

Daily System Generation Summary on Sunday

Sunday, January 15, 2017

Availability at Daily Maximum Demand Hour

ST-Coal	0 MW
ST-Gas	0 MW
ST-Oil	0 MW
Gas	2,843 MW
Hydro	2,455 MW
Distillate	0 MW
Total TNB	<u>5,298 MW</u>
Total IPP	<u>14,699 MW</u>
Total Co-Gen	<u>0 MW</u>
Total System	<u>19,997 MW</u>

Generation Mix

Type	MWh	Percentage
Gas	44,279	14.51 %
Hydro	6,760	2.22 %
Total TNB	51,039	16.73 %
ST-Coal	174,934	57.33 %
ST-Gas	4,371	1.43 %
Gas	76,100	24.94 %
Total IPP	255,405	83.70 %
Co-Gen	116	0.04 %
Total Co-Gen	116	0.04 %
Total Generation	306,560	100.47 %
PLTG	701	0.23 %
HVDC	726	0.24 %
Interconnection	1,427	0.47 %
Net Energy	305,133	100.00 %

Maximum Demand Record

Date: 4/20/2016	17,788 MW
Date: 4/20/2016	372,457 MWH

Set On Bus, TNB, IPP And MD

Daily Maximum Demand Hour at:	21:00:00 Hour
Total Set On Bus	16,510 MW
TNB Generation	2,768 MW
IPP Generation	11,822 MW
Spinning Reserve	1,916 MW
Maximum Demand	14,513 MW
Net Energy	305,133 MWH
Load Factor	87.60 %

Fuel Cost

Total Cost:	50,614,162.30 RM
Cost per Unit	16.89 cents/kWH

Average Spinning Reserve During Peak Hour

Type	MW
GT	181
Hydro	154
Syncon	1,178
Thermal	258
Total	1,771

Time	Weather	Temperature
Afternoon	Hot	34
Morning	Sunny	28

Gas Usage

Station	(mmscfd)
CBPS	36
GLGR	57
PAKA	99
PGPS	41
TJGS	110
Total TNB	342
CBPS	55
KLPP	78
MPSS	46
NPRI	154
PGLA	90
PLPS	44
PTEK	3
SGRI	84
PKLG	44
Total IPP	598
Total Gas	940
Total Gas Required	940

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	13482	13112	12613	12218	11904	11642	11589	11323	10905	11402	11988	12586	12687	12636	12967	13147	13153	12906	12597	12723	14307	14513	14270	13946

Daily MW Generation on Sunday

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-PLTG		68	91	20	23	23	72	41	72	12	48	62	22	43	10	47	42	-21	27	2	52	39	17	-17	-40	-21	4	0	28	33	21	-6	-27	7	71	111	67	27	12	0	-10	50	40	52	25	78	60	6	19		
Interconnection		98	122	51	53	53	103	72	103	43	79	91	52	73	40	77	72	10	57	32	83	69	48	14	-10	9	34	29	58	62	51	24	5	26	102	142	99	56	41	30	22	20	70	81	54	109	90	37	49		
System Total		13482	13358	13112	12784	12613	12278	12218	12012	11904	11676	11642	11639	11589	11603	11323	10951	10905	11158	11402	11644	11988	12365	12586	12762	12687	12588	12636	12811	12967	13126	13147	13196	13153	13160	12906	12690	12597	12579	12723	13923	14307	14192	14513	14472	14270	14195	13946	13841		
SRev ST-Coal		167	171	218	185	270	189	235	246	33E	316	335	342	349	332	335	270	186	286	195	192	277	284	286	284	268	295	290	248	176	166	183	149	276	290	294	281	276	282	282	257	171	279	275	267	267	182	269	285		
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 CCGT-Gas		463	287	415	555	272	282	244	327	23E	237	255	256	302	364	562	936	1130	915	694	443	456	361	182	182	145	178	247	266	259	185	163	149	247	202	327	574	857	985	1188	235	136	117	51	136	188	181	410	366		
SRev ST-Gas		0	0	0	0	0	42	38	38	38	37	37	37	37	38	38	38	38	38	4	4	4	37	37	37	37	37	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
SRev Co-Gen		15	14	14	14	17	16	16	16	15	14	16	16	15	17	15	15	15	16	14	16	15	16	13	16	14	15	15	15	15	15	15	15	15	15	17	16	16	16	16	16	15	14	13	16	14	15	15	14		
Syncon		1353	1353	1303	1454	1303	1454	1454	1454	1454	1454	1454	1454	1454	1303	1454	1454	1454	1353	1202	1202	1200	1099	1099	948	1200	1200	1049	1049	1049	1049	1049	1049	1200	1013	1049	1200	1351	1351	1351	1351	1351	1351	1351	1351	1452	1452	1301	1150	1301	
Hydro		110	109	204	92	218	106	108	91	86	92	89	102	100	224	114	121	120	124	125	84	168	175	159	205	71	74	171	185	226	220	231	98	176	198	131	155	152	128	186	69	97	118	217	109	119	108	261	129		
S.Reserve Total		2108	1934	2154	2300	2080	2089	2095	2172	2167	2150	2186	2207	2257	2278	2518	2834	2943	2732	2234	1941	2060	1972	1786	1672	1735	1799	1776	1767	1729	1639	1645	1615	1765	1782	2105	2513	2788	2799	3060	1986	1852	1888	1916	1980	2040	1787	2120	2136		

