

TRANSMISSION COMPANY OF NIGERIA

To: Head (ISO), TCN - Abuja

From: General Manager, NCC, Osogbo

DAILY OPERATIONAL REPORT OF FRIDAY 01/12/2017

FOR: EVENTS OF THURSDAY 30/11/2017

1.0 EXECUTIVE OPERATIONS SUMMARY:

1.1 GENERATION PROFILE: NATIONAL STATISTICS

DETAILS	MW	HRS	DATE
PEAK DEMAND FORECAST (CONNECTED + SUPPRESSED LOAD)	17,720	22:00	30/11/2017
GENERATION CAPABILITY	7436.8	-do-	-do-
UNITS ON BAR CAPABILITY AT PEAK	5313.5	-do-	-do-
PEAK GENERATION	4638.0	-do-	-do-
LOWEST GENERATION	3672.6	08:00	30/11/2017
8-HOURLY DURATION PEAK	4306.7	0000-0800	-do-
	3802.8	0900-1600	-do-
	4638	1700-2400	-do-
PEAK GENERATION TO DATE	5074.7	21:30	02/02/2016
MAXIMUM AVAILABLE CAPACITY TO DATE	7492.6	06:00	14/04/2014
MAXIMUM ENERGY GENERATED (MWH) TO DATE	109,372.01	0000-2400	02/02/2016

1.2 CRITICAL VOLTAGE

DETAILS	KV	STATION	HRS
NOMINAL VOLTAGE	330		
STATUTORY LIMITS	280.5 - 346.6		
HIGHEST VOLTAGE FOR THE DAY	359	Makurdi T/S	23:41
LOWEST VOLTAGE FOR THE DAY	300	Kumbotso & Gombe T/S	04:00 & 06:00

1.3 FREQUENCY RANGE

DETAILS	HZ	HRS
NOMINAL FREQUENCY	50	
STATUTORY LIMITS	49.75-50.25	
HIGHEST FREQUENCY	50.518	07:36
LOWEST FREQUENCY	49.81	19:51

1.4 SYSTEM COLLAPSE UP DATE

Date of last total collapse: 30th Oct, 2017		No. of days since last total collapse: 33													
Date of last partial collapse: 17th Oct., 2017		No. of days since last partial collapse: 45													
Highest No of days ever attained in-between total collapses: 134		Highest No of days ever attained in-between partial collapses: 240													
		Jan	Feb.	Mar.	Apr.	May	Jun	Jul	Aug	Sep.	Oct	Nov	Dec	Total	
2009	Total	1	--	--	--	2	5	5	4	1	--	--	1	19	
	Partial	--	5	4	3	3	--	--	1	--	2	1	1	20	
2010	Total	--	3	1	--	3	3	3	--	2	2	1	4	22	
	Partial	1	--	--	1	1	3	4	4	3	2	--	1	20	
2011	Total	--	--	--	--	4	3	1	1	1	2	1	--	13	
	Partial	--	1	1	--	--	--	--	1	--	1	2	--	6	
2012	Total	--	--	2	1	5	2	1	--	--	2	2	1	16	
	Partial	--	--	2	3	--	--	--	--	1	--	1	1	8	
2013	Total	--	1	2	2	3	4	1	1	1	1	4	2	22	
	Partial	--	--	--	--	--	--	--	--	2	--	--	--	2	
2014	Total	2			2	0	3	1	0	0	1	0	0	9	
	Partial			0	0	1	0	0	0	0	0	2	1	4	
2015	Total	1	0	1	0	2	0	1	0	0	0	1	0	6	
	Partial	--	--	1	0	2	0	0	0	0	1	0	0	4	
2016	Total	--	--	2	3	6	5	0	0	1	1	2	2	22	
	Partial	--	--	1	0	1	3	1	0	0	0	0	0	6	
2017	Total	5	3	0	3	1	1	0	0	1	1			15	
	Partial	1	0	1	0	0	0	1	0	3	3			9	

1.5 BREAKDOWN OF PEAK & OFF PEAK GENERATION (NATIONAL PEAK & OFF PEAK)

STATION	TURBINE	PEAK GEN. (MW)	OFF-PEAK GEN(MW)
1	KAINJI	412	211
2	JEBBA	414	215
3	SHIRORO	290	184
4	EGBIN ST2 - 5	482	485
5	SAPELE	0	0
6	DELTA	485	390
7	AFAM IV-V	62	63
8	GEREGU GAS	276	188
9	OMOTOSHO GAS	175	155.8
10	OLORUNSOGO GAS	134.8	127
11	GEREGU NIPP	135	100
12	SAPELE NIPP	191.1	151.4
13	ALAOJI NIPP	0	0
14	OLORUNSOGO NIPP	108.5	99.9
15	OMOTOSHO NIPP	98.1	91.8
16	ODUKPANI NIPP	186	255.4
17	IHOVBOR NIPP	90.5	73.7
18	OKPAI	337	217
19	AFAM VI	395	327
20	IBOM POWER	100.1	70.3
21	ASCO	0	0
22	A.E.S	0	0
23	OMOKU	21.3	21.4
24	TRANS AMADI	20.4	43.3
25	RIVERS IPP	(GAS) 0	0
26	EGBIN ST6	(GAS) 158	134
27	PARAS ENERGY	(GAS) 66.2	68.6
28	GBARAIN NIPP	GAS 0	0
TOTAL		4638.0	3672.6

