

TRANSMISSION COMPANY OF NIGERIA

To: Head (ISO), TCN - Abuja
From: General Manager, NCC, Osogbo

DAILY OPERATIONAL REPORT OF TUESDAY 13/02/2018

FOR: EVENTS OF MONDAY 12/02/2018

1.0 EXECUTIVE OPERATIONS SUMMARY:

1.1 GENERATION PROFILE: NATIONAL STATISTICS

DETAILS	MW	HRS	DATE
PEAK DEMAND FORECAST (CONNECTED + SUPPRESSED LOAD)	21,390	21:00	12/02/2018
GENERATION CAPABILITY	7607.1	-do-	-do-
UNITS ON BAR CAPABILITY AT PEAK	5390.6	-do-	-do-
PEAK GENERATION	4507.9	-do-	-do-
LOWEST GENERATION	3206.9	08:00	12/02/2018
8-HOURLY DURATION PEAK	3641.7	0000-0800	-do-
	3741.3	0900-1600	-do-
	4507.9	1700-2400	-do-
PEAK GENERATION TO DATE	5222.3	21:00	18/12/2017
MAXIMUM AVAILABLE CAPACITY TO DATE	7652.6	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	357	Omotosho T/S	11:00
LOWEST VOLTAGE FOR THE DAY	300	Gombe & Yola	19:00 & 21:00

1.3 FREQUENCY RANGE

DETAILS	HZ	HRS
NOMINAL FREQUENCY	50	
STATUTORY LIMITS	49.75-50.25	
HIGHEST FREQUENCY	50.62	13:04
LOWEST FREQUENCY	49.90	11:16

1.4 SYSTEM COLLAPSE UP DATE

Date of last total collapse: 1st Feb, 2018							No. of days since last total collapse: 12															
Date of last partial collapse: 17 th Oct, 2017							No. of days since last partial collapse: 115															
Highest No of days ever attained in-between total collapses							Highest No of days ever attained in-between partial collapses: 24															
	Jan	Feb.	Mar.	Apr	May	Jun	Jul	Aug	Sep.	Oct.	Nov	Dec	Total									
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	1	8								
2013	Total	--	1	2	2	3	4	1	1	1	1	4	2	22								
	Partial	--	--	--	--	--	--	--	--	2	--	--	--	2								
2014	Total	2	--	0	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	1	0	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	--	--	--	6								
2018	Total	5	1	--	--	--	--	--	--	--	--	--	--	6								
	Partial	--	--	--	--	--	--	--	--	--	--	--	--	0								

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

STATION	TURBINE	PEAK GEN. (MW)	OFF-PEAK GEN(MW)
1 KAINJI	HYDRO	401	239
2 JEBBA	HYDRO	357	231
3 SHIRORO	HYDRO	194	109
4 EGBIN ST2 - 5	STEAM	495	406
5 SAPELE	STEAM	0	0
6 DELTA	GAS	584	503
7 AFAM IV-V	GAS	62	0
8 GEREGU GAS	GAS	420	239
9 OMOTOSHO GAS	GAS	135.8	121.4
10 OLORUNSOGO GAS	GAS	129.8	120.1
11 GEREGU NIPP	GAS	256	72
12 SAPELE NIPP	GAS	198.2	153
13 ALAOJI NIPP	GAS	0	0
14 OLORUNSOGO NIPP	GAS	211.9	103.6
15 OMOTOSHO NIPP	GAS	107.7	90
16 ODUKPANI NIPP	GAS	259.7	173.7
17 IHOBOR NIPP	GAS	0	0
18 OKPAI	GAS	150	100
19 AFAM VI	GAS	0	220
20 IBOM POWER	GAS	0	0
21 ASCO	GAS	0	0
22 A.E.S	GAS	0	0
23 OMOKU	GAS	57.8	54.5
24 TRANS AMADI	GAS	40.6	0
25 RIVERS IPP	(GAS)	73	62
26 AZURA - EDO IPP	(GAS)	198	141
27 EGBIN ST6	(GAS)	71	68.6
28 PARAS ENERGY	(GAS)	0	0
29 GBARAIN NIPP	GAS	105.4	0
TOTAL		4507.9	3206.9