DAILY OPERATION REVIEW

BAHAGIAN PENGHANTARAN



Prepared By
Date & Time of reporting
Date & Day of operation

Mohd Fairus Zimon
16-Jan-17 7:05
15-Jan-17 Sunday

Demand	Forecast	Actual	Difference	SR
0400	11,954	11,904	-0.42%	2167
1100	12,707	12,586	-0.96%	1786
1600	13,128	13,153	0.19%	1765
2000	14,230	14,307	0.54%	1852
Energy	305.2	305.1	-0.03%	

	TOTAL PRODUCTION KERIH, JDA & RGT	
	Yesterday	Today
SGMT Gas pressure (bar)	2169	2184
PLTG Gas pressure (bar)	45.6	46.2
PLPS Gas pressure (bar)	37.2	44.6
Planned (0000-2359)		920
NORMS (0000-2359)		940
NORMS (0600-0559)		951
Petronas (0600-0559)		950

Hydro	Lake level		
	Yesterday	Today	Difference
KNYR(m)	142.32	142.33	0.01
TMGR	240.63	240.65	0.02
PGAU	633.45	633.67	0.22
JOR(t)	3497.40	3498.80	1.40
HTRG(m)	290.4	289.8	-0.60

Hydro	Planned	Actual	Difference
KNYR	1,500	2,604	1,104
TMGR	0,800	0,887	0,087
PGAU	0,000	0,333	0,333
HTRG	0,000	0,000	0,000
			20%
KNYR	17,600	28,726	63,22%
TMGR	5,600	6,259	11,77%
			10%
KNYR	33,500	40,928	22,17%
TMGR	11,400	12,777	12,08%

Generator Tripping (from 0700 to 0700)					Cause (Gen Loss)				
Station	Unit	Time Out	Time In	Available	Station	Unit	Time In	Time Out	Available

Forced Outage / Unit Derated / Available (from 0700 to 0700)					Cause (Gen Loss)				
Station	Unit	Time Out	Time In	Available	Station	Unit	Time In	Time Out	Available
✓ JMUG	✓ U1	-	-	✓ 08:28					Declared available at 690MW.
✓ KNYR	✓ U2	08:00	20:52	✓ 20:57					Declared available after STSO.
✓ PGAU	✓ U3	08:00	17:16	✓ 17:29					Declared available after STSO.
✓ PLPS	✓ GT12	-	1:20:21	21:37					Declared available after forced outage.
✓ PLPS	✓ GT11	-	-	21:46					Declared available after forced outage.
✓ PGAU	✓ U1	22:00	03:07	✓ 03:18					Declared available after STSO.
✓ JMUG	✓ U1	22:05	-	✓ 22:24					Derated to 600MW due to mill 50 tripped. (80MW)
✓ LPIA	✓ U1	-	21:38	✓ 23:04					Declared available after planned outage.
✓ LPIA	✓ U2	-	-	✓ 23:04					Declared available after planned outage.
✓ KNYR	✓ U4	00:00	03:24	✓ 03:29					Declared available after STSO.
✓ JMUG	✓ U1	00:25	-	✓ 01:23					Derated to 600MW due to mill 50 tripped. (80MW)

Unscheduled Despatch/Testing (from 0700 to 0700)					Remark				
Station	Unit	Time Start	Time Comp.	Fuel	Station	Unit	Time Start	Time Comp.	Fuel
✓ LPIA	✓ U2	-	✓ 19:23	✓ 21:01	Hydro				Test energy.
✓ PGAU	✓ U1	-	✓ 02:17	✓ 02:20	Hydro				Test energy.

Fuel Change Over (from 0700 to 0700)					Remark				
Station	Unit	Time In	Time Out	Fuel	Station	Unit	Time In	Time Out	Fuel

No of distillate	No of Oil
0700-0700	0700-0700
0	0

Actual Load & Allocation				
Time	0200hrs	0300hrs	0400hrs	0500hrs
M/D	12145	11820	11566	11359
Allocation			1275	

Verified By: