

TRANSMISSION COMPANY OF NIGERIA

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

DAILY OPERATIONAL REPORT OF TUESDAY 15/05/2018

FOR: EVENTS OF MONDAY 14/05/2018

1.0 EXECUTIVE OPERATIONS SUMMARY:

1.1 GENERATION PROFILE: NATIONAL STATISTICS

DETAILS	MW	HRS	DATE
PEAK DEMAND FORECAST (CONNECTED + SUPPRESSED LOAD)	22,780	21:15	14/05/2018
GENERATION CAPABILITY	8271	-do-	-do-
UNITS ON BAR CAPABILITY AT PEAK	5072	-do-	-do-
PEAK GENERATION	4575.5	-do-	-do-
LOWEST GENERATION	3414.9	09:00	14/05/2018
8-HOURLY DURATION PEAK	4050.6	0100-0800	-do-
	3879.3	0900-1800	-do-
	4575.5	1700-2400	-do-
PEAK GENERATION TO DATE	5222.3	21:00	18/12/2017
MAXIMUM AVAILABLE CAPACITY TO DATE	7832.8	08:00	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	352	Omotosho T/S	07:00
LOWEST VOLTAGE FOR THE DAY	300	Kumbotso, Gombe, Yola & Sakete T/S	09:00, 05:00, 19:00 & 22:00

1.3 FREQUENCY RANGE

DETAILS	HZ	HRS
NOMINAL FREQUENCY	50	
STATUTORY LIMITS	49.75 - 50.25	
HIGHEST FREQUENCY	50.73	07:01
LOWEST FREQUENCY	49.62	20:19

1.4 SYSTEM COLLAPSE UP DATE

Date of last total collapse: 1st Feb., 2018		No. of days since last total collapse: 95												
Date of last partial collapse: 12 th April., 2018		No. of days since last partial collapse: 31												
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	
2010	Total	---	3	1	--	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	4	2	22	
	Partial	--	--	--	--	--	--	--	2	--	--	--	2	
2014	Total	2	--	--	2	0	3	1	0	0	1	0	9	
	Partial	1	0	1	0	1	0	0	0	0	2	1	4	
2015	Total	--	--	1	0	2	0	1	0	0	1	0	6	
	Partial	--	--	1	0	2	0	0	0	1	0	0	4	
2016	Total	--	--	2	3	6	5	0	0	1	1	2	22	
	Partial	--	--	1	0	1	3	1	0	0	0	0	6	
2017	Total	5	3	0	3	1	1	0	0	1	1	--	15	
	Partial	1	0	1	0	0	1	0	0	3	3	--	9	
2018	Total	5	1	0	0	--	--	--	--	--	--	--	6	
	Partial	0	0	0	1	--	--	--	--	--	--	--	1	

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

STATION	TURBINE	PEAK GEN (MW)	OFF-PEAK GEN.(MW)
1 KAINJI	HYDRO	260	151
2 JEBBA	HYDRO	315	228
3 SHIRORO	HYDRO	541	237
4 EGBIN ST2 - 5	STEAM	315	316
5 SAPELE	STEAM	47	46
6 DELTA	GAS	560	330
7 AFAM IV-V	GAS	0	0
8 GEREGU GAS	GAS	0	0
9 OMOTOSHO GAS	GAS	135.8	137.9
10 OLORUNSOGO GAS	GAS	133.8	133.3
11 GEREGU NIPP	GAS	0	50
12 SAPELE NIPP	GAS	214.8	154.3
13 ALAQJI NIPP	GAS	0	0
14 OLORUNSOGO NIPP	GAS	0	0
15 OMOTOSHO NIPP	GAS	109.5	91.3
16 ODUKPANI NIPP	GAS	0	0
17 IHOVBOR NIPP	GAS	81.1	105.6
18 OKPAI	GAS	321	278
19 AFAM VI	GAS	551	252
20 IBOM POWER	GAS	103.9	72.5
21 ASCO	GAS	0	0
22 A.E.S	GAS	0	0
23 OMOKU	GAS	79.6	79.6
24 TRANS AMADI	GAS	0	0
25 RIVERS IPP	(GAS)	140	140
26 AZURA - EDO IPP	(GAS)	450	393
27 EGBIN ST6	(GAS)	146	150
28 PARAS ENERGY	(GAS)	71	69.4
29 GBARAIN NIPP	GAS	0	0
TOTAL		4575.5	3414.9

