

Daily System Generation Summary on Friday

Friday, December 28, 2018

Availability at Daily Maximum Demand Hour

ST-Coal	0 MW
ST-Gas	0 MW
ST-Oil	0 MW
Hydro	2,454 MW
Distillate	0 MW
Total TNB	2,454 MW
Total IPP	16,496 MW
Total Co-Gen	65 MW
Total System	22,089 MW

Generation Mix

Type	MWh	Percentage
Hydro	14,029	3.99 %
Gas	36,048	10.26 %
Total TNB	50,077	14.25 %
ST-Coal	201,394	57.30 %
LSS	860	0.24 %
Gas	97,209	27.66 %
Total IPP	299,463	85.20 %
Co-Gen	1,756	0.50 %
Total Co-Gen	1,756	0.50 %
Total Generation	351,296	99.94 %
PLTG	78	0.02 %
HVDC	-274	-0.08 %
Interconnection	-196	-0.06 %
Net Energy	351,492	100.00 %

Maximum Demand Record

Date: 8/15/2018	18,338 MW
Date: 8/15/2018	388,524 MWH

Set On Bus, TNB, IPP And MD

Daily Maximum Demand Hour at:	16:00:00 Hour
Total Set On Bus	18,367 MW
TNB Generation	2,893 MW
IPP Generation	13,623 MW
Spinning Reserve	1,768 MW
Maximum Demand	16,610 MW
Net Energy	351,492 MWH
Load Factor	88.17 %

Fuel Cost

Total Cost:	66,003,721.18 RM
Cost per Unit	19.62 cents/kWH

Average Spinning Reserve During Peak Hour

Type	MW
GT	335
Hydro	701
Syncon	576
Thermal	349
Total	1,961

Time	Weather	Temperature
Afternoon	Hot	34
Morning	Sunny	28

Gas Usage

Station	(mmscfd)
GLGR	49
TJGS	208
Total TNB	256
CBPS	51
KLPP	71
NPRI	148
PGLA	109
PLPS	73
PTEK	3
SGRI	55
SKSP	50
YPKA	72
Total IPP	632
Total Gas	888
Total Gas Required	888

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	14208	13499	12990	12816	12343	12226	12379	12543	12771	14468	15248	15928	15870	15524	15725	16398	16610	16355	15358	15163	16155	15872	15441	15011

