

# TRANSMISSION COMPANY OF NIGERIA

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

**DAILY OPERATIONAL REPORT OF WEDNESDAY 28/11/2018**

**FOR: EVENTS OF TUESDAY 27/11/2018**

**1.0 EXECUTIVE OPERATIONS SUMMARY:**

**1.1 GENERATION PROFILE: NATIONAL STATISTICS**

DETAILS	MW	HRS	DATE
PEAK DEMAND FORECAST (CONNECTED + SUPPRESSED LOAD)	22,900	21:15	27/11/2018
GENERATION CAPABILITY	7169.3	-do-	-do-
UNITS ON BAR CAPABILITY AT PEAK	5034.3	-do-	-do-
PEAK GENERATION	4355.6	-do-	-do-
LOWEST GENERATION	3740.8	08:00	27/11/2018
8-HOURLY DURATION PEAK	4229.3	0100-0800	-do-
	4203.6	0900-1600	-do-
	4355.6	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	350	Lokoja T/S	04:00
LOWEST VOLTAGE FOR THE DAY	300	Kumbotso T/S	06:00

**1.3 FREQUENCY RANGE**

DETAILS	HZ	HRS
NOMINAL FREQUENCY	50	
STATUTORY LIMITS	49.75-50.25	
HIGHEST FREQUENCY	50.53	02:28
LOWEST FREQUENCY	49.82	21:21

**1.4 SYSTEM COLLAPSE UP DATE**

Date of last total collapse: 20th Sept, 2018		No. of days since last total collapse: 68												
Date of last partial collapse: 12th April, 2018		No. of days since last partial collapse: 229												
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	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	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	1	0	0	6
	Partial	--	--	1	0	2	0	0	0	1	0	0	0	4
2016	Total	--	--	2	3	2	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	1	1	15
	Partial	1	0	1	0	0	0	1	0	0	3	3	3	9
2018	Total	5	1	0	0	0	1	1	0	2	--	--	--	10
	Partial	0	0	0	1	0	0	0	0	0	0	0	0	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	419	376
2 JEBBA	HYDRO	451	430
3 SHIRORO	HYDRO	450	170
4 EGBIN ST2 - 5	STEAM	356	361
5 SAPELE	STEAM	50	50
6 DELTA	GAS	435	428
7 AFAM IV-V	GAS	0	0
8 GEREGU GAS	GAS	408	305
9 OMOTOSHO GAS	GAS	131.9	134.5
10 OLORUNSOGO GAS	GAS	142.5	133
11 GEREGU NIPP	GAS	110	118
12 SAPELE NIPP	GAS	0	102.1
13 ALAOJI NIPP	GAS	0	0
14 OLORUNSOGO NIPP	GAS	0	0
15 OMOTOSHO NIPP	GAS	108.7	95.8
16 ODUKPANI NIPP	GAS	0	0
17 IHOVBOR NIPP	GAS	104.7	203.7
18 OKPAI	GAS	334	213
19 AFAM VI	GAS	0	0
20 IBOM POWER	GAS	108.1	99.2
21 ASCO	GAS	0	0
22 A.E.S	GAS	0	0
23 OMOKU	GAS	73.9	75.2
24 TRANS AMADI	GAS	40	40.1
25 RIVERS IPP	(GAS)	0	0
26 AZURA - EDO IPP	(GAS)	450	225
27 EGBIN ST6	(GAS)	115	115
28 PARAS ENERGY	(GAS)	67.8	66.2
29 GBARAIN NIPP	GAS	0	0
<b>TOTAL</b>		<b>4355.6</b>	<b>3740.8</b>

