

Daily System Generation Summary on Monday

Monday, December 27, 2021

Availability at Daily Maximum Demand Hour

ST-Coal	0 MW
ST-Gas	0 MW
ST-Oil	0 MW
Hydro	2,533 MW
Distillate	0 MW
Total TNB	2,533 MW
Total IPP	17,072 MW
Total Co-Gen	0 MW
Total System	22,448 MW

Generation Mix

Type	MWh	Percentage
Hydro	12,360	3.46 %
Gas	37,065	10.38 %
Total TNB	49,425	13.85 %
ST-Coal	192,699	53.99 %
LSS	3,326	0.93 %
Gas	110,885	31.07 %
Total IPP	306,910	85.99 %
Co-Gen	1,292	0.36 %
Total Co-Gen	1,292	0.36 %
Total Generation	357,627	100.19 %
PLTG	276	0.08 %
EGAT	5	0.00 %
HVDC	415	0.12 %
Interconnection	696	0.19 %
Net Energy	356,931	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:	16:00:00 Hour
Total Set On Bus	18,442 MW
TNB Generation	2,635 MW
IPP Generation	14,451 MW
Spinning Reserve	1,303 MW
Maximum Demand	17,123 MW
Net Energy	356,931 MWH
Load Factor	86.85 %

Fuel Cost

Total Cost:	74,208,057.00 RM
Cost per Unit	20.75 cents/kWH

Average Spinning Reserve During Peak Hour

Type	MW
GT	210
Hydro	587
Syncon	539
Thermal	324
Total	1,660

Time	Weather	Temperature
Afternoon	Hot	31
Morning	Cloudy	25

Gas Usage

Station	(mmscfd)
GLGR	31
TJGS	108
Total TNB	138
CBPS	54
NPRI	159
PGLA	107
PLPS	22
Total IPP	343
Total Gas	481
Total Gas Required	481

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	14240	13586	13178	12516	12225	12099	12112	12328	12978	14632	15650	16166	16133	15953	16520	16996	17123	16856	15771	15656	16396	16151	15588	15348

Prepared By: -Select Name-

Checked By: -Select Name-

Printed on: Tuesday, January 4, 2022 11:14:37 AM
(Ir. Shanmugam Thoppalan)
Head
Grid System Operator