1.6 ENERGY GENERATED/ENERGY SENT OUT:		ENERGY GENERATED		ENERGY SENT OUT	
STATION	TURBINE	MWH	MWH/H	MWH	MWH/H
1 KAINJI	HYDRO	4922.00	205.08	4905.20	204.38
2 JEBBA	HYDRO	6046.00	251.92	6021.60	250.90
3 SHIRORO	HYDRO	9636.00	401.50	9608.51	400.35
4 EGBIN ST2 - 5	STEAM	7597.00	316.54	7200.00	300.00
5 SAPELE	STEAM	1037.00	43.21	1031.00	42.96
6 DELTA	GAS	12225.00	509.38	11961.10	498.38
7 AFAM IV-V	GAS	0.00	0.00	0.00	0.00
8 GEREGU GAS	GAS	360.10	15.00	348.17	14.51
9 OMOTOSHO GAS	GAS	3322.00	138.42	3298.00	137.42
10 OLORUNSOGO GAS	GAS	3155.93	131.50	3127.99	130.33
11 GEREGU NIPP	GAS	655.87	27.33	644.97	26.87
12 SAPELE NIPP	GAS	4044.97	168.54	4025.49	167.73
13 ALAQJI NIPP	GAS	0.00	0.00	0.00	0.00
14 OLORUNSOGO NIPP	GAS	0.00	0.00	0.00	0.00
15 OMOTOSHO NIPP	GAS	2338.40	97.43	2318.30	96.60
16 ODUKPANI NIPP	GAS	0.00	0.00	0.00	0.00
17 IHOVBOR NIPP	GAS	2120.00	88.33	2106.04	87.75
18 OKPAI	GAS	6961.00	290.04	6797.60	283.23
19 AFAM VI	GAS	9713.99	404.75	9482.78	395.12
20 IBOM	GAS	1907.76	79.49	1899.00	79.13
21 ASCO	GAS	0.00	0.00	0.00	0.00
22 AZURA - EDO IPP	GAS	9387.10	391.13	9362.00	390.08
23 A.E.S	GAS	0.00	0.00	0.00	0.00
24 OMOKU	GAS	1891.90	78.83	1851.96	77.17
25 TRANS AMADI	GAS	0.00	0.00	0.00	0.00
26 RIVERS IPP	GAS	3357.90	139.91	3351.93	139.66
27 EGBIN ST6	STEAM	3502.00	145.92	3313.90	138.08
28 PARAS ENERGY	GAS	1675.10	69.80	1670.00	69.58
29 GBARAIN NIPP	GAS	0.00	0.00	0.00	0.00
TOTAL		95,857.02	3,994.04	94,325.54	3,930.23