1.6 ENERGY GENERATED/ENERGY SENT OUT:

STATION	TURBINE	ENERGY GENERATED		ENERGY SENT OUT	
		MWH	MWHH	MWH	MWHH
1	KAINJI	7626.00	317.75	7609.20	317.05
2	JEBBA	6789.00	282.88	6765.32	281.89
3	SHIRORO	4530.00	188.75	4498.21	187.43
4	EGBIN ST2 - 5	11639.00	484.96	11047.70	460.32
5	SAPELE	0.00	0.00	0.00	0.00
6	DELTA	10726.33	446.93	10696.90	445.70
7	AFAM IV-V	1469.00	61.21	1464.25	61.01
8	GEREGU GAS	5714.00	238.08	5687.90	237.00
9	OMOTOSHO GAS	3813.00	158.88	3780.10	157.50
10	OLORUNSOGO GAS	2839.16	118.30	2810.51	117.10
11	GEREGU NIPP	2911.62	121.32	2897.58	120.73
12	SAPELE NIPP	4073.80	169.74	4053.30	168.89
13	ALAOJI NIPP	0.00	0.00	0.00	0.00
14	OLORUNSOGO NIPP	2463.00	102.63	2424.70	101.03
15	OMOTOSHO NIPP	2364.30	98.51	2348.60	97.86
16	ODUKPANI NIPP	4674.48	194.77	4644.65	193.53
17	IHOVBOR NIPP	1980.00	82.50	1959.82	81.66
18	OKPAI	6007.00	250.29	5849.80	243.74
19	AFAM VI	7292.56	303.86	7150.78	297.95
20	IBOM	1843.11	76.80	1834.00	76.42
21	ASCO	0.00	0.00	0.00	0.00
22	A.E.S	0.00	0.00	0.00	0.00
23	OMOKU	498.90	20.79	482.73	20.11
24	TRANS AMADI	740.40	30.85	715.30	29.80
25	RIVERS IPP	GAS 0.00	0.00	0.00	0.00
26	EGBIN ST6	STEAM 3549.00	147.88	3360.20	140.01
27	PARAS ENERGY	GAS 1638.60	68.28	1630.40	67.93
28	GBARAIN NIPP	GAS 0.00	0.00	0.00	0.00
TOTAL		95,182.26	3,965.93	93,711.95	3,904.66

