load Factor	87.28 %

Fuel Cost

Total Cost:	44,806,557.90 RM
Cost per Unit	12.47 cents/kWH

Average Spinning Reserve During Peak Hour

Type	MW
GT	374
Hydro	611
Syncon	385
Thermal	344
Total	1,714

Time Weather Temperature

Afternoon	Hot	32
Morning	Sunny	28

Gas Usage

Station	(mmscfd)
GLGR	45
SRDG	4
TJGS	196
Total TNB	245
CBPS	48
NPRI	158
PLPS	67
SKSP	2
YPKA	24
Total IPP	299
Total Gas	544

Total Gas Required 544

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	14375	13825	13348	13010	12696	12568	12580	12753	13170	14962	15895	16481	16594	16390	16894	17061	16890	16389	15595	16049	16202	15810	15132	14823

Prepared By: -Select Name-

Checked By: -Select Name-

Printed on: Tuesday, December 1, 2020 9:54:59 AM

(Ir. Shanmugam Thoppalan)
Head
Grid System Operator

Daily MW Generation on Thursday

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	637	634	551	552	551	553	551	485	452	451	451	451	450	450	449	510	634	634	636	631	631	632	632	633	634	630	631	631	634	631	632	632	630	631	632	631	632	631	634	631	634	632								
JMAH	U002	371	373	374	372	373	372	372	370	373	372	372	373	369	373	373	374	370	373	377	403	403	403	402	401	403	403	403	403	402	404	403	402	403	401	402	403	403	399	400	403	402	404	402	404	403					
JMHE	U001	780	777	781	778	783	779	783	781	780	780	783	780	779	780	778	780	779	872	950	981	975	981	977	982	981	975	972	978	978	977	979	977	977	978	977	974	976	980	981	981	980	979	979	978	986	979	982	981		
JMHE	U002	779	779	782	777	781	780	778	780	780	781	779	776	781	777	779	781	870	981	983	975	978	982	980	981	981	980	980	980	982	978	978	977	978	981	981	980	979	978	980	976	987	978	983	980						
JMJG	U001	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
JMJG	U002	672	667	592	598	590	597	548	514	457	461	464	464	500	506	512	528	618	673	673	671	673	658	683	678	675	671	676	671	672	672	672	673	672	672	672	683	671	671	675	671	674	672	673	672	671	681	673			
JMJG	U003	669	656	591	594	596	590	520	502	438	453	453	457	457	456	453	528	576	645	660	667	657	673	662	674	666	665	668	668	666	671	668	672	667	665	667	656	664	662	662	663	665	664	663	660	664	667	662	663		
JMJG	U004	732	712	712	710	712	709	712	712	711	714	711	714	712	710	711	711	711	711	711	714	712	766	827	883	939	937	937	939	939	937	938	938	938	934	938	935	933	934	933	939	944	943	943	941	943	944	939	944		
JMJG	U005	701	700	696	700	701	700	700	702	700	700	702	700	699	700	697	702	701	700	702	699	780	804	801	803	798	799	799	799	797	794	796	797	791	790	798	798	792	782	801	798	785	801	801	801	799	803	803			
PKLG	U003	285	282	285	283	277	281	279	280	278	278	280	278	279	280	277	281	282	282	285	281	283	282	283	280	284	282	279	283	280	280	280	280	278	278	281	280	278	279	278	281	280	280	280	280	280					
PKLG	U005	465	467	468	470	467	467	466	468	467	468	466	466	467	468	467	469	466	466	466	466	466	466	466	465	467	468	466	466	466	468	466	466	466	467	469	467	468	468	467	468	468	461	471	461	470					
PKLG	U006	447	445	447	450	448	450	447	450	452	449	449	447	447	448	447	447	448	449	448	449	449	450	451	449	449	449	447	448	449	449	447	449	447	449	448	447	449	449	449	449	448	449	449	447	448	451				
TBIN	U001	689	688	592	376	334	244	130	73	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