1.6 ENERGY GENERATED/ENERGY SENT OUT:

STATION	TURBINE	ENERGY GENERATED		ENERGY SENT OUT	
		MWH	MWH/H	MWH	MWH/H
1 KAINJI	HYDRO	7989.00	332.88	7972.50	332.19
2 JEBBA	HYDRO	6378.00	265.75	6352.52	264.71
3 SHIRORO	HYDRO	3843.00	160.13	3815.36	158.97
4 EGBIN ST2 - 5	STEAM	10274.00	428.08	10022.30	417.60
5 SAPELE	STEAM	0.00	0.00	0.00	0.00
6 DELTA	GAS	12176.06	507.34	11902.00	495.92
7 AFAM IV-V	GAS	675.00	28.13	671.68	27.99
8 GEREGU GAS	GAS	7612.10	317.17	7581.36	315.89
9 OMOTOSHO GAS	GAS	3020.00	125.83	2995.00	124.79
10 OLORUNSOGO GAS	GAS	2968.18	123.67	2939.84	122.49
11 GEREGU NIPP	GAS	2851.49	118.81	2833.46	118.06
12 SAPELE NIPP	GAS	4205.28	175.22	4184.69	174.36
13 AZURA - EDO IPP	GAS	596.95	24.87	594.10	24.75
14 ALAOJI NIPP	GAS	0.00	0.00	0.00	0.00
15 OLORUNSOGO NIPP	GAS	3090.10	128.75	3041.50	126.73
16 OMOTOSHO NIPP	GAS	2524.80	105.20	2502.60	104.28
17 ODUKPANI NIPP	GAS	4130.06	172.09	4096.46	170.69
18 IHOBOR NIPP	GAS	0.00	0.00	0.00	0.00
19 OKPAI	GAS	3411.00	142.13	3284.70	136.86
20 AFAM VI	GAS	2514.05	104.75	2475.00	103.13
21 IBOM	GAS	0.00	0.00	0.00	0.00
22 ASCO	GAS	0.00	0.00	0.00	0.00
23 A.E.S	GAS	0.00	0.00	0.00	0.00
24 OMOKU	GAS	1337.10	55.71	1309.47	54.56
25 TRANS AMADI	GAS	409.10	17.05	401.60	16.73
26 RIVERS IPP	GAS	1629.50	67.90	1623.90	67.66
27 EGBIN ST6	STEAM	3892.00	162.17	3695.60	153.98
28 PARAS ENERGY	GAS	1603.90	66.83	1598.60	66.61
29 GBARAIN NIPP	GAS	1736.00	72.33	1720.60	71.69
TOTAL		88,866.67	3,702.78	87,615.44	3,650.64