1.7A

GENERATION POSITION AT 06:00HRS OF FRIDAY 01/12/2017

	STATIONS	NO OF INSTALLED UNITS	AVAILABLE UNITS	INSTALLED CAPACITY OF AVAILABLE UNITS(MW)	GENERATION CAPABILITY OF AVAILABLE UNITS(MW)	UNITS ON BAR	CAPABILITY OF UNITS ON BAR (MW)	GENERATION AT 06:00HRS (MW)	REMARKS
PRIVATISED COMPANIES	KAINJI HYDRO	8	1G5, 6, 11 & 12 4	440	440	1G5, 6, 11 & 12 4	440	351	1G7 - Out on stator winding failure. 1G8 - Out due to loss of supply to the auxiliary. 1G9 - Out due to burnt 7.5MVA 33/0.415kV & 183.6MVA 16/330kV station service transformer and generator transformer. 1G10 - Shut down due to thrust bearing temperature problem.
	JEBBA HYDRO	6	2G1 - 5 5	475	475	2G1, 3 & 5 3	285	270	2G2 & 4 - Out on frequency management. 2G6 - Out due to burnt generator winding and AVR.
	SHIRORO HYDRO	4	411G1, 2 & 4 3	450	450	411G1 & 2 2	300	100	411G3 - Out on maintenance. 411G4 - Out on water management. Generation reduced on frequency management.
	EGBIN STEAM	5	ST2, 4 & 5 3	660	660	ST2, 4 & 5 3	660	463	ST1 - Tripped on generator CB trouble. ST3 - Tripped on high vibration.
	SAPELE (STEAM)	6	0 0	0	0	0 0	0	0	ST1 - Tripped on low drum level. ST2 - Out on maintenance. ST3 - Out on stator winding problem. ST4 & 5 - Awaiting major overhaul. ST6 - Tripped on gas control valve not following reference point.
	DELTA (GAS)	18	GT4, 7, 9 -13, 15, 16, 18, 19 & 20 12	700	665	GT4, 7, 9 -13, 15, 16, 18, & 20 11	565	509	GT3 & 5 - Out due to generator winding fault. GT6 & 14 - Out on major overhaul. GT8 - Out on maintenance. GT17 - Out on excitation trouble. GT19 - Out on frequency management.
	AFAM IV & V (GAS)	8	GT18 1	75	63	GT18 1	63	63	GT1 - 12 - De-commissioned and scrapped. GT13 -16 - Out on blade failure. GT17 - Tripped on loss of excitation. GT19 & 20 - Awaiting major overhaul.
	GEREGU GAS	3	GT11 - 13 3	435	435	GT12 & 13 2	290	192	GT11 - Shut down due to gas constraint. Generation reduced due to gas constraint.
	OMOTOSHO GAS	8	GT1 - 8 8	336	304	GT1, 3, 5, 6 & 7 5	190	136.5	GT2, 4 & 8 - Out on frequency management. Generation reduced on frequency management.
	OLORUNSOGO GAS	8	GT1 - 8 8	336	304	GT2, 4, 6 & 8 4	152	121.9	GT1, 3, 5 & 7 - Out on frequency management.
NIPP	GEREGU NIPP	3	GT22 & 23 2	290	290	GT23 1	145	127	GT21 - Out on maintenance. GT22 - Out due to gas constraints.
	SAPELE NIPP	4	GT1 & 2 2	225	225	GT1 & 2 2	225	168.8	GT3 - Out on undisclosed fault. GT4 - Tripped on fire protection alarm. Generation reduced due to high gas temperature.
	ALAOJI NIPP GAS	4	GT1 & 2 2	250	240	0 0	0	0	GT1 & 2 - Tripped due to low gas pressure. GT3 - Shut down due to generator air inlet filter trouble. GT4 - Out on maintenance.
	OLORUNSOGO NIPP GAS	6	GT1 - 3 3	375	360	GT1 1	120	111.4	GT2 & 3 - Out on frequency management. GT4 - Out of production since 25/10/2016. ST13 & ST23 - Out on maintenance.
	OMOTOSHO NIPP GAS	4	GT1 & 4 2	250	240	GT4 1	120	98.4	GT1 - Out on frequency management. GT2 - Tripped on loss of power supply from MCC. GT3 - Shut down due to oil leakage on the unit.
	ODUKPANI NIPP	5	GT2, 3, 4 & 5 4	480	468	GT2 & 5 2	234	176.1	GT1 - Out due to air inlet differential pressure. GT3 & 4 - Out due to line constraint.
	IHOVBOR NIPP	4	GT1 - 3 3	337.5	337.5	GT3 1	112.5	82.1	GT1 & 2 - Out due to gas constraint. GT4 - Out on maintenance.
	GBARAIN NIPP GAS	1	0 0	0	0	0 0	0	0	GT2 - Out due to heater problem.
IPP	OKPAI GAS/STEAM	3	GT11, 12 & ST18 3	375	375	GT11, 12 & ST18 3	375	290	Generation limited to 375MW due to unavailability of one boiler as a result of water shortage.
	AFAM VI GAS/STEAM	4	GT11 - 13 & ST10 4	620	620	GT11 & 13 2	280	239	GT12 & ST10 - Out on frequency management.
	IBOM POWER GAS	3	GT3 1	115	50.4	GT3 1	50.4	50.4	GT1 & 2 - Out on fault. Generation reduced due to high air inlet differential pressure
	AES		0 0	0	0	0 0	0	0	Out of production since 27/09/2014.
	ASCO		0 0	0	0	0 0	0	0	GT1 - Shut down due to leakage in the furnace.
	OMOKU GAS	6	GT2 & 5 2	50	40	GT2 & 5 2	22	22	GT1 & 6 - Out on fault. GT3 - Out due to gas leakage. GT4 - Awaiting major overhaul. Generation reduced due to gas constraints.
	TRANS-AMADI	4	GT1, 2 & 4 3	75	60	GT2 1	20.3	20.3	GT1 & 4 - Shut down due to gas constraints. GT3 - Out on fault.
	RIVERS		0 0	0	0	0 0	0	0	Out of production since 16/09/2016.
	SUB TOTAL	125	78	7349.5	7101.9	52	4649.2	3591.9	Frequency = 50.36Hz.