TBIN	U002	689	690	689	687	690	687	690	691	689	691	692	687	691	685	693	692	691	692	693	690	689	689	691	691	690	691	690	691	688	693	686	691	692	690	689	689	691	687	690	692	687	687	691	690	693	688	690	687		
TBIN	U003	693	690	691	690	687	688	691	692	689	691	689	688	688	689	690	688	691	690	693	693	690	690	689	689	690	690	691	689	690	689	691	687	689	691	688	688	690	689	688	689	687	692	689	688	687	690	689	686		
TBIN	U004	848	782	782	782	780	781	782	782	783	782	782	784	783	780	782	781	783	782	780	787	876	965	982	982	984	982	981	983	981	981	981	982	981	982	981	982	982	982	983	982	982	982	981	983	983	983	984	982	981	982
Total ST-Coal		9457	9342	9033	8819	8770	8678	8449	8280	8049	8070	8077	8068	8097	8106	8108	8268	8534	8839	9055	9118	9178	9415	9558	9692	9843	9903	10003	10095	10155	10195	10216	10271	10301	10290	10286	10284	10290	10278	10279	10302	10286	10282	10300	10283	10314	10299	10233	10234		
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	223	218	227	225	220	220	226	224	226	223	224	224	204	225	224	224	236	352	374	354	353	355	352	353	346	353	354	354	354	352	352	348	350	351	341	341	345	287	311	357	350	352	352	351	344	339	358	357		
GLGR	GT01	68	67	68	67	66	67	68	67	68	68	68	68	67	70	68	67	69	69	68	68	66	69	66	68	66	67	66	67	67	68	66	68	67	67	66	67	68	67	68	67	67	68	66	68	67	102	101			
GLGR	GT02	68	68	68	68	68	68	68	68	68	68	68	68	68	68	69	68	67	67	67	67	67	67	67	68	68	67	67	67	67	67	67	67	68	68	68	68	68	67	67	68	68	68	68	68	101	101				
GLGR	ST1C	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	73	73	73	73	73	73	73	73	73	73	74	72	71	72	72	72	72	73	73	73	73	72	72	90	91					
NPRI	BLK1	520	509	524	518	515	511	518	517	521	521	518	519	497	519	519	517	523	517	535	519	515	517	515	518	511	516	516	515	515	520	515	515	515	514	495	501	509	517	509	511	502	505	505	504	506	508	514	505		
NPRI	BLK2	527	517	530	526	521	517	522	523	526	526	523	525	503	526	525	522	529	523	540	524	521	523	523	523	516	522	522	521	520	526	522	522	521	520	501	507	515	521	515	518	507	511	511	510	511	515	520	511		
PCGP	PGRG	611	596	614	605	602	595	603	599	607	606	606	605	577	604	604	603	613	603	639	604	601	604	603	606	595	602	603	602	600	608	602	602	600	574	582	592	599	592	599	584	589	579	587	587	597	599	585			
PLPS	GT11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	65	144	143	144	145	143	144	143	126	141	118	116	121	116	116	117	116	110	111	113	116	112	113	112	111	124	124	122	124	126	124			
PLPS	GT12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	69	145	145	146	146	129	147	124	121	123	121	120	121	120	121	107	68	21	0	0	0	0	0	0	0	0	0	0				
PLPS	GT13	134	132	138	134	134	134	134	135	138	135	135	136	129	135	135	134	135	134	144	137	136	139	136	136	136	121	137	116	112	116	114	113	113	110	113	108	110	108	108	0	0	0	0	0	0	0	0			
PLPS	ST18	59	59	58	59	58	59	59	58	58	57	59	59	59	59	59	59	58	144	143	147	212	213	213	211	207	209	207	199	199	198	198	198	198	198	195	179	174	134	133	132	131	133	81	58	56	58	58	57		
SKSP	BLK1	225	157	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	360	360	359	361	357	359	361	360	359	359	360	360	735	735	733	731	503	500	358	733	732	360	714	723	720	720	488	489	490	490	490	490	360	359	721	721	360	360	360	361	361	360	360	359	74	0	0	0		
SPGP	BLK2	502	495	506	501	500	501	501	502	486	435	411	362	287	188	139	79	21	20	0	0	0	168	188	189	188	188	188	188	188																					