Prepared By: -Select Name-

Checked By: -Select Name-

Printed on: Monday, December 31, 2018 10:50:05 AM

(Ir. Shanmugam Thoppalan)
Pengurus Besar Kanan
Jabatan Sistem Operasi

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	650	650	650	690	690	690	690	670	670	630	670	690	690	690	690	690	690	690	690	690	690	690	690	690
JMAH	U002	690	690	690	690	690	690	690	670	670	630	670	690	690	690	690	690	690	690	690	690	690	690	690	690
JMHE	U001	761	763	717	561	516	514	511	512	361	312	285	189	27	0	0	0	0	0	0	0	0	0	0	0
JMJG	U001	678	678	682	679	676	676	677	671	671	677	667	673	677	679	684	673	676	675	675	679	676	678	680	677
JMJG	U002	647	644	646	646	646	643	653	643	651	645	651	645	674	677	676	679	679	672	668	670	673	672	671	672
JMJG	U003	134	257	334	348	452	530	541	582	592	601	612	612	589	592	598	593	595	610	665	680	675	679	679	671
JMJG	U004	881	792	785	785	783	782	785	785	785	783	786	782	785	785	783	785	783	785	786	844	922	925	924	920
JMJG	U005	975	880	781	776	779	782	780	782	778	780	777	782	781	779	781	777	782	780	780	868	920	922	920	917
PKLG	U003	283	283	287	284	286	282	280	281	283	277	150	154	152	167	294	286	284	289	287	285	285	282	285	285
PKLG	U004	159	117	38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TBIN	U001	688	688	689	689	687	688	689	661	669	668	649	649	669	690	690	690	690	691	689	689	691	689	689	689
TBIN	U002	688	691	689	689	690	689	690	672	675	672	659	651	671	690	690	688	690	691	690	691	689	686	688	688
TBIN	U003	691	691	689	691	692	691	691	668	673	672	663	648	674	689	691	690	691	690	690	691	691	690	691	691
TBIN	U004	951	890	803	802	803	801	803	802	801	802	803	802	803	801	803	804	802	802	802	803	865	923	922	923
Total ST-Coal		8876	8714	8480	8330	8390	8458	8480	8439	8279	8229	8042	7847	7842	7909	8050	8045	8052	8062	8113	8124	8335	8519	8531	8520
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
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
CBPS	BLK2	355	359	364	365	357	222	224	224	219	225	223	221	222	226	222	224	368	358	364	364	370	362	364	358
GLGR	GT01	67	70	69	70	68	70	68	69	67	67	69	68	69	68	69	69	68	69	69	68	68	68	66	68
GLGR	GT02	68	69	69	68	69	69	68	68	69	69	69	68	68	69	69	68	68	68	68	68	85	85	85	85
GLGR	ST1C	70	70	70	70	70	70	70	70	70	70	70	71	70	71	70	70	70	71	69	70	71	72	70	81
KLPP	GT13	65	65	70	66	65	65	66	62	61	61	59	61	65	65	66	65	68	128	143	142	141	143	145	145
KLPP	GT14	76	81	82	78	77	76	77	76	77	77	72	77	76	78	80	76	82	132	158	158	157	158	159	160
KLPP	ST17	89	86	89	83	81	83	83	80	84	86	86	87	87	87	87	84	84	127	139	139	139	140	140	140
NPRI	BLK1	498	511	514	509	506	396	393	299	292	298	287	295	308	310	311	396	517	520	511	520	515	521	518	518
NPRI	BLK2	500	511	516	511	441	380	330	320	316	321	311	369	397	415	434	326	379	523	512	523	515	523	520	521
PCGP	PGRG	603	603	318	318	318	420	420	420	297	276	421	423	424	366	367	364	367	366	488	495	482	490	494	501
PGLA	GT11	171	167	182	171	169	170	169	170	170	170	168	184	178	170	170	212	180	167	180	211	225	226	226	222
PGLA	GT12	173	170	186	173	172	172	172	172	172	172	172	172	185	180	173	172	217	182	169	182	214	227	225	228
PGLA	ST10	207	214	207	207	207	207	206	207	206	206	206	213	216	207	205	224	206	202	206	226	250	250	251	251
PLPS	GT11	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	153	153	153	153	153	153	126	125	126
PLPS	GT12	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	140	140	140	140	140	140	140	140	140
PLPS	GT13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	58	140	140	140	140	140	140	140	140
PLPS	ST18	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98	200	200	200	200	200	200	200	200
SGRI	GT21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	105	131	131	130	130	130	110	110
SGRI	GT23	105	104	107	104	104	104	104	100	100	104	100	101	104	104	105	104	108	103	104	112	109	112	109	109
SGRI	ST24	59	61	62	61	61	61	60	60	59	59	58	61	61	60	60	60	57	111	137	137	137	138	138	132
SKSP	BLK1	230	228	246	217	218	219	219	219	220	219	219	218	237	246	221	220	244	231	219	238	233	262	323	311
TJGS	GT1A	223	214	188	196	137	141	141	141	141	141	141	141	141	141	141	141	233	229	229	226	226	226	226	226
TJGS	GT1B	216	206	183	191	131	134	134	132	137	135	135	134	138	137	134	132	224	222	222	222	221	218	218	218
TJGS	ST1C	250	235	227	223	184	181	181	181	181	181	181	181	181	181	181	252	258	258	258	258	258	258	258	258
TJGS	GT2A	214	207	171	166	148	148	148	148	148	148	148	146	148	148	148	147	147	221	221	221	221	221	221	221
TJGS	GT2B	211	203	170	164	144	144	144	144	146	146	146	143	145	146	146	146	146	219	219	221	218	218	219	219
TJGS	ST2C	257	240	236	224	211	211	211	211	211	211	211	211	211	211	211	209	209	262	262	262	262	264	264	264
YPKA	GT11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	129	129	129	130	130	130	127	129
YPKA	GT12	63	68	64	73	75	75	74	63	66	68	74	76	70	63	76	74	69	63	74	73	135	124	128	125
YPKA	ST10	34	34	34	34	34	34	33	33	33	34	34	33	33	33	33	33	33	33	33	101	124	125	126	126