1.7B GENERATION POSITION AT 06:00HRS OF FRIDAY 01/12/2017 FOR UNITS ON BILATERAL AGREEMENT

FEEDER	MAX. LOAD (MW)	TIME (HRS)	HOURS IN SERVICE	REMARK
EGBIN	1	ST6	220	220
		1		
PARAS ENERGY	8	GT2 - 9	69.4	69.4
		8		
SUB TOTAL	9	9	289.4	289.4
GRAND TOTAL	134	87	7638.9	7391.3

FEEDER	MAX. LOAD (MW)	TIME (HRS)	HOURS IN SERVICE	REMARK
ST6	220	148	Available unit on bar.	
			1	
GT2 - 9	69.4	69.4	Available units on bar.	
			8	
SUB TOTAL	9	289.4	217.4	
GRAND TOTAL	4,938.60	3,809.30	Frequency = 50.36Hz.	

1.7C BILATERAL AGREEMENT UNITS DISPATCH - THURSDY 30/11/2017

FEEDERS NAME	MAX. LOAD (MW)	TIME (HRS)	HOURS IN SERVICE	REMARK	
Egbin ST6 120MW GENERATION TO IKEJA ELECTRICITY DISTRIBUTION COMPANY					
OGBA	U-STEEL	ON	0100	23	STATION OPENED ON EMERGENCY
	PTCEXPRESS	6	1700	9	TRIPPED O/C & E/F
	SANKYO	ON	0100	23	STATION OPENED ON EMERGENCY
	FEEDER 8	16	0900	23	STATION OPENED ON EMERGENCY
IKORODU	PULK IT	ON	0100	24	NIL
	INDUSTRIAL	19	1700	24	NIL
	SPINTEX	2	0100	24	NIL
	DANGOTE	2	0100	24	NIL
	LAND CRAFT	44	0900	24	NIL
ALAUUSA	TR4 15MVA	O/S	O/S	O/S	O/S
	TR5 -15MVA	9.2	1600	24	NIL
	ALAUUSA	18.4	1300	24	NIL
MLAND	PTC (MARYLAND)	17	1400	24	NIL
TOTAL LOAD		117.6			

BILATERAL AGREEMENT LOAD DISPATCH
60MW PARAS ENERGY GENERATION TO CEB

FEEDER	MAX	TIME	HOURS IN SERVICE	REMARK
Ikeja West/Sakete 330KV line	69.4	05:00	24	NIL

1.8 HYDROLOGICAL DATA: FRIDAY 01/12/2017

	KAINJI	JEBBA	SHIRORO
HEAD WATER ELEVATION (METERS)	141.64	102.18	377.57
TAIL WATER ELEVATION (METERS)	104.05	74.30	270.2
GROSS OPERATING HEAD (METERS)	37.59	27.88	107.37
AVERAGE TURBINE DISCHARGE (M3/SEC)	942	1124	209
AVERAGE SPILLAGE (M3/SEC)	201	0	0
AVERAGE TOTAL STATION DISCHARGE (M3/SEC)	1143	1124	209
COMPUTED INFLOW (M3/SEC)	1011	1170	49
STORAGE DIFFERENTIAL	-132	46	-160
MAXIMUM LEVEL FOR SPILLAGE COMMENCEMENT	141.73	103	382.5
MINIMUM LEVEL BELOW WHICH NO GENERATION	130	99	355

1.9 MAXIMUM/ALLOCATED LOAD/MINIMUM LOADS FOR ABUJA AND LAGOS AS AT THURSDAY 30/11/2017

DISCO	MAXIMUM LOAD(MW)	TIME(HRS)	ALLOCATED LOAD (MW)	MINIMUM LOAD(MW)	TIME(HRS)
ABUJA	704.92	20:00	481.50	330.1	07:00
EKO	726.45	21:00	482.1	407.8	10:00
IKEJA	1064.25	22:00	624.50	416.2	14:00

2.0 GAS POSITION: FRIDAY 01/12/2017

STATION	SIGNED ACQ Annual Contracted Quantity MMSCF/D	NGC DECLARED QUANTITY (MMS317.578CF/D)	INSTALLED CAPACITY OF THERMAL STATIONS (MW)	PREVIOUS DAY OFF-TAKE (MMSCF/D)	CAPABILITY OF UNITS ON BAR OF THERMAL STATIONS (MW)	DIFFERENCE (MW)
EGBIN P/S	463		1100		880	220
DELTA (GAS)	509		765		565	200
OMOTOSHO GAS	136.5		336.8		190	146.8
OMOTOSHO NIPP	98.4		500		120	380
OLORUNSOGO (GAS)	121.9		336		152	184
OLORUNSOGO NIPP	111.4		750		120	630
SAPELE NIPP	168.8		500		225	275
SAPELE STEAM	0		720		0	720
AFAM IV-V	63		300		63	237
AFAM VI	239		650		280	370
GEREGU GAS	192		435		290	145
GEREGU NIPP	127		435		145	290
OKPAI (GAS/STEAM)	290		480		375	105
ALAOJI NIPP	0		504		0	504
IHOVBOR NIPP	82.1		450		112.5	337.5
IBOM	50.4		198		50.4	147.6
ODUKPANI NIPP	176.1		625		234	391
TOTAL	2828.6		9084.80		3801.9	5282.9