1.7A GENERATION POSITION AT 06:00HRS OF TUESDAY 15/05/2018

	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	8	1G5, 6 & 12 3	340	310	1G5, 6 & 12 3	310	191	1G7 - Out on stator winding failure. 1G8 - Out due to loss of supply to the auxiliary. 1G9 - Out due to burnt 7.5MVA 330/415kV & 183.6MVA 16/330kV station service transformer and generator transformer. 1G10 - Shut down due to thrust bearing temperature problem. 1G11 - Out on maintenance.
	JEBBA HYDRO	6	2G1 - 3 & 5 4	380	380	2G1 & 5 2	190	143	2G2 - Out on water management. 2G3 - Out on frequency management. 2G4 - Shut down for water management. 2G6 - Out due to burnt generator winding and AVR.
	SHIRORO HYDRO	4	411G1 - 4 4	560	560	411G1 - 4 4	560	201	411G1 - 4 - Generation reduced on frequency management.
	EGBIN STEAM	5	ST1, 2, 4 & 5 4	880	880	ST2 & 4 2	268	268	ST1 & 5 - Out on gas constraint. ST3 - Tripped on high vibration since 19th June 2017.
	SAPELE (STEAM)	6	ST2 1	120	49	ST2 1	49	49	ST1 - Tripped on low drum level. ST3 - Out on stator winding problem. ST4 & 5 - Awaiting major overhaul. ST6 - Tripped on gas control valve not following reference point.
	DELTA (GAS)	18	GT7, 9 - 13, 15, 16 & 18 - 20 11	635	635	GT7, 9 - 13, 15, 18 & 20 9	435	396	GT3 & 5 - Out due to generator winding fault. GT4 - Tripped on loss of excitation. GT6 & 14 - Out on major overhaul. GT16 - Out on frequency management. GT17 - Out on excitation trouble. GT16 & 19 - Out on frequency management.
	AFAM IV & V (GAS)	8	0 0	0	0	0 0	0	0	GT1 - 12 - De-commissioned and scrapped. GT13 - 16 - Out on blade failure. GT17 - Tripped on loss of excitation. GT18 - Tripped on lube oil pressure. GT19 & 20 - Awaiting major overhaul.
	GEREGU GAS	3	GT11 - 13 3	435	435	0 0	0	0	GT11 - 13 - Out due to gas constraint.
	OMOTOSHO GAS	8	GT1 - 8 8	336	304	GT1, 6 - 8 4	152	141.7	GT2 - 5 - Out on gas constraint
	OLORUNSOGO GAS	8	GT1 - 8 8	336	304	GT1, 4, 6 & 8 4	152	134.7	GT2, 3, 5 & 7 - Out on frequency management.
NIPP	GEREGU NIPP	3	GT21 - 23 3	435	435	0 0	0	0	GT21 - 23 - Out due to gas constraint.
	SAPELE NIPP	4	GT1 & 3 2	112.5	225	GT1 & 3 2	225	132.6	GT2 - Shut down due to air inlet differential pressure. GT4 - Tripped on fire protection.
	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	375	360	0 0	0	0	GT1 - 3 - Out due to gas constraint. GT4 - Out due to ignition failure and control relay failure alarm. ST13 & ST23 - Out on maintenance.
	OMOTOSHO NIPP GAS	4	GT1, 2 & 4 3	375	360	GT2 1	120	74.8	GT1 & 4 - Out due to gas constraint. GT3 - Shut down due to oil leakage on the unit.
	ODUKPANI NIPP	5	GT4 & 5 2	240	230	0 0	0	0	GT1 - Out on fault. GT2 - Out due to malfunctioning gas regulating valve. GT3 - Tripped on high air inlet differential pressure. GT4 & 5 - Shut down due to work on gas pipe line equipment.
	IHOVBOR NIPP	4	GT3 1	112.5	112.5	GT3 1	95	78.5	GT1, 2 & 4 - Out on maintenance. GT3 - Manually reduced due to gas vent problem.
	GBARAIN NIPP GAS	1	GT2 1	112.5	112.5	0 0	0	0	GT2 - Shut down due to staff on strike.
IPP	OKPAI GAS/STEAM	3	GT11, 12 & ST18 3	375	375	GT11, 12 & ST18 3	375	239	GT11 - Generation reduced on frequency management. ST18 - Generation reduced due to broken spray water valve of boiler #12.
	AZURA - EDO	3	GT11 - 13 3	459	459	GT11 - 13 3	459	393	Available units on bar.
	AFAM VI GAS/STEAM	4	GT11 - 13 & ST10 4	640	640	GT11 - 13 & ST 10 3	640	440	GT12 - Generation reduced on frequency management.
	IBOM POWER GAS	3	GT3 1	115	115	GT3 1	115	86.8	GT1 & 2 - Out on fault.
	AES	0	0 0	0	0	0 0	0	0	Out of production since 27/09/2014.
	ASCO	1	0 0	0	0	0 0	0	0	GT1 - Shut down due to leakage in the furnace.
	OMOKU GAS	6	GT1, 2, 5 & 6 4	100	83	GT1, 2, 5 & 6 4	83	83	GT3 - Out due to gas leakage. GT4 - Awaiting major overhaul.
	TRANS-AMADI	4	GT1 & 2 2	50	40	0 0	0	0	GT1 & 2 - Out due to line constraint since 03/04/2018. GT3 - Out on fault. GT4 - Tripped on generator differential lockout.
	RIVERS	1	GT1 1	180	160	GT1 1	160	140	Available unit on bar.
	SUB TOTAL	130	82	8078.5	7924	48	4388	3192.1	Frequency = 50.76Hz.