Daily MW Generation on Monday

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	695	697	696	696	696	696	624	452	432	355	356	355	354	354	354	408	510	698	696	697	699	700	698	684	648	643	646	656	696	696	696	695	696	696	697	697	696	604	676	693	697	695	698	657	616	555	556	503	
JMAH	U002	697	696	697	695	697	696	638	457	445	351	356	354	355	354	355	404	508	682	688	695	696	694	693	699	694	649	648	697	695	695	695	698	690	695	695	693	698	606	672	698	693	694	699	655	614	554	554	505	
JMHE	U001	953	954	904	846	812	796	797	801	802	799	803	801	802	801	800	797	802	871	917	920	972	969	976	980	975	986	979	977	981	979	982	980	982	976	977	975	981	979	984	980	980	981	978	977	980	978	979	982	
JMHE	U002	950	953	948	849	800	799	801	801	802	801	799	801	802	800	799	800	802	851	917	920	958	977	970	976	975	980	979	978	980	976	978	980	981	975	973	975	980	978	983	978	980	977	976	978	976	978	979	981	
JMJG	U001	618	546	542	548	547	546	551	544	547	536	509	509	505	540	542	582	666	673	670	671	674	669	665	675	668	676	675	668	675	672	671	669	675	672	671	639	645	590	604	550	550	550	550	550	550	550	550	550	
JMJG	U002	634	581	543	546	544	548	546	548	551	546	511	510	508	528	551	568	632	672	674	672	673	675	670	672	672	674	673	671	671	670	671	674	676	670	677	640	645	595	595	550	550	550	550	550	550	550	550	550	
JMJG	U004	950	950	924	867	809	803	803	807	804	805	804	805	806	805	803	806	805	833	888	921	931	968	972	954	954	951	952	958	953	954	954	954	952	953	953	955	953	952	952	952	952	952	952	952	952	952	952	952	
JMJG	U005	890	865	803	803	804	800	801	801	804	801	801	801	803	801	800	800	803	867	887	892	891	890	889	890	892	892	890	891	892	892	892	892	892	892	892	892	892	892	892	892	892	892	892	892	892	892	892		
PKLG	U003	154	155	155	154	155	155	154	155	153	154	155	154	155	153	154	153	154	153	155	154	154	152	153	154	154	153	155	154	153	154	154	154	154	153	154	154	155	154	153	187	207	193	155	156	158	153	153		
PKLG	U006	269	267	269	269	267	267	267	268	270	269	270	269	267	270	269	267	269	269	267	269	270	268	269	270	268	269	267	267	268	267	270	267	271	269	269	267	271	268	269	273	343	358	341	302	272	268	267	270	
TBIN	U001	449	451	453	450	400	322	300	301	301	301	301	301	301	301	301	301	357	431	527	629	687	686	647	637	550	550	500	550	549	684	688	689	688	688	685	596	551	550	581	675	690	690	689	650	599	548	550	499	
TBIN	U002	453	454	453	454	401	330	302	306	305	302	305	303	304	302	302	304	360	505	534	645	695	692	655	639	550	550	500	553	553	687	691	691	690	691	693	601	530	556	583	673	689	691	690	654	598	550	552	505	
TBIN	U003	450	450	450	450	403	326	301	303	302	302	302	302	303	302	302	304	353	520	507	635	720	691	648	638	550	550	500	541	546	659	686	682	694	691	692	625	556	554	579	658	694	669	693	652	611	548	550	500	
Total ST-Coal		8162	8019	7837	7627	7335	7084	6885	6544	6520	6321	6271	6266	6264	6313	6331	6495	7021	8025	8326	8719	9021	9033	8906	8866	8549	8527	8362	8554	8619	8984	9022	9025	9043	9020	9022	8705	8552	8278	8524	8725	8897	8906	8901	8624	8366	8081	8084	7842	
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	0
CBPS	BLK2	364	365	361	360	362	365	357	364	361	360	362	355	358	362	362	361	362	361	359	360	363	352	366	358	358	358	363	367	362	366	365	365	362	366	362	358	350	360	364	365	349	353	353	360	352	365	362	369	
EMPP	BLK1	711	714	711	703	711	710	699	709	706	711	710	707	707	709	711	710	706	709	710	710	696	708	702	699	710	710	711	712	709	711	714	716	708	705	706	703	711	714	712	692	700	698	709	701	720	709	714		
EMPP	BLK2	762	763	762	764	760	763	765	762	765	765	763	767	766	765	766	767	766	765	761	761	759	760	757	755	759	758	758	757	757	755	754	754	755	756	755	757	761	758	761	760	762	763	764	762	764	762	760	760	
EMPP	BLK3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	86	202	199	257	723	742	747	749	750	750	746	745	746	740	747	749	749	755	752	753	756	752	754	755	754	756	771	751	754		
GLGR	GT01	106	95	95	95	95	97	95	95	94	94	95	95	95	95	94	95	106	106	108	106	107	107	107	107	107	107	107	107	107	107	107	107	107	105	106	97	107	107	108	108	107	108	107	108	107	108	108		
GLGR	ST1C	44	41	40	40	40	41	40	40	41	40	40	41	41	41	42	41	44	44	44	45	44	45	45	46	45	45	47	47	45	46	46	46	46	45	45	45	46	46	46	45	45	46	45	46	45	46			
NPRI	BLK1	515	518	514	506	515	515	502	515	507	513	514	508	511	515	514	514	510	509	513	515	515	500	515	503	506	517	514	514	518	515	516	519	515	511	508	503	515	519	518	496	504	505	515	506	520	517	520		
NPRI	BLK2	520	521	518	509	517	518	505	520	511	517	519	511	514	518	517	519	514	514	516	518	516	502	519	508	506	519	518	519	521	520	520	522	524	520	515	511	508	520	520	521	500	509	508	520	508	524	521	524	
PCGP	PGRG	605	605	602	594	604	603	586	603	592	601	603	591	597	602	600	600	597	597	598	602	602	580	604	591	588	603	604	605	610	602	606	608	611	606	603	595	589	602	607	608	580	589	590	606	590	610	603	611	
PGLA	GT11	218	193	167	185	190	196	164	204	166	204	177	169	168	192	210	190	174	181	208	216	215	207	216	209	207	216	215	216	216	217	217	218	216	214	212	213	216	206	218	208	210	210	214	210	217	215	216		
PGLA	GT12	221	198	171	190	194	199	169	209	171	208	180	172	172	195	214	195	179	185	213	220	219	211	220	218	216	219	219	220	221	219	220	221	223	220	218	217	218	220	211	221	212	215	214	219	214	222	218	220	
PGLA	ST10	239	229	210	214	223	211	202	233	201	220	219	204	205	210	237	226	214	225	235	238	239	238	244	237	236	242	243	243	242	243	242	241	235	241	220	240	231	232	234	232	234	239	213	238	237	237			
PLPS	GT11	0	0	0	0	0	0	0	0	0	0	0	5	46	45	46	46	47	46	67	65	65	46	57	56	115	141	142	141	142	141	142	141	141	141	141	137	130	144	144	137	139	140	143	140	148	143	146		
PLPS	ST18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	25	43	51	51	49	50	60	59	59	56	56	54	53	50	58	57	60	60	58	57	56	54	55	52	50	60		
SPGP	BLK1	717	717	715	718	718	717	717	717	718	718	717	715	716	718	718	716	719	717	717	716	715	716	714	715	717																								

Daily MW Generation on Monday

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					
KNRG	HY03	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	22	21	20	0	0	0	0	0	21	35	34	34	34	22	0	0	0	0	0	0	0	0	0	0	0	0	0			
KNYR	HY02	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	62	62	62	102	102	61	60	58	61	-2	103	96	96	-2	-2	-2	-2	-2	-2				
KNYR	HY03	56	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-2	-1	-1	-1	-1	-1	-1	52	52	100	100	51	50	-1	-1	-1	100	96	96	46	51	-1	-1	-1	-1					
KNYR	HY04	64	63	62	61	62	61	58	63	61	60	60	58	58	62	61	60	60	61	62	59	59	56	100	57	58	66	75	97	86	84	62	66	69	65	60	60	58	61	63	93	55	55	55	61	57	95	63	83			
LPIA	HY01	22	22	22	22	22	22	23	18	18	18	18	18	18	20	20	20	20	20	20	20	20	20	20	21	21	21	22	22	22	22	22	22	22	22	23	23	23	23	23	23	23	23	23	23	23	23	23				
LPIA	HY02	22	22	22	22	22	22	23	19	19	19	19	19	19	18	18	18	18	18	19	19	19	20	20	20	20	21	22	21	21	21	21	21	21	22	23	23	23	23	23	23	23	23	23	23	23	23	23				
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	-3	-3	19	-3	-3	-3	-3	-3	-3	-3	19	-3	-3	-3	-2	-2	-2	-2	19	-2	-2	-3	-2	-2	-2	-3	-2	-2	19	19	-2	-2	20	19	21	-2	-2	-2	-3	-3	-3	-3	-3	-3	-3	20	-3	-3	-3		
PGAU	HY03	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	20	21	20	20	0	0	0	0	0			
PGAU	HY04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	21	21	21	22	22	21	21	21	22	22	21	22	22	22	22	22	22	22	22	0	0	0	0	0	0	0	0	0		
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	48	48	48	48	48	47	47	31	0	0	0	32	31	31	31	31	31	31	0	
SIHY	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	0	0	0	0	0	0	50	50	50	50	50	50	33	0	0	50	51	31	31	31	31	31	31	31	0		
SIHY	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	9	50	50	49	50	50	50	50	50	50	31	30	30	49	50	31	31	31	31	31	31	0	
SYPS	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	0	0	0	0	25	25	25	25	25	25	25	25
SYPS	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	0	0	0	0	0	25	25	25	25	25	25	25	25	25	17	17	17	25	25	25	25	25	16	0	0	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	0	0	25	25	25	25	25	25	25	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	25	25	25	25	25	25	17	0	25	25	25	25	25	25	25	25	25	25	25	0	
TMGR	HY01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	48	62	61	60	0	0	0	0	0	0	22	25	25	25	25	25	25	17	0	25	25	25	25	25	25	25	25	0	0	
TMGR	HY02	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	54	35	35	50	64	63	62	36	36	35	35	54	33	33	54	89	88	34	33	34	35	56	84	63	61	64	62	64	64	64			
TMGR	HY03	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	32	32	47	60	59	58	32	32	32	32	50	30	30	50	83	83	0	0	0	0	53	78	62	61	63	61	63	63	63			
TMGR	HY04	42	42	42	40	41	41	38	41	41	42	41	40	40	41	44	41	42	42	43	42	41	38	85	40	40	49	57	78	63	63	42	42	45	41	42	41	40	41	42	78	37	40	39	41	40	82	41	59			
UJLI	HY01	-6	-6	-7	-7	-7	-6	-7	-6	-6	-7	-6	-6	-6	-7	-6	-6	-6	-6	-6	-6	81	-7	-6	-6	-6	-6	91	92	93	93	93	93	93	93	89	87	84	-6	-6	-7	84	87	-6	-7	-6	-6	-6	-6			
UJLI	HY02	-6	-6	-6	-7	-6	-7	-6	-7	-7	-7	-7	-7	-7	-6	-6	-6	-6	-6	-6	-7	-6	-7	95	-6	-6	-6	-7	-6	-7	-6	-7	-6	-7	-7	97	99	-7	-7	97	99	-7	-7	-6	-6	-6	-7	-6				
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	6				
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	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		410	215	234	208	213	212	206	208	203	203	202	220	199	205	207	205	206	207	335	335	314	551	701	509	508	347	463	549	712	813	879	916	1074	1194	1035	751	568	407	451	954	985	913	668	669	624	671	597	524			
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	0	0		
BDLS	LSS1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	6	9	12	16	17	21	23	24	25	27	17	26	25	24	23	22	7	14	4	2	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	2	5	9	15	18	22	26	28	31	27	29	28	26	30	27	25	20	17	11	7	3	1	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	3	7	12	17	21	24	28	30	31	32	32	32	32	32	30	29	22	25	18	11	8	3	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	4	10	16	22	28	33	37	40	43	36	17	40	9	41	7	7	3	6	10	7	5	2	2	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	2	6	9	13	18	22	22	21	17	24	30	26	28	19	25	22	9	17	11	9	5	2	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	3	11	19	26	30	35	41	44	47	49	49	49	48	37	45	33	36	31	26	19	9	4	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	1	5	8	12	10	20	25	15	15	15	15	15	6	15	19	21	18	12	9	6	2	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	1	4	11	16	23	29	34	39	38	37	49	33	47	43	46	37	40	13	4	2	1	2	1	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	3	10	17	23	29	34	37	40	42	45	46	44	39	37	36	26	9	26	16	11	2	1	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	3	7	11	16	20	24	27	30	30	30																									