1 MMSCF IS EQUIVALENT TO 3.75MW

3.0 SPINNING RESERVE FOR : THURSDAY 30/11/2017

	(MW)	TIME	FREQUENCY
Maximum (MW)			
Minimum (MW)			
AVERAGE (MW)			

3.1 SYSTEM SPINNING RESERVE AS AT 0600HRS OF FRIDAY 01/12/2017 = 0MW. FREQUENCY 50.36Hz.

S/N	POWER STATION	UNIT ON SPINNING RESERVE	CONTRACTED RESERVE	ACTUAL RESERVE (MW)	TOTAL (MW)
1	Egbin	ST2	100	0	0
		ST4		0	
		ST5		0	
		ST6		0	
2	Delta	GT16	40	0	0
		GT17	40	0	
3	Olorunsogo NIPP	GT1	40	0	0
		GT2		0	
		GT3		0	
		GT4		0	
4	Geregu NIPP	GT22	35	0	0
5	Omotosho NIPP	GT1	40	0	0
		GT2		0	
		GT3		0	
		GT4		0	
TOTAL (MW)			295	0	0

4.0 UNUTILIZED GENERATION CAPABILITY

The unutilized generation capability for Friday 01/12/2017 as at 0600Hrs was = 2647.5MW.

S/NO	STATION	ACTUAL GENERATION CAPABILITY (MW)	GENERATION AT 0600HRS (MW)	UNUTILIZED GENERATION CAPABILITY (MW)	SUB-TOTAL
4.1 DUE TO GAS CONSTRAINTS:					
1	Geregu NIPP GT22	145	0	145	871
2	Ihovbor GT1 & 2	225	0	225	
3	Alaoji NIPP GT1 & 2	240	0	240	
4	Geregu Gas GT11 - 13	435	192	243	
5	Omoku GT2 & 5	40	22	18	
			0	0	
			0	0	
			0	0	
			0	0	
			0	0	
			0	0	
			0	0	
			0	0	
			0	0	
IT IS ENVISAGED WITH IMPROVED PLANT AVAILABILITY AND RELIEF FROM EXISTING POWER SYSTEM NETWORK RELATED CONSTRAINTS, ADDITIONAL 1408.77MMSCF OF GAS (EQUIVALENT TO 5282.9MW) WILL BE REQUIRED WHEN ALL THERMAL UNITS ARE ON BAR.					
4.2 DUE TO LINE CONSTRAINTS					
1	Odukpani NIPP GT3	117	0	117	117
				0	
4.3 DUE TO FREQUENCY MANAGEMENT OCCASIONED BY DISCOS' LOAD DEMAND					
1	Olorunsogo Gas GT1 , 3, 5 & 7	152	0	152	1509.5
2	Omotosho NIPP GT1	120	0	120	
3	Jebba 2G2 & 4	190	0	190	
4	AFAM VI ST10 & GT12	340	0	340	
5	Omotosho Gas GT1 - 8	304	136.5	167.5	
6	Olorunsogo NIPP GT2 & 3	240	0	240	
7	Delta GT19	100	0	100	
8	Shiroro 411G1 & 2	300	100	200	
				0	
				0	
				0	
4.4 DUE TO WATER MANAGEMENT					
1	Shiroro 411G4	150	0	150	150
Total					2647.5

5.0 OUTAGES:

5 (A) FORCED OUTAGES (GENERATION):-

- 1 13:21Hrs, Odukpani NIPP GTs, 2 & 5 tripped on reverse power due to tripping of cct D2K. LHR = 82.9MW & 98.1MW respectively. 14:34Hrs - GT5 was tied & 20:18Hrs - GT2 was tied.
- 2 13:21 through 24:00Hrs, Odukpani NIPP GT4 tripped on reverse power due to tripping of cct D2K. LHR = 97.3MW.
- 3 16:11Hrs, Omoku GTs 2 & 5 tripped on reverse power due to loss of potential at Rumuosi 132kV T/S. LHR = 5MW & 2MW respectively. 16:51Hrs - GT5 was tied & 16:52Hrs - GT2 was tied.
- 4 20:51 – 21:53Hrs, Delta GT20 tripped on high exhaust temperature spread. Load loss = 102MW.
- 5 22:51 through 24:00Hrs, Ibom Power GT3 tripped on reverse power due to the tripping of Itu/Uyo 132kV line CB. LHR = 100MW.

5 (B) FORCED OUTAGES TRANSMISSION:-

- 1 13:20 – 13:37Hrs, Onitsha/New Haven 330kV line (cct T3H) CB tripped at Onitsha T/S on Optimho relay: Z1 A-N, location 70.47km, period = 79ms. LHR = 36MW.
- 2 13:20 – 13:40Hrs, New Haven/Yandev 132kV line CB tripped at New Haven T/S on E/F. LHR = 23.8MW.
- 3 13:20 – 13:48Hrs, New Haven/Nkalagu 132kV line 1 CB tripped at New Haven T/S on E/F. LHR = 1.6MW.
- 4 13:21 – 13:37Hrs, Alaoji/Ikot-Ekpene 330kV line 2 (cct A2K) CB tripped at Alaoji T/S on DEF A-G relay. No load interruption as ccts T4A, F1A, F2A, L7A & L8A were in service
- 5 13:21 – 13:56Hrs, New Haven/Ugwuaji 330kV line 1 (cct H1U) CBs tripped at both ends without relay indications. LHR = 66MW.
- 6 13:21 – 13:56Hrs, New Haven/Ugwuaji 330kV line 2 (cct H2U) CBs tripped at both ends without relay indications. LHR = 68MW.
- 7 13:21 – 13:49Hrs, Ikot-Ekpene/Ugwuaji 330kV line 3 (cct K3U) CB tripped at Ugwuaji T/S without relay indications. LHR = 144MW.
- 8 13:21 – 13:42Hrs, Odukpani/Adiabor 330kV line 1 (cct D1B) CB tripped at Odukpani T/S without relay indication. LHR = 17MW.
- 9 13:21 – 13:41Hrs, Odukpani/Ikot-Ekpene 330kV line 2 (cct D2K) CB tripped at Odukpani T/S on directional E/F and over voltage. LHR = 281.7MW.
- 10 13:21 – 13:57Hrs, Afam/Ikot-Ekpene 330kV line 1 (cct F1K) CB tripped at Ikot-Ekpene T/S without relay indication. No load interruption as the line was on soak.
- 11 17:47 – 17:57Hrs, Gombe/Biu/Maiduguri 132kV line CB tripped at Biu T/S on JM & RM Phases. LHR = 20MW.
- 12 22:51 – 23:04Hrs, Itu/Uyo 132kV line CB tripped at Itu T/S on O/C 3 Phases. LHR = 46MW.

5 (C) PLANNED OUTAGES:-

- 1 09:25 – 10:00Hrs, Afam T/S 64MVA 132/11kV transformer T1 was taken out to enable maintenance crew isolate 11kV feeder to allow transfer of control cable from old control room to new one. Load loss = 3MW.
- 2 12:18 – 16:27Hrs, Ayede/McPherson/Shagamu 132kV line was taken out to enable LMD crew isolate Ayede T/S. In preparation to raise low existing tower #701 to normal height. Load loss = 40MW.
- 3 12:18 – 19:14Hrs, Ayede T/S 150MVA 330/132/33kV transformer T1B secondary CB was taken out to enable contractor raise low existing tower 701 to normal height. Load loss = 50MW.

5 (D) URGENT OUTAGES:

- 1 09:25 – 12:12Hrs, Onitsha T/S 60MVA 132/33kV transformer TR11 was taken out to enable maintenance crew treat hot spot on Blue Phase secondary bushing of the transformer. No load interruption as transformer was on soak.
- 2 10:41 – 11:25Hrs, Omotosho T/S 150MVA 330/132/33kV transformer T1 was taken out for maintenance crew to top up low SF6 gas pressure of primary CB to normal. No load interruption as the tie CB was in service.
- 3 11:35 through 24:00Hrs, Trans-Amadi GT4 was shut down due to gas constraint. Load loss = 14MW.

5 (E) EMERGENCY OUTAGES:-

The under mentioned line was opened on frequency control:-

- 1 19:50 – 19:57Hrs, Osogbo/Akure/Ado-Ekiti 132kV line. Load loss = 43MW. Frequency was 49.77Hz.

5 (F) AUTOMATIC UNDER FREQUENCY OPERATION:- NIL

5 (G) 330KV LINES THAT ARE OUT ON VOLTAGE CONTROL:- ccts A1S & K4U.

5 (H) 330KV LINES THAT ARE OUT ON BREAKER PROBLEM:- cct N4J (on soak at Egbin T/S).