1.7A GENERATION POSITION AT 06:00HRS OF TUESDAY 13/02/2018

	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	7	1G5, 6,11 & 12 4	440	440	1G5, 6, 11 & 12 4	440	376	1G11 & 12 - On frequency response. 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, 2, 4 & 5 4	380	380	2G1, 2, 4 & 5 4	380	317	2G3 - Out on maintenance. 2G4 - On frequency response. 2G6 - Out due to burnt generator winding and AVR.
	SHIRORO HYDRO	4	411G1, 3 & 4 3	435	435	411G1 & 3 2	290	111	411G2 - Out due to fallen object on the unit transformer. 411G1 & 3 - Generation reduced on frequency management. 411G4 - Out on water management.
	EGBIN STEAM	5	ST1, 2, 4 & 5 4	880	770	ST1, 2 & 4 3	550	428	ST1 - Limited to 110MW on observation by Egbin management after maintenance work on the unit transformer. ST2 & 4 - Generation reduced on frequency management. ST3 - Tripped on high vibration. ST5 - Out due to low gas pressure.
	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 - 20 12	655	655	GT4, 7, 9 - 12, 15, 16, 18 - 20 11	655	592	GT3 & 5 - Out due to generator winding fault. GT6 & 14 - Out on major overhaul. GT13 - Out on frequency management. GT15, 16 & 18 - On frequency response. GT17 - Out on excitation trouble.
	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. GT19 & 20 - Awaiting major overhaul. GT17 - Out due to technical issue with generator auxiliary.
	GEREGU GAS	3	GT11 - 13 3	435	435	GT11 - 13 3	435	318	GT11 - 13 - Generation reduced on frequency management.
	OMOTOSHO GAS	8	GT1 - 8 8	336	304	GT1, 2, 4 & 6 4	152	143.1	GT3, 5, 7 & 8 - Out due to gas constraint.
	OLORUNSOGO GAS	8	GT1 - 8 8	336	304	GT2, 4, 6 & 8 4	152	132.4	GT1, 3, 5 & 7 - Out due to gas constraint.
NIPP	GEREGU NIPP	3	GT22 & 23 2	290	290	GT23 1	145	123	GT21 - Out on maintenance. GT22 - Out due to gas constraint.
	SAPELE NIPP	4	GT1 & 3 2	230	230	GT1 & 3 2	230	170.6	GT1 & 3 - On frequency response. GT2 - Out due to high air inlet differential pressure. GT4 - Tripped on fire protection alarm.
	ALAOJI NIPP GAS	4	GT1, 2 & 4 3	375	360	0 0	0	0	GT1, 2 & 4 - Tripped due to low gas pressure. GT3 - Shut down due to generator air inlet filter trouble.
	OLORUNSOGO NIPP	6	GT1 - 3 3	360	360	GT1 & 2 2	240	216	GT3 - Out due to gas constraint. GT4 - Out of production since 25/10/2016. ST13 & ST23 - Out on maintenance.
	OMOTOSHO NIPP GAS	4	GT1, 2 & 4 3	250	240	GT2 & 4 2	240	201.6	GT1 - Out due to gas constraint. GT2 & 4 - On frequency response. GT3 - Shut down due to oil leakage on the unit.
	ODUKPANI NIPP	5	GT2, 4 & 5 3	360	345	GT2, 4 & 5 3	345	262.8	GT1 & 3 - Out due to high air inlet differential pressure. GT4 & 5 - On frequency response.
	IHOVBOR NIPP	4	GT1 & 2 2	225	225	0 0	0	0	GT1 & 2 - Out due to gas constraint. GT3 - Out due to gas inlet valve problem. GT4 - Out on maintenance.
	GBARAIN NIPP GAS	1	GT2 1	112.5	112.5	GT2 1	112.5	101.9	Available unit on bar.
IPP	OKPAI GAS/STEAM	3	GT11 & 12 2	300	300	GT11 & 12 2	233	233	GT11 & 12 - Generation reduced due to ambient temperature. ST18 - Out on maintenance
	AZURA - EDO	0	0 0	0	0	0 0	0	0	GT11 - Undergoing commissioning tests. GT12 & 13 - Awaiting commissioning.
	AFAM VI GAS/STEAM	4	GT11 - 13 & ST10 4	650	650	0 0	0	0	GT11 - 13 & ST10 - Out on gas constraint.
	IBOM POWER GAS	3	GT3 1	115	115	0 0	0	0	GT1 & 2 - Out on fault. GT3 - Out due to tripping of Aba/Itu 132kV line .
	AES	0	0 0	0	0	0 0	0	0	Out of production since 27/09/2014.
	ASCO	0	0 0	0	0	0 0	0	0	GT1 - Shut down due to leakage in the furnace.
	OMOKU GAS	6	GT2, 5 & 6 3	75	60	GT2, 5 & 6 3	60	51.2	GT1 - Out due to excitation problem. GT3 - Out due to gas leakage. GT4 - Awaiting major overhaul.
	TRANS-AMADI	4	GT1 & 2 2	50	41.3	GT1 & 2 2	41.3	41.3	GT3 - Out on fault. GT4 - tripped on stator differential
	RIVERS	1	GT1 1	180	160	GT1 1	160	74	GT1 - Generation reduced due to gas constraint.
	SUB TOTAL	125	79	7544.5	7274.8	55	4923.8	3955.9	Frequency = 50.36Hz.