Daily MW Generation on Friday

		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			
YPKA	GT21	0	0	0	0	0	0	0	0	0	0	0	0	0	45	69	69	69	69	69	135	132	133	132	132	133	131	131	131	131	129	129	130	131	130	130	129	131	133	132	65	65	65	134	134	135	134	134	135	132	134	132	
YPKA	ST20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	60	61	62	63	63	63	63	63	64	63	64	64	64	64	64	64	63	64	64	64	64	40	40	40	64	63	64	64	64	64	64	64	64
Total CCGT-Gas		5042	5014	4662	4580	4285	4090	4035	3906	3781	3782	3900	4015	4143	4102	4091	4042	4361	5338	5956	6279	6403	6510	6568	6563	6423	6464	6485	6528	6613	6478	6576	6564	6564	6564	6576	6496	6404	6087	5785	5952	6219	6210	6196	6175	6192	6094	5961	5773	5786			
PTEK	GT1A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	106	105	105	105	58	0	0	0	0	0	0	0	0	0	0	0				
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	0	0	0	0	0	0	106	105	105	105	58	0	0	0	0	0	0	0	0	0	0	0				
BSIA	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	8	11	11	11	11	11	10	11	11	11	11	11	11	11	11	11	11	11				
BSIA	HY02	12	11	11	11	11	11	11	11	11	11	11	12	11	11	11	11	11	11	11	11	11	12	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11				
CEND	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	7	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6			
CEND	HY02	6	6	7	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	7	6	6	6	6	7	6	6	7	6	6	7	6	6	6	6	6	6	6	6	6	6	6	6	6	7	7				
CEND	HY03	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	7	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6			
HTRG	HY01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	-1	-1	63	63	63	-1	-1	-1	-1	-1	-1	63	110	125	63	63	63	63	125	124	125	63	63	63	63	63	63	63	63	63	
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	63	63	-1	-1	-1	-1	-1	-1	64	64	110	125	124	64	63	63	63	63	124	124	124	63	62	63	63	62		
KNRG	HY02	38	38	38	38	37	38	37	37	37	38	37	38	38	38	38	38	38	38	37	38	37	38	37	37	37	38	38	37	38	37	38	24	24	25	24	24	24	24	24	24	24	24	23	23	23	24	24	24	24	24		
KNRG	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	24	23	24	23	23	23	23	23	23	23	23	23	23	23	24	24	24	24			
KNYR	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	56	60	60	59	59	59	59	56	58	58	57	57	57	56	58	56	59	60	62			
KNYR	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	97	100	59	59	59	58	58	55	57	58	56	56	55	58	56	59	60	62				
KNYR	HY03	57	57	60	58	58	59	56	55	56	55	54	57	59	59	60	55	59	58	52	58	58	60	61	58	58	58	58	58	61	56	59	59	60	59	59	59	56	58	57	57	57	57	56	58	56	60	60	62				
KNYR	HY04	-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	56	60	60	60	59	57	58	59	57	57	57	58	57	60	61	63					
LPIA	HY01	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	23	22	18	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19				
LPIA	HY02	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	15	21	21	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16				
MNOR	HY01	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	7	7	7	7	8	8	8	8	8	8	8	8	8	8	8	8	8	8	5	5	8	8	8	8	8	8	8	5	5	5		
PGAU	HY01	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	20	24	24	23	-1	-1	-1	-1	-1	-1	20	25	24	25	25	24	25	24	24	111	112	111	110	111	-1	-1	-1	-1			
PGAU	HY02	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	20	-1	-1	-1	-1	-1	-1	-1	20	20	20	20	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	113	113	113	113	20	-1	-1	-1			
PGAU	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	14	20	21	21	21	21	21	21	20	112	113	113	111	20	21	21	21	21				
PGAU	HY04	22	22	22	22	22	23	23	23	23	23	23	22	23	23	22	23	22	23	22	23	22	23	23	22	23	22	22	23	22	23	23	23	23	23	23	23	23	23	23	23	23	24	24	24	23	23	23	24	23			
SIHY	HY01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30	30	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	0	0	51	51	51	51	51	51	32	0	0		
SIHY	HY03	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30	30	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	0	0	51	51	51	51	51	51	32	0	0		
SYPS	HY01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	17	25	25	25	0	0	0	0	0	25	25	25	25	25	25	25	25	0	0	25	25	25	25	25	16	0	0	0		
SYPS	HY02	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	17	24	24	24	0	0	0	0	24	24	24	24	24	24	24	0	0	24	24	24	24	24	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	17	17	25	25	25	0	0	0	0	25	25	25	25	25	25	25	25	25	0	0	25	25	25	25	16	0	0	0				
SYPS	HY04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	17	25	25	25	0	0	0	0	25	25	25	25	25	25	25	25	0	0	25	25	25	25	25	16	0	0	0				
TMGR	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	-1	-1					
TMGR	HY02	33	34	34	34	34	34	34	32	30	32	29	31	34	34	34	34	34	41	43	41	41	42	42	40	41	42	41	41	38	41	41	41	41	41	41	40	40	40	34	34	41	40	40	39	40	41	42	41				
TMGR	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	32	35	35	35	35	35	35	35	34	35	33	33	34	35	35	35	35	35	35	35			
TMGR	HY04	-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	-1	-1					
UJLI	HY01	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	92	92	85	87	-1	-1	-1	80	182																					

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		
Total Co-Gen		63	73	70	70	69	68	68	69	68	69	69	67	71	71	74	72	72	71	68	70	67	66	72	68	68	69	66	71	81	81	83	84	83	81	79	82	84	85	83	88	86	87	87	65	63	65	63	63	
Total Gen		14203	14023	13438	13202	12965	12841	12804	12632	12344	12299	12225	12169	12282	12307	12440	12381	12722	13722	14408	14769	15287	15603	15919	16048	15880	15717	15536	15571	15683	16046	16392	16482	16599	16616	16444	15945	15443	15034	15189	16156	16188	16076	15925	15749	15477	15256	15010	14893	
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		-29	-29	-29	-29	-29	-29	-28	-28	-28	-28	-29	-29	-29	-29	-29	-29	0	0	0	0	0	0	0	0	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		23	-13	-32	-40	4	-30	17	5	29	14	27	27	-69	-60	-74	-65	-20	-12	-31	-30	39	1	-9	-44	10	11	12	-41	-42	20	-6	13	-11	59	89	81	85	-14	26	-5	33	35	53	27	36	-20	-1	51	
Interconnection		-5	-42	-61	-70	-25	-59	-12	-23	1	-14	-1	-1	-97	-89	-103	-94	-49	-41	-60	-30	39	1	-9	-44	10	11	12	-41	-42	20	-6	13	-11	59	89	81	85	-14	26	-5	33	35	53	27	36	-20	-1	51	
System Total		14208	14065	13499	13272	12990	12900	12816	12655	12343	12313	12226	12170	12379	12396	12543	12475	12771	13763	14468	14799	15248	15602	15928	16092	15870	15706	15524	15612	15725	16026	16398	16469	16610	16557	16355	15864	15358	15048	15163	16161	16155	16041	15872	15722	15441	15276	15011	14842	
SRev ST-Coal		315	389	294	314	123	155	183	274	376	284	388	485	348	257	204	209	379	367	318	377	391	344	332	343	347	346	335	347	332	352	348	357	348	352	342	355	353	345	347	348	348	353	352	349	351	351	349	398	
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	3	4	4	4	51	0	0	0	0	0	0	0	0	0	0	0	0		
SRev CCGT-Gas		1232	1260	1184	1266	1561	1858	1913	2042	2042	2041	2048	1953	1825	1866	1872	1921	1602	1033	754	557	433	326	268	273	413	372	351	308	223	374	276	288	288	276	356	448	765	850	652	233	242	256	277	260	218	241	429	199	
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 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 Co-Gen		2	-8	-5	-5	-4	-3	-3	-4	-3	-4	-4	-2	-6	-6	-9	-7	-7	-6	-3	-5	-2	-1	-7	-3	-3	-4	-1	-6	-16	-16	-18	-19	-18	-16	-14	-17	-19	-20	-18	-23	-21	-22	-22	0	2	0	2	2	
Syncon		1073	1073	1073	1073	1073	1073	1073	1073	1073	1073	921	1072	1072	1072	1072	1072	1072	1072	1072	896	896	522	270	270	698	1198	1198	1198	633	446	320	320	320	320	694	694	694	694	356	271	458	458	458	760	760	760	573		
Hydro		267	267	263	267	268	264	268	271	273	270	275	400	263	264	264	268	265	266	266	258	588	574	688	819	835	511	251	252	249	851	830	946	826	804	885	846	858	857	853	692	734	641	772	946	814	804	762	850	
S.Reserve Total		2889	2981	2809	2915	3021	3347	3434	3656	3761	3664	3780	3757	3502	3453	3403	3463	3311	2732	2407	2259	2306	2139	1803	1702	1862	1923	2134	2099	1986	2194	1882	1895	1768	1740	1893	2377	2651	2726	2528	1606	1574	1686	1837	2013	2145	2156	2302	2022	