Daily MW Generation on Monday

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																									
TIE-HVDC		30	31	31	31	31	31	31	31	31	31	31	30	30	30	30	30	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	29	29	31	29	31	31	28	29	29						
TIE-PLTG		75	43	70	102	26	2	80	-1	51	17	1	46	-32	-30	-39	-11	-64	-46	-4	-48	-20	14	-35	-33	-19	-37	18	-38	-29	-21	10	30	15	81	98	103	80	-1	3	-2	23	5	25	-17	9	21	13	21	
Interconnection		105	75	101	133	58	33	112	30	82	48	32	77	-2	1	-9	19	-34	-16	7	-48	-20	15	-35	-33	-19	-37	18	-38	-29	-21	11	30	16	81	98	103	80	-1	3	28	52	37	54	14	40	49	43	50	
System Total		14227	13861	13574	13320	13164	12937	12502	12431	12211	12164	12085	12024	12098	12218	12314	12404	12966	14074	14620	15257	15638	15858	16156	16414	16121	16056	15946	16324	16513	16963	16989	16996	17118	17088	16851	16150	15764	15389	15648	16371	16388	16415	16137	15977	15577	15457	15334	15054	
SRev ST-Coal		572	605	749	818	815	815	944	951	947	952	953	952	948	953	953	951	891	663	606	555	257	242	369	349	376	399	413	364	305	220	183	179	174	195	193	441	412	601	503	352	285	310	284	483	602	600	599	593	
SRev CCGT-Gas		148	206	305	293	234	236	389	202	340	221	266	423	408	337	273	319	377	321	247	219	238	377	245	261	234	169	163	147	136	141	137	142	130	145	177	199	228	180	182	137	302	232	240	164	241	101	160	120	
SRev LSS		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	-1	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	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	0
Syncon		765	866	714	868	867	867	867	867	867	868	867	715	867	867	867	865	865	865	865	714	865	674	676	865	865	867	673	674	522	419	345	345	192	193	192	471	572	764	674	472	472	347	641	640	587	740	741	740	
Hydro		341	134	267	139	135	136	142	140	145	144	146	280	149	143	141	145	144	143	338	639	509	677	525	528	529	474	552	540	654	656	768	731	726	605	765	684	662	506	552	326	395	467	418	268	366	141	214	138	
S.Reserve Total		1826	1984	2208	2291	2224	2227	2515	2333	2472	2358	2405	2543	2545	2473	2407	2455	2450	2165	2056	2127	1869	1970	1815	2003	2004	1995	1887	1811	1702	1522	1519	1483	1308	1224	1413	1967	2046	2223	1997	1287	1454	1356	1583	1555	1796	1582	1714	1591	