5 (I) 330KV LINES THAT ARE OUT ON PLANNED OUTAGE:-

5 (J) 330KV LINES THAT ARE OUT ON LINE FAULT:- ccts D1K, U1A, U2A & S5B

6 WEATHER REPORT:- NIL

7 INTERNATIONAL LINES:-

A IKEJA WEST/SAKETE 330KV LINE(TCN+PARAS)

Maximum load - 263MW at 19:00Hrs.
Minimum load - 205MW at 14:00Hrs.

B BIRNIN KEBBI/NAMEY 132KV LINE

Maximum load - 96MW at 13:00Hrs.
Minimum load - 61MW at 08:00Hrs.

C KATSINA/GAZAOUA/MARADI 132KV LINE

Maximum load - 31.4MW at 21:00Hrs.
Minimum load - 18.0MW at 05:00Hrs.

8 MISCELLANEOUS:-

- 1 00:38Hrs, Shiroro P/S reduced generation by 50MW. Frequency was 50.49Hz.
- 2 00:48 - 18:50Hrs, Jebba 2G4 was shut down on frequency management. Load loss = 74MW.
- 3 03:08Hrs, Okpai P/S reduced generation by 50MW. Frequency was 50.50Hz.
- 4 08:22 - 20:18Hrs, Afam VI GT12 was shut down on frequency management. Load loss = 110MW.
- 5 09:26Hrs of 29/11/2017 to 14:31Hrs of 30/11/2017, Akangba T/S 90MVA 330/132/13.8kV transformer 5T2A was taken out to enable maintenance crew replace old set of primary CTs with new one. No load interruption as the load on it was transferred to 2x90MVA 330/132/13.8kV transformers 5T1A & 5T1B.
- 6 10:15Hrs, Ikot-Ekpene/ Ugwuaji 330kV line 4 (cct K4U) was declared available.
- 7 13:25Hrs, Shiroro P/S increased generation on one of the unit to maximum. Frequency was 50.18Hz.
- 8 19:51Hrs, Jebba 2G2 was tied. The unit was out on frequency management.
- 9 23:06Hrs, Osogbo T/S 330kV 75MX shunt reactor 4R1 was switch off on voltage control. Voltage profile: 339/335kV.
- 10 23:45Hrs, Jebba 2G2 was shut down on frequency management. Load loss = 72MW.
- 11 23:41Hrs, Makurdi T/S 330kV 75MX Shunt Reactor SR01 was switch on, on voltage control. Voltage profile: 359/327kV.

4 12:23 - 21:01Hrs, Trans-Amadi GT2 was shut down due to gas constraint. Load loss = 10MW.

9 GENERATOR MERIT ORDER BASED ON SYSTEM RESPONSE AND GRID RELIABILITY

GROUP 1 - HYDRO UNITS (LEAST COST) ON FREE GOVERNOR CONTROL AND ANCILLARY SERVICE .

GROUP 2 - OTHER UNITS IDENTIFIED TO BE ON FREE GOVERNOR CONTROL .

GROUP 3 - OTHER UNITS IDENTIFIED TO BE OFFERING REGULATORY RESERVE.

GROUP 4 - OTHER UNITS OFFERING SPINNING RESERVE (THE POWER PLANTS CONTACTED FOR THE ANCILLARY SERVICE)

GROUP 5 - ALL PLANTS DISPATCHED SUBJECT TO TRANSMISSION CONSTRAINT (NOT YET IDENTIFIED)

GROUP 6 - ALL PLANTS PROVIDING VOLTAGE SUPPORT ABOVE STATUTORY LIMIT.

GROUP 7 - ALL OTHER PLANTS.

10 SYSTEM BLACK START CAPABILITY

Delta, Shiroro & Egbin - Available.

11 (A) COMMUNICATION MEDIA

STATIONS	NO. INSTALLED	NO. WORKING
PLC/PAX	37	31
OPTIC FIBRE	13	10
PLS	14	5

11 (B) SCADA RTU STATUS

STATIONS	NO. INSTALLED	NO OF RTU DISTURBED	NO OF RTU WORKING
POWER STATIONS	8	5	3
330kV	19	5	14
132kV	102	82	20

12(A) UNAVAILABLE TRANSFORMERS/REACTORS:

SHIRORO REGION:

- 1 Apo T/S 60MVA 132/33kV transformer TR3 - Burnt.
- 2 Birnin Kebbi 75MX Reactor R1.

KADUNA REGION:

- 1 Kumbotso 150MVA 330/132/33kV transformer T1A - Burnt control cables.

BAUCHI REGION:

- 1 Gombe T/S -30MX Reactor R2A.

ENUGU REGION:

- 1 Onitsha T/S 90MVA 330/132/13.8kV transformer 9T2 - Out due to differential fault.

LAGOS REGION:

- 1 Oke-Aro T/S 75MX Reactor R1.

PORT HARCOURT REGION

- 1 Ikot-Ekpene T/S: No available reactor.