1.7B GENERATION POSITION AT 06:00HRS OF TUESDAY 15/05/2018 FOR UNITS ON BILATERAL AGREEMENT

FEEDER	MAX. LOAD (MW)	ST6		220	131	ST6		131	131	Available unit on bar.
		1	8			1	8			
EGBIN	1	1	8	220	131	1	8	131	131	Available unit on bar.
PARAS ENERGY	8	GT2 - 9	8	68.6	68.6	GT2 - 9	8	68.6	68.6	Available units on bar.
SUB TOTAL	9	9	9	288.6	199.6	9	9	199.6	199.6	
GRAND TOTAL	139	91	91	8367.1	8123.6	57	57	4,587.60	3,391.70	Frequency = 50.76Hz.

1.7C BILATERAL AGREEMENT UNITS DISPATCH - MONDAY 14/05/2018

FEEDERS NAME	MAX. LOAD (MW)	TIME (HRS)		REMARK	
Egbin ST6 120MW GENERATION TO IKEJA ELECTRICITY DISTRIBUTION COMPANY					
OGBA	U-STEEL	1	0800HRS	24	NIL
	PTCEXPRESS	12	1400HRS	18	Tripped on E/F
	SANKYO	ON	0100HRS	11	FAULTY BREAKER
	FEEDER 8	14	1600HRS	24	NIL
IKORODU	PULK IT	5	0800HRS	24	NIL
	INDUSTRIAL	21	2000HRS	24	NIL
	SPINTEX	12	1800HRS	24	NIL
	DANGOTE	3	0100HRS	24	NIL
	LAND CRAFT	14	2100HRS	24	NIL
ALAUSA	TR4 15MVA	6.9	1500HRS	24	NIL
	TR5 -15MVA	6.4	1300HRS	24	NIL
	ALAUSA	14.7	1700HRS	24	NIL
WILAND	PTC (MARYLAND)	17	0800HRS	24	NIL
	LORDSMITH [PAPALANTO]	0.3	0100HRS	24	NIL
TOTAL LOAD	127.3				

BILATERAL AGREEMENT LOAD DISPATCH
60MW PARAS ENERGY GENERATION TO CEB

FEEDER	MAX	TIME	HOURS IN SERVICE	REMARK
Ikeja West/Sakete 330kV line	71.8	20:00	24	NII

BILATERAL AGREEMENT MAIN STREAM ENERGY KAINJI LOAD DISPATCH TO THE FOLLOWING COMPANIES OF MONDAY - 14/05/2018

COMPANY NAME	VOLTAGE LEVEL	EXPECTED CONTRACTUAL LOAD (MW)	MAX	TIME	HOUR IN SERVICE	REMARK
INNER GALAXY	132kV line	25	On	On	24	On soak.
KAM STEEL		15	4.9	22:00	24	Nii
OLAM FLOUR MILLS	33kV feeder	3	1.8	09:00	24	Nii
LORDSMITH		3	0.3	17:00	24	Nii