Daily MW Generation on Thursday

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		
CEND	HY01	9	9	10	10	9	10	9	9	10	9	9	10	10	10	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	
CEND	HY03	10	10	10	9	9	10	9	10	9	10	9	10	10	10	10	10	9	9	9	9	9	9	9	9	9	
CEND	HY04	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	
HTRG	HY01	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	35	63	123	63	62	63	62	-1	-1	122	125	124
HTRG	HY02	0	0	0	0	0	0	0	0	0	0	0	63	63	63	63	119	124	63	63	63	63	121	122	122	121	123
KNRG	HY01	36	36	36	36	36	36	22	22	23	23	23	22	22	23	23	22	23	23	22	23	23	23	23	23	23	23
KNRG	HY02	37	37	37	37	37	37	23	22	23	23	23	23	23	23	24	37	37	37	37	37	37	37	37	37	37	37
KNRG	HY03	36	36	36	36	36	36	21	21	22	22	22	22	22	22	23	35	35	36	35	36	35	35	35	35	35	35
KNYR	HY01	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	95	95	95	95	95	95	65	66	66	74	92	75
KNYR	HY03	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	96	95	95	95	95	95	55	55	96	99	99	99
KNYR	HY04	68	59	88	77	61	60	58	59	92	84	78	86	56	80	91	65	93	62	99	98	98	84	62	80	60	60
LPIA	HY01	15	15	15	14	14	14	14	10	10	10	10	10	10	17	18	18	21	22	22	22	22	22	22	22	22	22
LPIA	HY02	15	15	15	14	14	14	14	14	14	14	14	14	14	17	18	18	21	22	22	22	22	22	22	22	22	22
MNOR	HY01	6	6	6	6	6	6	6	6	6	6	6	6	6	5	5	4	4	4	4	5	5	6	6	6	6	6
PGAU	HY01	20	20	0	0	0	0	0	0	0	0	0	0	0	0	20	21	20	22	21	20	20	20	20	20	20	20
PGAU	HY02	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	20	20	20	20	20	20	20	20	20	20
PGAU	HY03	-1	-1	-1	-1	-1	-1	-1	22	22	-1	-1	-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	21	21	21	21	20	20	21	21	21
SIHY	HY02	30	50	50	50	50	50	29	30	30	30	30	30	30	30	30	30	30	30	50	50	50	50	50	50	50	50
SIHY	HY03	30	50	50	50	50	50	33	30	30	30	30	30	30	30	0	0	0	0	50	50	50	50	50	50	50	50
SYPS	HY01	17	17	25	25	25	17	0	0	0	0	0	0	0	0	0	0	0	17	17	17	17	17	17	17	17	17
SYPS	HY02	17	17	25	25	25	17	0	0	0	0	0	0	0	0	0	0	0	17	17	17	17	17	17	17	17	17
SYPS	HY03	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	17	17	17	17	17	17	17	17
SYPS	HY04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	17	17	17	17	17	17	17	17
TMGR	HY01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	17	17	17	17	17	17	17	17
TMGR	HY02	47	43	66	56	44	44	44	67	63	56	66	39	64	71	48	82	44	86	79	86	66	44	60	44	44	44
TMGR	HY03	32	32	0	0	0	0	0	0	0	0	0	0	0	0	0	83	83	83	83	83	83	83	83	83	83	83
TMGR	HY04	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	85	84	84	84	84	84	84	84	84	84	84
UJLI	HY01	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	96	98	96	99	-1	-1	-1	-1
UJLI	HY02	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	99	101	99	98	100	96	85	-1
UPIA	HY01	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	5	5	5	5	5	5	5	5	5	5	5
UPIA	HY02	7	7	7	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Total Hydro		469	496	501	476	447	448	385	331	391	378	341	360	299	351	339	289	360	845	1002	1158	1389	1457	1151	1185	1147	1015
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
BDLS	LSS1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	11	12	16	16	21	23	25	13	14	24	31
BKLS	LSS1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	9	10	17	25	24	23	20	17	34	14	32
BSLS	LSS1	0	0	0	0	0	0	0	0	0	0	0	0	0	5	11	15	18	25	27	30	30	30	30	20	6	20
CHLS	LSS1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	5	17	12	14	28	34	37	20	15	15	36	49
GBLS	LSS1	0	0	0	0	0	0	0	0	0	0	0	0	0	5	11	13	16	22	26	28	42	47	45	21	16	14
GELS	LSS1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	7	11	15	16	11	23	26	27	27	29	25	24
GNLS	LSS1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	5	18	27	33	42	40	43	35	25	49	18
JSLS	LSS1	0	0	0	0	0	0	0	0	0	0	0	0	0	3	10	12	19	15	23	38	34	34	49	41	35	43
KKLS	LSS1	0	0	0	0	0	0	0	0	0	0	0	0	0	6	11	21	26	24	35	41	34	31	34	30	28	17
KRLS	LSS1	0	0	0	0	0	0	0	0	0	0	0	0	0	4	5	10	18	23	26	30	29	30	30	30	30	30
MCLS	LSS1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	14	9	30	34	22	30	48	49	50	46	49	44
SPLS	LSS1	0	0	0	0	0	0	0	0	0	0	0	0	0	3	7	13	26	35	42	43	46	40	55	57	33	16