12 (B) UNAVAILABLE BREAKERS/ISOLATORS

LAGOS REGION:

12 LACK OF REACTOR AT IKOT-EKPENE T/S IS HINDERING SMOOTH OPERATION.

12(D) LAGOS REGION

- 1 Agbara/Ojo 132kV line 1 on soak from Agbara end.

SHIRORO REGION:- Nii

12(E) UNAVAILABLE CAPACITOR BANK:

- (i) Ogba T.S, (ii) Maiduguri T/S, (iii) Isolo T/S, (iv) Ado-Ekiti T/S, (v) Ilorin T/S, (vi) Akure T/S.

12 (F) LINES WITH MISSING SKY WIRE

LAGOS REGION

- 1 Omotosho/Ikeja West line (M5W) and Egbin/Ikeja West line 3 (N6W) - 21 spans.
- 2 Ikeja West/Olorunsogo line (cct R1W) - 80 spans.
- 3 330kV Ikeja West/Osogbo line. - 95 spans.
- 4 Ikeja West/Alimosho/Ogba 132kV lines 1 & 2 - 15 spans.
- 5 Ikeja West/Akangba 330kV line 2 - 1 span.
- 6 Ikeja West/ Ilupeju 132kV lines 1 & 2 - 8 spans.
- 7 Akangba/Itire 132kV lines 1 & 2 - 1 span.
- 8 Ikeja West/Agbara 132kV lines 1 & 2 - 61 spans.
- 9 Ikeja West/Otta 132kV lines 1 & 2- 17 spans.

SHIRORO REGION

- 1 Akangba T/S. 132kV Bus Coupler CB - Serious Air leakage.(Undergoing repair)
- 2 Egbin/Aja 330kV line 2 (cct N4J) - faulty breaker at Aja T/S.
- 3 Otta/Ogba 132kV line isolator - defective control shaft.
- 4 Osogbo/Ikeja West and Olorunsogo/Ikeja West tie CB at Ikeja West T/S - defective pole
- 5 Oke-Aro/Ikeja West 330kV lines 1 & 2 tie CB at Ikeja West T/S - Defective pole.
- 6 Jebba G.S/Jebba T.S 330kV line 2 CB at Jebba T/S.
- 7 Omotosho/Ikeja West 330kV line CB at Ikeja West T/S.

OSOGBO REGION:

- 1 Omotosho 330kV T/S, 2nd series 330kV CB #3322 out due to control circuit problem.
- 2 Jebba/Osogbo 330kV line 1 (cct J1H) - Defective line isolator mechanism at Osogbo T/S

ENUGU REGION:

- 1 New Haven/Yandev 132kV line CB - Faulty Red phase CB pole. Protection is transferred to the bus coupler CB.
- 2 Abakaliki T/S 30MVA 132/33kV transformer T1A and 60MVA 132/33kV transformer T2 primary CBs - Breakers were not provided since commissioning but the transformers are protected by Nkalagu 132kV line CB.
- 3 Oji River T/S 30MVA 132/33kV transformer T1A primary CB - The breaker is completely out of service and bypassed. The transformer is either protected by Onitsha/Oji 132kV line CB or New Haven/Oji 132kV line CB.
- 4 Oturkpo/Yandev 132kV By pass isolator - Canibalized to repair the line isolator.

SHIRORO REGION

- 1 Jebba T/S 75MX reactor 2R2 CB - exploded.

PORT HARCOURT REGION NIL

12 (C) UNAVAILABLE/DEFECTIVE GROUND SWITCHES

Benin Region

- 1 Irrua T/S: Benin/Irrua 132kV line Earth Switch - faulty.

ENUGU REGION:

- 1 New Haven/Nkalagu 132kV line 2 ground switch - Canibalized Red phase female contact and canibalized Yellow phase male contact.

- 1 Jebba T/S 330kV Osogbo lines 1 & 2 and Ganmo line - 9 spans
- 2 Minna T/S 132kV Bida line - 32 spans
- 3 Apo T/S 132kV Keffi line - 36 spans
- 4 Shiroro T/S 330kV Jebba line 2 - 28 spans

12 (G) UNAVAILABLE SYNCHROSCOPES :

- 1 Benin, Ikeja West, Onitsha, Egbin, Ugwuaji, Osogbo, Kaduna, Jos, Gwagwalada & Alaaji T/S.

FOR MORE INFORMATION: NCC Telephone Lines -

- a PAX 09/300, 309, 303 & 305.
- b NCC GSM - 08074888524, 08069379367, 08023572651 & 08051401331. CUG Nos.
- c PLS - 622
- d GM (NCC) - 08036744641.
- e AGM (S/O) - 08056002757, CUG: 08129458475