1.8 HYDROLOGICAL DATA: TUESDAY 15/05/2018

	KAINJI	JEBBA	SHIRORO
HEAD WATER ELEVATION (METERS)	133.26	99.79	365.64
TAIL WATER ELEVATION (METERS)	101.95	73.6	270.80
GROSS OPERATING HEAD (METERS)	31.31	26.19	94.84
AVERAGE TURBINE DISCHARGE (M3/SEC)	721.00	1099.00	419.00
AVERAGE SPILLAGE (M3/SEC)	211.00	0.00	0.00
AVERAGE TOTAL STATION DISCHARGE (M3/SEC)	932	1099	419
COMPUTED INFLOW (M3/SEC)	15.00	902.00	88.00
STORAGE DIFFERENTIAL	-917.00	-197	-331
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 14/05/2018

DISCO	MAXIMUM LOAD(MW)	TIME(HRS)	ALLOCATED LOAD (MW)	MINIMUM LOAD(MW)	TIME(HRS)
ABUJA	527.40	23:00	583.52	324.2	17:00
EKO	641.80	19:00	761.12	417.2	03:00
IKEJA	468.8	19:00	658.15	353	07:00

2.0 GAS POSITION: TUESDAY 15/05/2018

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	270	1100		399	701
DELTA (GAS)	420	915		435	480
OMOTOSHO GAS	122	336.8		152	184.8
OMOTOSHO NIPP	88.8	500		120	380
OLORUNSOGO (GAS)	122.3	336		152	184
OLORUNSOGO NIPP	0	750		0	750
SAPELE NIPP	150.4	500		225	275
SAPELE STEAM	48	720		49	671
AFAM IV-V	0	300		0	300
AFAM VI	220	650		640	10
GEREGU GAS	50	435		0	435
GEREGU NIPP	70	435		0	435
OKPAI (GAS/STEAM)	151	480		375	105
ALAOJI NIPP	0	504		0	504
IHOVBOR NIPP	90.8	450		110	340
IBOM	81	198		115	83
ODUKPANI NIPP	0	625		0	625
TOTAL	1884.3	9236.38		2772	6462.8

1 MMSCF IS EQUIVALENT TO 3.75MW

3.0 SPINNING RESERVE FOR : MONDAY 14/05/2018

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

3.1 SYSTEM SPINNING RESERVE AS AT 0600HRS OF TUESDAY 15/05/2018 0MW FREQUENCY 50.76Hz.

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 UNAVAILABLE GENERATION CAPABILITY

The unavailable generation capability for Tuesday 15/05/2018 as at 0600Hrs was = 3815.2MW.

S/NO	STATION	ACTUAL GENERATION CAPABILITY (MW)	GENERATION AT 0600HRS (MW)	UNAVAILABLE GENERATION CAPABILITY (MW)	SUB-TOTAL
4.1 DUE TO GAS CONSTRAINTS:					
1	Omotosho NIPP GT1 & 4	240	0	240	2599
2	Ataji NIPP GT1, 2 & 4	360	0	360	
3	Geregu NIPP GT21 - 23	435	0	435	
4	Olorunsogo NIPP GT11 - 3	360	0	360	
5	Geregu Gas GT11 - 13	435	0	435	
6	Odukpani NIPP GT4 & 5	230	0	230	
7	Afam VI GT18	42	0	42	
8	Egbin ST1 & 5	345	0	345	
9	Omotosho Gas GT2 - 5	152	0	152	
				0	
				0	
				0	
				0	
IT IS ENVISAGED WITH IMPROVED PLANT AVAILABILITY AND RELIEF FROM EXISTING POWER SYSTEM NETWORK RELATED CONSTRAINTS, ADDITIONAL 1723.41MMSCF OF GAS (EQUIVALENT TO 6462.8MW) WILL BE REQUIRED WHEN ALL THERMAL UNITS ARE ON BAR.					
4.2 DUE TO LINE CONSTRAINTS					
1	Trans-Amadi GT1 & 2	40	0	40	68.2
2	Ibom GT3	115	86.8	28.2	
				0	
				0	
4.3 DUE TO FREQUENCY MANAGEMENT OCCASIONED BY DISCOS' LOAD DEMAND					
1	Delta GT16 & 19	180	0	180	1053
2	Afam VI GT12	150	25	125	
3	Olorunsogo Gas GT2, 3, 5 & 7	152	0	152	
4	Ihovbor GT3	112.5	78.5	34	
5	Okpai GT11	150	82	68	
6	Shiroro 411G1 - 4	600	201	399	
7	Jebba 2G3	95	0	95	
				0	
				0	
				0	
				0	
4.4 DUE TO WATER MANAGEMENT					
1	Jebba 2G2	95	0	95	95
Grand Total					3815.2