1.7B GENERATION POSITION AT 06:00HRS OF TUESDAY 13/02/2018 FOR UNITS ON BILATERAL AGREEMENT

FEEDERS NAME	MAX. LOAD (MW)	ST6		220	220	ST6		220	161	Available unit on bar.
		1	GT2 - 9			1	GT2 - 9			
EGBIN	1	1				1				Available unit on bar.
PARAS ENERGY	8	8		68.6	68.8	8		68.6	68.6	Available units on bar.
SUB TOTAL	9	9		288.6	288.8	9		288.6	229.6	
GRAND TOTAL	134	88		7833.1	7563.6	64		5,212.40	4,185.50	Frequency = 50.36Hz.

1.7C BILATERAL AGREEMENT UNITS DISPATCH - MONDAY 12/02/2018

FEEDERS NAME	MAX. LOAD (MW)	TIME (HRS)		REMARK	
Egbin ST6 120MW GENERATION TO IKEJA ELECTRICITY DISTRIBUTION COMPANY					
OGBA	U-STEEL	1	0900HRS	24	NIL
	PTCEXPRESS	11	1000HRS	24	NIL
	SANKYO	ON	0100HRS	24	NIL
	FEEDER 8	14	2000HRS	24	NIL
IKORODU	PULK IT	2	1500HRS	24	NIL
	INDUSTRIAL	22	2100HRS	24	NIL
	SPINTEX	3	1000HRS	24	NIL
	DANGOTE	3	1300HRS	24	NIL
	LAND CRAFT	41	1800HRS	24	NIL
ALAJUSA	TR4 15MVA	8.3	1100HRS	24	NIL
	TR5 -15MVA	6	1000HRS	24	NIL
	ALAJUSA	15.2	1100HRS	24	NIL
MILAND	PTC (MARYLAND)	17	1300HRS	24	NIL
	TOTAL LOAD	143.5			

BILATERAL AGREEMENT LOAD DISPATCH
60MW PARAS ENERGY GENERATION TO CEB

FEEDER	MAX	TIME	HOURS IN SERVICE	REMARK
Ikeja West/Sakete 330KV line	71	21:00	24	Nil

1.8 HYDROLOGICAL DATA: TUESDAY 13/02/2018

	KAINJI	JEBBA	SHIRORO
HEAD WATER ELEVATION (METERS)	140.82	102.10	371.51
TAIL WATER ELEVATION (METERS)	104.02	73.90	270.40
GROSS OPERATING HEAD (METERS)	36.80	28.20	101.11
AVERAGE TURBINE DISCHARGE (M3/SEC)	992.00	1048.00	192.00
AVERAGE SPILLAGE (M3/SEC)	0.00	0.00	0.00
AVERAGE TOTAL STATION DISCHARGE (M3/SEC)	992	1048	192
COMPUTED INFLOW (M3/SEC)	316.00	1002.00	46.00
STORAGE DIFFERENTIAL	-676.00	-46	-146
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 MONDAY 12/02/20'

DISCO	MAXIMUM LOAD(MW)	TIME(HRS)	ALLOCATED LOAD (MW)	MINIMUM LOAD(MW)	TIME(HRS)
ABUJA	520.70	23:00	613.21	380.4	04:00
EKO	355.4	05:00	686.55	0	16:00
IKEJA	539.0	20:00	799.54	335.3	05:00

2.0 GAS POSITION: TUESDAY 13/02/2018

STATION	SIGNED ACQ Annual Contracted Quantity MMSCF/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	383	1100		770	330
DELTA (GAS)	519	915		655	260
OMOTOSHO GAS	102.6	336.8		152	184.8
OMOTOSHO NIPP	90	500		120	380
OLORUNSOGO (GAS)	149.2	336		152	184
OLORUNSOGO NIPP	204.5	750		240	510
SAPELE NIPP	148.6	500		230	270
SAPELE STEAM	0	720		0	720
AFAM IV-V	0	300		0	300
AFAM VI	246	650		300	350
GEREGU GAS	232	435		435	0
GEREGU NIPP	100	435		145	290
OKPAL (GAS/STEAM)	207	480		233	247
ALAOJI NIPP	0	504		0	504
IHOVBOR NIPP	0	450		0	450
IBOM	73.6	198		115	83
ODUKPANI NIPP	166.4	625		230	395
TOTAL	2621.9	9235.63		3777	5457.8

1 MMSCF IS EQUIVALENT TO 3.75MW

3.0 SPINNING RESERVE FOR : MONDAY 12/02/2018

(MW)	TIME	FREQUENCY
Maximum (MW)		
Minimum (MW)		
Average (MW)		

3.1 SYSTEM SPINNING RESERVE AS AT 0600HRS OF TUESDAY 13/02/2018 = 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	Gereregu 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 Tuesday 13/02/2018 as at 0600Hrs was = 2909MW.