**1.6 ENERGY GENERATED/ENERGY SENT OUT:**

STATION	TURBINE	ENERGY GENERATED		ENERGY SENT OUT	
		MWH	MWH/H	MWH	MWH/H
1 KAINJI	HYDRO	10073.00	419.71	10057.10	419.05
2 JEBBA	HYDRO	10461.00	435.88	10438.40	434.93
3 SHIRORO	HYDRO	8674.00	361.42	8648.77	360.37
4 EGBIN ST2 - 5	STEAM	8444.00	351.83	7967.20	331.97
5 SAPELE	STEAM	1096.00	45.67	1052.50	43.85
6 DELTA	GAS	10284.17	428.51	10124.60	421.86
7 AFAM IV-V	GAS	133.00	5.54	129.53	5.40
8 GEREGU GAS	GAS	8597.90	358.25	8567.02	356.96
9 OMOTOSHO GAS	GAS	3148.00	131.17	3124.60	130.19
10 OLORUNSOGO GAS	GAS	3216.02	134.00	3187.68	132.82
11 GEREGU NIPP	GAS	2674.38	111.43	2661.15	110.88
12 SAPELE NIPP	GAS	1629.82	67.91	1609.03	67.04
13 ALAOJI 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	2469.00	102.88	2455.20	102.30
16 ODUKPANI NIPP	GAS	0.00	0.00	0.00	0.00
17 IHOVBOR NIPP	GAS	3330.00	138.75	3311.40	137.98
18 OKPAI	GAS	6801.00	283.38	6668.20	277.84
19 AFAM VI	GAS	0.00	0.00	0.00	0.00
20 IBOM	GAS	2281.58	95.07	2273.00	94.71
21 ASCO	GAS	0.00	0.00	0.00	0.00
22 AZURA - EDO IPP	GAS	8467.15	352.80	8440.70	351.70
23 A.E.S	GAS	0.00	0.00	0.00	0.00
24 OMOKU	GAS	1801.70	75.07	1758.15	73.26
25 TRANS AMADI	GAS	1001.80	41.74	978.40	40.77
26 RIVERS IPP	GAS	0.00	0.00	0.00	0.00
27 EGBIN ST6	STEAM	2751.00	114.63	2612.00	108.83
28 PARAS ENERGY	GAS	1610.70	67.11	1602.40	66.77
29 GBARAIN NIPP	GAS	0.00	0.00	0.00	0.00
<b>TOTAL</b>		<b>98,945.22</b>	<b>4,122.72</b>	<b>97,667.03</b>	<b>4,069.46</b>