5.0 **OUTAGES:-**

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

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

- 1 09:50 – 09:54Hrs, Birnin Kebbi/Niamey 132kV line CB tripped at Birnin Kebbi T/S on D/P zones 1 & 6 lockout. LHR = 70MW.
- 2 14:44 – 14:57Hrs, Osogbo/Ikeja West 330kV line (cct H1W) CBs tripped at both ends on the following relay indications:
At Osogbo T/S: Siprotec relay – relay trip, Yellow Phase zone 1 trip, E/F, distance pickup = L2E PU time = 74ms, trip time = 15ms, distance = 191km, 85X – 86T. Ohmega relay - zone 1 trip, Phase ABC, Earth, aided trip, carrier received 2, distance = 237.07km, 86B/2.

At Ikeja West T/S: Siprotec relay – General trip, Yellow Phase fault zone 1, 5X –B, PU/JP Phase B, PU time = 7ms, trip time = 10ms, distance = 49.6km, ZCOM trip. Micom relay – General trip, Yellow Phase fault, distance zone 1 trip. No load loss as ccts H2A , R2A & R1W were in service.
- 3 17:33- 17:37Hrs, Birnin-Kebbi/Niamey 132kV line CB tripped at Birnin-Kebbi T/S on distance protection relay zone 1. LHR = 101MW
- 4 20:02 – 22:22Hrs, Ayede T/S 100MVA 132/33kV transformer T1A primary CB tripped on O/C protection while the secondary CB tripped on SBEF. LHR = 0.1MW
- 5 23:54 through 24:00Hrs, Ife/Ondo 132kV line CB tripped at Ife T/S on optimho relay D, S, location = 660.8kms, period = 98.5ms. LHR = 10MW

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

- 1 12:00 – 12:17Hrs, Zaria/Funtua/Gusau 132kV line was taken out at Zaria T/S to isolate 300KVA 33/0.415kV earthing transformer ET4 in order to increase the height of its plinth. Load loss = 24MW

5(D) **URGENT OUTAGES:**

- 1 08:30 - 09:18Hrs, Birnin-Kebbi/Niamey 132kV line was opened on emergency due to an insane man that was observed climbing tower at Niamey end. Load loss = 97MW.
- 2 09:44 through 24:00Hrs, Geregu NIPP GT22 was shut down due to low gas pressure. Load loss = 50MW.
- 3 14:00 – 14:55Hrs, Ihovbor NIPP GT3 was shut down due to low gas pressure. Load loss = 84.2MW.
- 4 14:50 through 24:00Hrs, Efurun T/S 60MVA 132/33kV transformer T21 secondary CB was taken out of service for maintenance crew to treat hot spot on 33kV bus isolator Yellow phase terminal clamp. Load loss = 21.7MW

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 2A - UNITS FROM ODUKPANI, AZURA, SHELL AFAM VI AGIP OKPAI, OLORUNSOGO POWER PLC AND OMOTOSHO POWER PLC.

GROUP 2B - OTHER GENERATING 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 (NOT YET IDENTIFIED).

11 (A) **COMMUNICATION MEDIA**

STATIONS	NO INSTALLED	NO. WORKING
PLC/PAX	37	32
OPTIC FIBRE	13	10
PLS	14	0

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

The under mentioned line was opened on frequency control.