S/NO	STATION	ACTUAL GENERATION CAPABILITY (MW)	GENERATION AT 0600HRS (MW)	UNUTILIZED GENERATION CAPABILITY (MW)	SUB-TOTAL
4.1 DUE TO GAS CONSTRAINTS:					
1	Omotosho GT1	120	0	120	2230
2	Ihovbor GT1 & 2	225	0	225	
3	Alaoji NIPP GT1, 2 & 4	360	0	360	
4	Olorunsogo Gas GT1, 3, 5 & 7	152	0	152	
5	Olorunsogo NIPP GT3	120	0	120	
6	Omotosho Gas GT3, 5, 7 & 8	152	0	152	
7	Afam VI GT11 - 13 & ST10	650	0	650	
8	Egbin ST5	220	0	220	
9	Gereregu NIPP GT22	145	0	145	
11	Rivers IPP GT1	160	74	86	
IT IS ENVISAGED WITH IMPROVED PLANT AVAILABILITY AND RELIEF FROM EXISTING POWER SYSTEM NETWORK RELATED CONSTRAINTS, ADDITIONAL 1455.41MMSCF OF GAS (EQUIVALENT TO 5457.8MW) WILL BE REQUIRED WHEN ALL THERMAL UNITS ARE ON BAR.					
4.2 DUE TO LINE CONSTRAINTS					
1	Ibom Power GT3	115	0	115	115
				0	
				0	
4.3 DUE TO FREQUENCY MANAGEMENT OCCASIONED BY DISCOS' LOAD DEMAND					
1	Shiroro 411G1 & 3	290	111	179	419
2	Egbin ST2 & 4	440	317	123	
3	Gereregu Gas GT11 - 13	435	318	117	
				0	
				0	
				0	
				0	
				0	
				0	
				0	
4.4 DUE TO WATER MANAGEMENT					
1	Shiroro 411G4	145	0	145	145
Total					2909

5.0 **OUTAGES:**

5 (A) **FORCED OUTAGES (GENERATION):-**

- 1 10:26 – 10:51Hrs, Sapele NIPP GT1 tripped on main neutral O/C alarm. LHR = 80.5MW.
- 2 10:26 – 11:23Hrs, Delta P/S GT18 tripped on high exhaust temperature spread. LHR = 80MW.
- 3 10:26 -15:10Hrs, Gbarain NIPP GT2 tripped on reverse power due to tripping of Alaoji/Owerri 132kV line 1. LHR = 83.3MW.
- 4 11:39Hrs, Paras Energy GTs 2 – 9 tripped on reverse power due to tripping of Ikorodu/Shagamu 132kV line. Total LHR = 70.2MW.
12:01Hrs, GT4 was tied. 12:03Hrs, GT5 was tied. 12:05Hrs, GT6 was tied. 12:07Hrs, GT7 was tied. 12:09Hrs, GT8 was tied. 12:12Hrs, GT9 was tied. 12:15Hrs, GT3 was tied. 12:17Hrs, GT2 was tied.