1.7A GENERATION POSITION AT 06:00HRS OF WEDNESDAY 28/11/2018

	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) AT 50.29Hz.	REMARKS
PRIVATISED COMPANIES	KAINJI HYDRO	8	1G5, 6, 11 & 12 4	440	420	1G5, 6, 11 & 12 4	420	386	1G7 - Out on stator winding failure. 1G8 - Out due to oil leakage on governor runner head. 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	476	470	2G1 - 5 5	470	438	2G6 - Out due to burnt generator winding and AVR.
	SHIRORO HYDRO	4	411G1, 2 & 4 3	450	450	411G1, 2 & 4 3	450	432	411G3 - Out on fault.
	EGBIN STEAM	5	ST2, 4, 5 & 6 4	880	800	ST2, 4, 5 & 6 4	800	479	ST1 - Out due to undisclosed fault since 04/09/2018. ST3 - Out on high vibration since 19th June 2017. Generation reduced due to gas constraint.
	SAPELE (STEAM)	6	ST2 1	120	60	ST2 1	60	50	ST1 - Tripped on low drum level. ST3 - Out on loss of excitation. ST4 & 5 - Awaiting major overhaul. ST6 - Tripped on gas control valve not following reference point.
	DELTA (GAS)	18	GT7, 9 - 13, 15, 16 & 19 & 20 10	545	545	GT7, 9 - 13, 15, 16, 19 & 20 10	545	458	GT2 - Tripped on transformer differential lockout. GT3 & 5 - Out due to generator winding fault. GT4 - Out on loss of excitation. GT6, 8 & 14 - Out on major overhaul. GT17 - Tripped on bearing vibration more than maximum. GT18 - Out due to generator lockout problem. Generation reduced due to gas constraint.
	AFAM IV & V (GAS)	8	GT17 & 18 2	150	120	0 0	0	0	GT1 - 12 - De-commissioned and scrapped. GT13,14 & 16 - Out on blade failure. GT17 - Out due to gas constraint. GT18 - Out due to maintenance of gas station. GT19 & 20 - Awaiting major overhaul.
	GEREGU GAS	3	GT11 - 13 3	435	435	GT11 - 13 3	435	337	GT13 - Generation reduced due to inlet gas valve controller problem.
	OMOTOSHO GAS	8	GT1 - 8 8	336	304	GT1, 2, 6 & 7 4	152	133.2	GT3-5 & 8 - Out due to gas constraint. Generation reduced due to gas constraint.
	OLORUNSOGO GAS	8	GT1 - 8 8	336	304	GT1, 2, 5, 6 & 8 5	190	167	GT3, 4 & 7 - Out due to gas constraint. Generation reduced due to gas constraint.
NIPP	GEREGU NIPP	3	GT22 & 23 2	290	290	GT22 1	145	127	GT21 - Out on maintenance. GT23 - Out due to gas constraint.
	SAPELE NIPP	4	GT1 & 3 2	225	225	0 0	0	0	GT1 & 3 - Out due to low gas pressure. GT2 - Out on maintenance. GT4 - Out due to high air filter differential pressure.
	ALAOJI NIPP GAS	4	GT2 1	120	120	0 0	0	0	GT1 - Out on maintenance. GT2 - Out due to low gas pressure. GT3 - Shut down due to lack of spare part. GT4 - Tripped on over voltage lockout relay trip.
	OLORUNSOGO NIPP	6	GT1 & 2 2	250	240	0 0	0	0	GT1 & 2 - Shut down due to low gas pressure. GT3 - Out due to maintenance. GT4 - Out due to ignition failure and control relay failure alarm. ST13 & ST23 - Out on maintenance.
	OMOTOSHO NIPP GAS	4	GT1 - 4 4	500	480	GT4 1	120	103.9	GT1 - 3 - Out due to gas constraint.
	ODUKPANI NIPP	5	0 0	0	0	0 0	0	0	GT1 & 2 - Out on fault. GT3 & 5 - Out due to gas leakage. GT4 - Tripped on main transformer neutral O/C and HV protection.
	IHOVBOR NIPP	4	GT1, 2 & 4 3	337.5	337.5	GT1 1	115	90.6	GT1 - On manual adjustment to frequency. GT2 & 4 - Out due to gas constraint. GT3 - Tripped on high vibration.
	GBARAIN NIPP GAS	1	GT2 1	120	120	0 0	0	0	GT2 - Out due to pipeline pressure valve leakage.
IPP	OKPAI GAS/STEAM	3	GT11, 13 & ST18 3	370	370	GT11, 12 & ST18 3	370	284	ST18 - Generation reduced due to boiler problem.
	AZURA - EDO	3	GT11 - 13 3	461	461	GT11 - 13 3	461	282	GT11 & 12 - Generation reduced due to low load demand by the Discos.
	AFAM VI GAS/STEAM	4	GT12, 13 & ST10 3	500	490	0 0	0	0	GT11 - Out on type C inspection. GT12, 13 & ST10 - Out due to maintenance at gas station.
	IBOM POWER GAS	3	GT3 1	115	115	GT3 1	115	92.7	GT1 & 2 - Out due to fire outbreak on the control panel.
	AES	9	0 0	0	0	0 0	0	0	Out of production since 27/09/2014.
	ASCO	2	0 0	0	0	0 0	0	0	ST1 - Shut down due to leakage in the furnace.
	OMOKU GAS	6	GT1, 2, 3 & 5 4	100	80	GT1, 2, 3 & 5 4	80	74.4	GT1 & 3 - Generation reduced due to gas constraint. GT4 - Out on major overhaul. GT6 - Out on maintenance.
	TRANS-AMADI	4	GT1, 2 & 4 3	75	70	GT1 & 4 2	42	42	GT2 - Out due to gas constraint. GT3 - Out on fault.
	RIVERS	1	GT1 1	160	160	0 0	0	0	GT1 - Out due to gas constraint

	SUB TOTAL	140	81	7791.5	7466.5	55	4970	3976.8	Frequency = 50.29Hz.
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1.7B GENERATION POSITION AT 06:00HRS OF WEDNESDAY 28/11/2018 FOR UNITS ON BILATERAL AGREEMENT

PARAS ENERGY	8	GT2 - 9	70	67	GT2 - 9	67	67	Available units on bar.
		8			8			
SUB TOTAL	8	8	70	67	8	67	67	
GRAND TOTAL	148	89	7861.5	7533.5	63	5,037.00	4,043.80	Frequency = 50.29Hz

1.7C		BILATERAL AGREEMENT UNITS DISPATCH - TUESDAY 27/11/2018							
		EGBIN 516 MW GENERATION TO IKEJA ELECTRICITY DISTRIBUTION COMPANY							
FEEDERS NAME	MAX. LOAD (MW)	TIME (HRS)	MIN LOAD (MW)	TIME (HRS)	HRS IN SERVICE	TOTAL (MWH)	REMARK		
OGBA	U-STEEL	ON	0100HRS		24		NIL		
	PTCEXPRESS	ON	0100HRS		24		NIL		
	SANKYO	ON	0100HRS		24		NIL		
	FEEDER 8	17	1000HRS		24		NIL		
IKORODU	PULK IT	3	0700HRS		24		NIL		
	INDUSTRIAL	9	0900HRS		24		NIL		
	SPINTEX	10	0100HRS		24		NIL		
	DANGOTE	on	0100HRS		24		NIL		
	LAND CRAFT	38	1200HRS		24		NIL		
ALAUUSA	TR4 15MVA	7.8	0900HRS		24		NIL		
	TR5 -15MVA	5.5	0900HRS		24		NIL		
	ALAUUSA	17	1500HRS		24		NIL		
M/LAND	PTC (MARYLAND)	17	1700HRS		24		NIL		
	<b>TOTAL LOAD</b>	<b>124.3</b>							

BILATERAL AGREEMENT LOAD DISPATCH 60MW PARAS ENERGY GENERATION TO CEB OF TUESDAY 27/11/2018							
FEEDER	MAX LOAD (MW)	TIME (HRS)	MIN LOAD (MW)	TIME (HRS)	HOURS IN SERVICE	TOTAL (MWH)	REMARK
Ikeja West/Sakete 330kV line	67.8	13:00	65.4	10:00	24	1598.4	NIL

BILATERAL AGREEMENT MAIN STREAM ENERGY KAINJI LOAD DISPATCH TO THE FOLLOWING COMPANIES OF: TUESDAY 27/11/2018									
COMPANY NAME	VOLTAG E LEVEL	CON-TRAC-TUAL LOAD (MW)	MAX LOAD (MW)	TIME (HRS)	MIN LOAD (MW)	TIME (HRS)	HOURS IN SERVICE	TOTAL (MWH)	REMARK
INNER GALAXY	132kV line 2	0	0.1	01:00	0.1	24:00	24	2.4	SUPPLY NOT INTERRUPTED
KAM STEEL		25.0	0.6	09:00	0.2	01:00	24	8	SUPPLY NOT INTERRUPTED
ASAKA CEMENT		0	13	04:00	4.8	15:00	24	217.9	SUPPLY NOT INTERRUPTED
XING 1	33kV feeder	0	20.4	05:00	1.5	09:00	24	347.4	SUPPLY NOT INTERRUPTED
XING 2		0	24.1	02:00	1.55	09:00	24	376.4	SUPPLY NOT INTERRUPTED
KAM INTEGRATED		15	5.2	16:00	1.5	11:00	24	75.2	SUPPLY NOT INTERRUPTED
OLAM FLOUR MILLS		3	2.3	10:00	0.2	17:00	24	29.9	SUPPLY NOT INTERRUPTED
LORDSMITH		3	0.5	01:00	0.3	02:00	24	9.9	

1.8 HYDROLOGICAL DATA: WEDNESDAY 28/11/2018

	KAINJI	JEBBA	SHIRORO
HEAD WATER ELEVATION (METERS)	141.58	102.24	380.19
TAIL WATER ELEVATION (METERS)	104.5	74.8	270.8
GROSS OPERATING HEAD (METERS)	<b>37.08</b>	<b>27.44</b>	<b>109.39</b>
AVERAGE TURBINE DISCHARGE (M3/SEC)	1251.00	1771.00	380.00
AVERAGE SPILLAGE (M3/SEC)	294.00	0.00	0.00
AVERAGE TOTAL STATION DISCHARGE (M3/SEC)	<b>1545.00</b>	<b>1771.00</b>	<b>380.00</b>
COMPUTED INFLOW (M3/SEC)	1413.00	1597.00	136.00
STORAGE DIFFERENTIAL	<b>-132.00</b>	<b>-174</b>	<b>-244</b>
MAXIMUM LEVEL FOR SPILLAGE COMMENCEMENT	141.73	103	382.50
MINIMUM LEVEL BELOW WHICH NO GENERATION	130	99	355.00

1.9 MAXIMUM/ALLOCATED LOAD/MINIMUM LOADS FOR ABUJA AND LAGOS AS AT TUESDAY 27/11/2018

	MAXIMUM LOAD (MW)	TIME (HRS)	ALLOCATED LOAD (MW)	MINIMUM LOAD (MW)	TIME (HRS)
ABUJA	504.6	11:00	503.07	339.3	04:00
EKO	442.4	01:00	552.5	187.4	12:00
IKEJA	564.4	13:00	722.04	396.7	24:00

2.0 GAS POSITION: WEDNESDAY 28/11/2018

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	479	1100		800	300
DELTA (GAS)	458	915		545	370
OMOTOSHO GAS	133.2	336.8		152	184.8
OMOTOSHO NIPP	103.9	500		120	380
OLORUNSOGO (GAS)	167	336		190	146
OLORUNSOGO NIPP	0	750		0	750
SAPELE NIPP	0	500		0	500
SAPELE STEAM	50	720		60	660
AFAM IV-V	0	300		0	300
AFAM VI	0	650		0	650
GEREGU GAS	337	435		435	0
GEREGU NIPP	127	435		145	290
OKPAI (GAS/STEAM)	284	480		370	110
ALAOJI NIPP	0	504		0	504
IHOVBOR NIPP	90.6	337.5		115	222.5
IBOM	92.7	198		115	83
ODUKPANI NIPP	0	625		0	625
<b>TOTAL</b>	<b>2322.4</b>	<b>9122.30</b>		<b>3047</b>	<b>6075.3</b>

1 MMSCF IS EQUIVALENT TO 3.75MW

3.0 SPINNING RESERVE FOR : TUESDAY 27/11/2018

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

3.1 SYSTEM SPINNING RESERVE AS AT 0600HRS OF WEDNESDAY 28/11/2018 = 0MW, FREQUENCY 50.23Hz.

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	
<b>TOTAL (MW)</b>			<b>295</b>	<b>0</b>	<b>0</b>

4.0 UNAVAILABLE GENERATION CAPABILITY

The unavailable generation capability for Wednesday 28/11/2018 as at 0600Hrs was = 2873.3MW.

S/N	STATION	ACTUAL GENERATION CAPABILITY (MW)	GENERATION AT 0600HRS (MW)	UNAVAILABLE GENERATION CAPABILITY (MW)	SUB-TOTAL
<b>4.1 DUE TO GAS CONSTRAINTS:</b>					
1	Afam IV GT17 & 18	120	0	120	2491.3
2	Delta GT15, 16, 19 & 20	425	338	87	
3	Geregu NIPP GT23	145	0	145	
4	Alaoji NIPP GT2	120	0	120	
5	Omotosho GT1 - 8	304	133.2	170.8	
6	Olorunsogo GT1 - 8	304	167	137	
7	Afam VI GT12, 13 & ST10	490	0	490	
8	Olorunsogo NIPP GT1 & 2	240	0	240	
9	Trans-Amadi GT1, 2 & 4	70	42	28	
10	Egbin ST2, 4, 5 & 6	800	479	321	
11	Rivers GT1	160	0	160	
12	Gbarain NIPP GT2	112.5	0	112.5	
13	Omotosho NIPP GT1 - 3	360	0	360	
IT IS ENVISAGED WITH IMPROVED PLANT AVAILABILITY AND RELIEF FROM EXISTING POWER SYSTEM NETWORK RELATED CONSTRAINTS, ADDITIONAL 1620.06MMSCF OF GAS (EQUIVALENT TO 6075.3MW) WILL BE REQUIRED WHEN ALL THERMAL UNITS ARE ON BAR.					
<b>4.2 DUE TO LINE CONSTRAINTS</b>					
1	Ihovbor GT2 & 4	225	0	225	225
			0	0	
			0	0	
			0	0	
<b>4.3 DUE TO LOW LOAD DEMAND BY THE DISCOS</b>					
1	Azura GT11 & 12	307	150	157	157
			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	
<b>4.1 DUE TO WATER MANAGEMENT:</b>					
			0	0	0
			0	0	
<b>Grand Total</b>					<b>2873.3</b>

**5.0 OUTAGES:**

**5 (A) FORCED OUTAGES (GENERATION):** Nil.

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

- 19:52 – 20:24Hrs, Mando/Zaria 132kV line CB tripped at Mando T/S on Optimho Relay Zone 2 delay, A, B, N, Distance = 82.3km, Back up trip relay 86TE. LHR = 112MW.

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

- 13:36 – 15:20Hrs, Ejigbo T/S 100MVA 132/33kV transformer T2 was taken out to enable contractor erect vertical support for the fire extinguisher system. No load loss as 100MVA 132/33kV transformer T1 was in service.

**5 (D) URGENT OUTAGES:-**

- 03:50 through 24:00Hrs, Afam IV GT17 was shut down due to low gas pressure. Load loss = 30MW.
- 07:45 through 24:00Hrs, Sapele NIPP GT1 was shut down due to low gas pressure. Load loss = 87.4MW.
- 08:30 through 24:00Hrs, Sapele NIPP GT3 was shut down due to low gas pressure. Load loss = 82.5MW.
- 09:13 through 24:00Hrs, Ihovbor NIPP GT4 was shut down due to low gas pressure. Load loss = 103.8MW.
- 10:27 – 10:45Hrs, Gombe T/S 150MVA 330/132/33kV transformer T2A was taken out to top up low oil in the Red Phase pole of the secondary CB. Load loss = 45MW.
- 11:13 – 11:38Hrs, Apo T/S 100MVA 132/33kV transformer TR4 was taken out to check and rectify the cause of the primary CB not responding to remote signal. Load loss = 12.1MW.
- 14:32 - 17:38Hrs, Jebba 2G1 was shut down to replace shortened carbon brushes in the slip ring compartment. Load loss = 90MW.
- 16:30 – 17:12Hrs, Ajaokuta II 132kV line was taken out to build up low SF6 gas on the 60MVA 132/33kV transformer T2 primary CB to normal. Load loss = 5MW.
- 14:09 – 18:13Hrs, Osogbo T/S 60MVA 132/33kV transformer 4T4 was taken out as additional apparatus for safe working space for HIAB to convey and install Osogbo/Ikirun 33kV CB. Load loss = 9.3MW.

**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 CONTRACTED 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).

**10 COMMUNICATION MEDIA**

STATIONS	NO INSTALLED	NO. WORKING
PLC/PAX	37	26
OPTIC FIBRE	13	10
PLS	14	4

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

The under mentioned lines were opened for frequency control.

- 18:34 – 18:45Hrs & 21:19 – 22:24Hrs, Akangba/Ojo 132kV line 2. Load loss = 22MW & 21MW respectively. Frequency was 49.84Hz & 49.84Hz respectively.
- 18:34 – 18:40Hrs, Osogbo/Ilesha/Ife 132kV line. Load loss = 46MW. Frequency was 49.87Hz.
- 20:18 – 20:29Hrs, Osogbo/Akure/Ado 132kV line. Load loss = 59MW. Frequency was 49.85Hz.
- 21:20 – 21:22Hrs, Ikeja West/Alimosho 132kV lines 1 & 2. Load loss = 90MW. Frequency was 49.86Hz.

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

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

**5 (H) 330KV LINES THAT ARE OUT ON BREAKER PROBLEM:-** cct A1K.

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

**5 (J) 330KV LINES THAT ARE OUT ON LINE FAULT:-** ccts D3T, J2H, K3U & K4U

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

**6 WEATHER REPORT:-** Rainfall reported at Akangba & Port Harcourt.

**7 INTERNATIONAL LINES:-**

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

Maximum load - 316MW at 19:00Hrs.

Minimum load - 230MW at 16:00Hrs.

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

Maximum load - 99MW at 22:00Hrs.

Minimum load - 65MW at 07:00Hrs.

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

Maximum load - 31.6MW at 20:00Hrs.

Minimum load - 16.2MW at 11:00Hrs.

**8 MISCELLANEOUS:-**

- 07:58Hrs, Trans-Amadi GT2 was shut down and its load of 20MW was transferred to GT4.
- 07:59Hrs, Trans-Amadi GT4 was tied to swap with GT2.
- 13:10Hrs, Jebba T/S 750MX 330kV reactor 2R1 was declared available.
- 14:16Hrs, Ayede/Shagamu/Ikorodu 132kV line was restored after the line was reconstructed from towers #1 – 48.
- 20:43Hrs, Olorunsogo Gas GT1 was tied. The unit was out due to gas constraint.
- 17:25Hrs, Agbara T/S 45MVA 132/33kV transformer T1 was restored. The transformer was out on oil filtration.

\*\*\*\*\* 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.

11 **SCADA RTU STATUS**

STATIONS	NO. INSTALLED	NO OF RTU DISTURBED	NO OF RTU WORKING
POWER STATIONS	8	5	3
330kV	19	6	13
132kV	102	82	20

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 reactor installed.

12 (B) **UNAVAILABLE BREAKERS/ISOLATORS**

**LAGOS REGION:**

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

- New Haven/Yandev 132kV line CB - Faulty Red phase CB pole. Protection is transferred to the bus coupler CB.
- 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.
- 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.
- Oturkpo/Yandev 132kV By pass isolator - Canibalized to repair the line isolator.
- New Haven/Nkalagu 132kV line 2 ground switch - Canibalized Red phase female contact and canibalized Yellow phase male contact.

**SHIRORO REGION**

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

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.

12(E) **UNAVAILABLE SKYWIRES**

**LAGOS REGION**

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

**SHIRORO REGION**

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

**ABUJA REGION**

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

12 (F) **UNAVAILABLE SYNCHROSCOPES :**

- 1 Ikeja West, Onitsha, Egbin, Ugwuaji, Jos, Gwagwalada & Alaoji T/S.

**FOR MORE INFORMATION: NCC Telephone Lines -**

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