- 1 20:20 - 20:35Hrs, Osogbo/Akure 132kV line. Load loss = 59MW. Frequency was 49.50Hz

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

5 (G) **330KV LINES THAT ARE OUT ON VOLTAGE CONTROL:-** ccts A2K, U2A & A1S.

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:-** ccts K3U & S5B.

5 (K) **330KV LINES THAT ARE ON SOAK:-** ccts N4J, J2H & F1K.

6 **WEATHER REPORT:-** Rainfall reported at Ayede, Ikeja-West & Kano

7 **INTERNATIONAL LINES:-**

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

Maximum load - 295MW at 22:00Hrs.

Minimum load - 191MW at 07:00Hrs.

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

Maximum load - 107MW at 15:00Hrs.

Minimum load - 47MW at 10:00Hrs.

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

Maximum load - 42.0MW at 21:00Hrs.

Minimum load - 30.0MW at 05:00Hrs.

8 **MISCELLANEOUS:-**

- 1 01:34 - 18:35Hrs, Delta GT16 was shut down on frequency management. Load loss = 70MW.
- 2 01:38 - 18:27Hrs, Jebba 2G2 was shut down on frequency management. Load loss = 74MW.
- 3 06:31Hrs, Afam VI ST10 was tied. The unit was out on frequency management.
- 4 06:52 - 17:23Hrs, Shiroro P/S placed Hold Off Tag (OF 12) on Jebba/Shiroro 330kV line 2 (cct J7R) for continuation of optic fibre work.
- 5 07:18 - 19:07Hrs, Delta GT20 was shut down on frequency management. Load loss = 80MW
- 6 08:08 through 24:00Hrs, Geregu gas GT12 was shut down due to low gas pressure. Load loss = 10MW
- 7 09:04 - 09:36Hrs, Osogbo T/S carried out carrier test on ccts J1H, J2H & H3G
- 8 13:00Hrs, Lokoja/Gwagwalada 330kV line 2 (cct L7G) was restored. The line was out on voltage control. V/P at Lokoja: 328/335kV & at Gwagwalada: 327/330kV
- 9 17:20Hrs, Kainji 1G12 was tied. The unit was shut down to replace draft tube drain valve.
- 10 19:10Hrs, Jebba G/S 2G4 was tied to swap with 2G3. The unit was out on maintenance.

11 (B) SCADA RTU STATUS

STATIONS	NO. INSTALLED	NO OF RTU DISTURBED	NO OF RTU WORKING
POWER STATIONS	8	6	2
330kV	19	6	13
132kV	102	79	23

- 11 19:13Hrs, Jebba G/S 2G3 was shut down after its load (82MW) had been transferred to 2G4.
12 22:11 through 24:00Hrs, Jebba G/S 2G2 was shut down on water management. Load loss = 80MW

***** LACK OF REACTOR AND UNRELIABLE STATION SERVICE SUPPLY AT IKOT-EKPENE T/S ARE HINDERING SMOOTH OPERATION.
***** THE SCADA COVERAGE OF ONLY LIMITED AREAS IS NOT GOOD FOR THE SMOOTH OPERATION OF THE GRID.

12(A) UNAVAILABLE TRANSFORMERS/REACTORS:

SHIRORO REGION:

- 1 Birnin Kebbi 75MX Reactor R1.

ABUJA REGION

- 1 Apo T/S 60MVA 132/33kV transformer TR3 - Burnt.

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:

- 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.

BENIN REGION:

- 1 Omotosho T/S 330kV, 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

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

12(C) LAGOS REGION

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

12(D) UNAVAILABLE CAPACITOR BANK:

- 1 (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.

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/tire 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 Shiroro T/S 330kV Jebba line 2 - 28 spans

ABUJA REGION

- 1 Apo T/S 132kV Keffi line - 36 spans

12 (E) UNAVAILABLE SYNCHROSCOPES :

- 1 Benin, Ikeja West, Onitsha, Egbin, Ugwuaji, 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