5 (B) **FORCED OUTAGES (TRANSMISSION):-**

- 1 10:25 – 10:29Hrs, Osogbo/Akure/Ado Ekiti 132kV CB tripped on U/F relay at Osogbo T/S. LHR = 45MW.
- 2 10:25 – 10:30Hrs, Ayede T/S 45MVA 132/33/11kV transformer T1 secondary CB tripped on under frequency. LHR = 12.5MW.
- 3 10:25 – 10:39Hrs, Akangba T/S 60MVA 132/33kV transformer 10T1A secondary CB tripped on U/F relay. LHR = 17MW.
- 4 10:25 – 10:43Hrs, Shagamu/Ijebu-Ode 132kV line tripped at Shagamu T/S on under frequency. LHR = 5.0MW.
- 5 10:25 – 10:43Hrs, Kaduna town T/S 3X 60MVA transformer T1, T2 & T3 secondary CBs tripped on under frequency relay. Total LHR = 61MW.
- 6 10:26 – 10:52Hrs, Onitsha/Alaoji 330kV line (cct T4A) CBs tripped at both ends on the following relay indications:
At Onitsha T/S: Micom relay – E/F, duration = 4.078ms, location 175.1km.
Ohmega relay - : DEF forward E/F.
DEF reverse E/F.
At Alaoji T/S: Micom relay: Back up O/C, E/F, 6X1 Phase trip, 2x3 Phases trip. No load loss as cct A2K was in service.
- 7 10:26 – 10:55Hrs, Alaoji/Owerri 132kV line 1 tripped at Owerri T/S on Siemens relay: E/F trip IE >. LHR = 26MW.
- 8 10:26 – 10:56Hrs, Alaoji/Owerri 132kV line 2 tripped at Owerri T/S on Siemens relay: E/F trip, IE >. LHR = 28MW.
- 9 10:26 – 10:57Hrs, Alaoji/Aba 132kV line 1 tripped at Aba T/S on Siemens relay: Blue PU, E/F and back up protection trip. LHR = 20MW.
- 10 10:26 - 13:00Hrs, Alaoji/Umuahia 132kV line 1 tripped at Alaoji T/S without relay indications. LHR = 10MW.
- 11 10:26 - 11:19Hrs, Alaoji T.S/Alaoji NIPP 330kV line 1 (cct L7A) CB tripped at Alaoji NIPP on differential protection relay, fault type BCG. No load loss as cct L8A was in service.
- 12 11:39 – 11:49Hrs, Ikorodu/Shagamu 132kV line tripped at Ikorodu T/S on distance protection Phase C, distance = 12km. LHR = 20MW.
- 13 21:24 - 21:28Hrs, Osogbo/Akure/Ado Ekiti 132kV CB tripped on U/F relay at Osogbo T/S. LHR = 47MW.

5 (C) **PLANNED OUTAGES:-**

- 1 10:02 - 17:12Hrs, Shiroro/Mando 330kV line 2 (cct R2M) was taken out for maintenance crew at Shiroro T/S to replace defective CVT with new one. 152MW was diverted to cct R1M and 175MW was shed.
- 2 10:28 – 13:23Hrs, Egbin/Oke –Aro 330kV line 1 (cct N7K) was taken out at Egbin T/S for maintenance crew to remove cut Optic fibre cable between towers #21 & 22. No load loss as cct N8K was in service.
- 3 11:07 – 17:33Hrs, Zaria/Funtua/Gusau 132kV line was taken out to isolated for Gusau axis incoming line breaker at Zaria T/S for continuation of ongoing restringing of conductor between towers #289, 290, 301, 302, 385, 386, 483 – 486, 498 & 499. Load loss = 10.6MW.
- 4 12:22 – 15:57Hrs, New Haven/Yandev 132kV line was opened for maintenance crew at new Haven T/S to link New Haven/Outkpo 132kV line to the newly strung New Haven/Nsukka line. No load loss as the line was on soak.

5(D) **URGENT OUTAGES:**

- 1 11:02 – 12:12Hrs, Birnin –Kebbi T/S 60MVA 132/33kV transformer 19T8 was taken out for maintenance crew to top oil on conservator tank. Load loss = 16.6MW.
- 2 11:13 through 24:00Hrs, Afam VI GT11 & 13 tripped due to low SF6 gas pressure. Total LHR = 220MW.

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.

5 (E) **EMERGENCY OUTAGES:-**

The under mentioned line was opened on frequency control:-

- 1 11:14 – 11:30Hrs, Ayede/Ibadan North/Iwo/Iseyin 132kV line. LHR = 40MW. Frequency was 49.9Hz.

5 (F) **AUTOMATIC UNDER FREQUENCY OPERATION:- NIL**

5 (G) **330KV LINES THAT ARE OUT ON VOLTAGE CONTROL:-** ccts A1S & U1A.