Daily MW Generation on Thursday

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	0	0	0	3	10	12	22	26	34	37	42	46	43	37	25	22	16	23	12	18	26	2	0	0	0	0	0	0	0	0	0	0	0	0	0		
STLS	LSS1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	3	6	20	14	20	15	10	13	30	15	21	11	17	5	18	19	14	3	0	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	19	79	134	221	292	335	414	470	452	459	430	436	364	395	329	252	175	182	136	50	44	31	12	1	0	0	0	0	0	0	0	0	0	0	0
PCUF	CUFG	5	6	5	5	6	4	5	6	5	6	6	5	5	7	6	4	6	7	6	6	5	5	5	6	6	6	4	6	6	7	4	6	6	6	6	6	6	6	6	6	6	7	4	7	6	5	5	5		
PCUF	CUFK	4	3	5	3	3	4	3	4	3	4	3	2	3	3	2	3	4	4	3	2	2	4	3	3	4	2	3	2	3	5	3	1	3	3	3	4	5	3	4	3	4	2	3	5	3	5	3	5		
Total Co-Gen		9	9	10	8	9	8	8	10	8	9	8	8	8	10	9	6	9	11	10	9	7	7	9	9	9	10	6	9	8	10	9	9	7	9	9	9	10	11	9	10	9	11	6	10	11	8	10	8		
Total Gen		14366	14124	13794	13518	13365	13267	13028	12768	12667	12613	12544	12521	12594	12758	12688	12722	13079	14287	14870	15421	15881	16216	16459	16649	16577	16470	16390	16621	16871	17090	17032	16963	16879	16748	16435	15965	15616	15412	16045	16379	16174	16075	15825	15570	15042	14937	14756	14562		
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	0	
TIE-HVDC		-29	-29	-29	-29	-29	-29	-29	-29	-29	-30	-28	-30	-30	-29	-29	-28	-28	-30	-30	-29	-30	-29	-29	-30	-30	-29	-29	-31	-31	-30	-30	-29	-29	-29	-29	-29	-29	-30	-30	-29	-29	-30	-30	-29	-29	-30	-30	-29	-29	-30
TIE-PLTG		31	51	9	4	56	51	57	3	10	7	16	-14	53	-37	-24	-40	-51	-9	-53	-35	27	-15	16	-16	22	45	38	4	14	-48	10	-13	27	35	82	29	57	-30	33	-8	10	47	52	38	-52	60	-30	68		
Interconnection		2	23	-20	-25	28	23	28	-25	-19	-21	-13	-44	25	-66	-54	-70	-80	-38	-81	-63	-3	-45	-12	-45	-7	15	8	-25	-15	-79	-21	-43	-3	6	54	0	29	-59	4	-37	-20	18	23	8	-82	31	-59	39		
System Total		14375	14112	13825	13554	13348	13254	13010	12803	12696	12645	12568	12576	12580	12835	12753	12803	13170	14336	14962	15495	15895	16271	16481	16704	16594	16463	16390	16654	16894	17177	17061	17014	16890	16750	16389	15973	15595	15479	16049	16424	16202	16065	15810	15570	15132	14914	14823	14531		
SRev ST-Coal		672	699	841	833	845	772	839	807	769	762	763	773	769	778	769	768	761	683	529	501	528	390	448	341	309	301	266	269	279	298	279	313	282	294	298	298	293	306	305	282	294	299	284	300	271	284	262	260		
SRev CCGT-Gas		999	1153	830	865	941	947	854	893	821	884	922	955	1040	939	998	880	984	385	181	423	296	216	246	213	402	410	341	426	316	275	310	331	381	399	642	635	644	834	478	297	361	341	419	505	758	553	252	301		
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	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	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	76	-2	-2	-2	-3	34	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	0	
Syncon		940	940	940	940	940	940	940	940	789	789	940	940	1027	1027	1027	1027	1027	651	338	338	151	151	525	525	525	500	651	338	151	151	151	151	151	151	464	839	839	940	464	338	425	612	587	839	940	0	738	1027		
Hydro		355	328	86	108	137	137	200	229	295	307	193	174	234	182	151	201	130	431	587	431	537	770	697	663	701	857	724	749	883	728	772	798	738	804	894	617	219	194	389	386	424	353	422	247	171	575	255	110		
S.Reserve Total		2966	3120	2697	2746	2863	2796	2833	2869	2674	2742	2818	2842	3070	2926	2945	2876	2902	2150	1635	1693	1512	1527	1916	1742	1937	2068	1985	1782	1629	1528	1510	1591	1550	1645	2332	2389	1995	2274	1636	1303	1504	1605	1712	1891	2140	1412	1507	1698		