5 (H) **330KV LINES THAT ARE OUT ON BREAKER PROBLEM:-** NIL.

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

5 (J) **330KV LINES THAT ARE OUT ON LINE FAULT:-** cct S5B.

5 (K) **330KV LINES THAT ARE OUT ON SOAK:-** ccts N4J, F1K & W4L.

6 **WEATHER REPORT:-** No rainfall reported in any station.

7 **INTERNATIONAL LINES:-**

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

Maximum load - 265MW at 21:00Hrs.
Minimum load - 189MW at 08:00Hrs.

B **BIRNIN KEBBI/NIAMEY 132KV LINE**

Maximum load - 87MW at 16:00Hrs.
Minimum load - 58MW at 05:00Hrs.

C **KATSINA/GAZAOUA/MARADI 132KV LINE**

Maximum load - 32.0MW at 21:00Hrs.
Minimum load - 19MW at 03:00Hrs.

8 **MISCELLANEOUS:-**

- 1 00:05Hrs, Jebba P/S 2G2 was shut down on frequency management. Load loss = 75MW.
- 2 09:18 – 10:05Hrs, Jebba T/S carried out carrier test on ccts J1H, J2H, B8J, B9J, J3R & J7R.
- 3 11:18Hrs, Odukpani/Ikot-Ekpene 330kV line 2 (cct D2K) was switched off on voltage control. V/P : 354/345kV .
- 4 11:47Hrs, Azura Edo GT11 was tied for test.
- 5 15:20Hrs, Trans Amadi GT2 was tied. The unit was out due to line breaker issue at Port Harcourt T/S.
- 6 15:49Hrs, Lekki T/S 60MVA 132/33kV transformer T2 secondary CB was restored. The transformer tripped at 07:27Hrs, of 11/02/2018 on SBEF.
17:11Hrs, Geregu NIPP GT22 was tied. The unit was out due to gas constraint.
- 7 17:36Hrs, Odukpani P/S GT2 was tied. The unit was out on frequency management.
- 8 17:31Hrs, Azura GT11 was shut down after PFI test. Load loss = 143MW.
- 9 18:17Hrs, Olorunsogo NIPP GT1 was tied. The unit was out on frequency management.

11 (A) COMMUNICATION MEDIA

STATIONS	NO INSTALLED	NO. WORKING
PLC/PAX	37	28
OPTIC FIBRE	13	8
PLS	14	5

11 (B) SCADA RTU STATUS

STATIONS	NO. INSTALLED	NO OF RTU DISTURBED	NO OF RTU WORKING
POWER STATIONS	8	6	2
330kV	19	7	12
132kV	102	86	16

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.

- 10 18:32Hrs, Ikeja West T/S 330kV 75MX Reactor R1 was switched off on voltage control V/P : 312/315kV.
- 11 18:27Hrs, Ikeja West T/S 330kV 75MX Reactor R2 was switched off on voltage control V/P : 310/312kV.
- 12 22:08Hrs, Omotosho NIPP GT4 was tied. The unit was out due to gas constraint.
- 13 15:49Hrs, Lekki T/S 60MVA 132/33kV transformer T2 secondary CB was restored. The transformer tripped at 07:27Hrs, of 11/02/2018 on SBEF.
- 14 LACK OF REACTOR AND UNRELIABLE STATION SERVICE SUPPLY AT IKOT-EKPENE T/S ARE HINDERING SMOOTH OPERATION.
- 15 THE SCADA COVERAGE OF ONLY LIMITED AREAS IS NOT GOOD FOR THE SMOOTH OPERATION OF THE GRID.

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.

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:

- 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.

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

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

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/Iire 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 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, Uguwaji, Osogbo, Kaduna, Jos, Gwagwalada & Alaoji T/S.

FOR MORE INFORMATION: NCC Telephone Lines -

- a PAX 09/300, 309, 303 & 305.
- b NCC GSM - 08074888524, 08069379367, 08023572651 & 08051401331. CUG Nos. 08129458488, 08129458489, 08129929806; 08036665323.
- c PLS - 622
- d GM (NCC) - 08036744641.
- e AGM (S/O) - 08056002757, CUG: 08129458475

