

# TRANSMISSION COMPANY OF NIGERIA

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

## DAILY OPERATIONAL REPORT OF TUESDAY 13/03/2018

### FOR: EVENTS OF MONDAY 12/03/2018

#### 1.0 EXECUTIVE OPERATIONS SUMMARY:

##### 1.1 GENERATION PROFILE: NATIONAL STATISTICS

DETAILS	MW	HRS	DATE
PEAK DEMAND FORECAST (CONNECTED + SUPPRESSED LOAD)	22,230	21:30	12/03/2018
GENERATION CAPABILITY	7240.6	-do-	-do-
UNITS ON BAR CAPABILITY AT PEAK	5293.1	-do-	-do-
PEAK GENERATION	4779.9	-do-	-do-
LOWEST GENERATION	3947.8	08:00	12/03/2018
8-HOURLY DURATION PEAK	4549	0100-0800	-do-
	4303.8	0900-1600	-do-
	4779.9	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	10:00
LOWEST VOLTAGE FOR THE DAY	296	Sakete T/S	10:00

##### 1.3 FREQUENCY RANGE

DETAILS	HZ	HRS
NOMINAL FREQUENCY	50	
STATUTORY LIMITS	49.75-50.25	
HIGHEST FREQUENCY	50.610	07:26
LOWEST FREQUENCY	49.410	22:19

##### 1.4 SYSTEM COLLAPSE UP DATE

Date of last total collapse: 1st Feb, 2018		No. of days since last total collapse: 38												
Date of last partial collapse: 17 <sup>th</sup> Oct, 2017		No. of days since last partial collapse: 139												
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	--	8
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	--	0	2	0	3	1	0	0	1	0	0	9
	Partial	--	0	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	3	--	--	9
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	410	305
2 JEBBA	HYDRO	364	237
3 SHIRORO	HYDRO	0	0
4 EGBIN ST2 - 5	STEAM	460	440
5 SAPELE	STEAM	53	65
6 DELTA	GAS	541	487
7 AFAM IV/V	GAS	62	63
8 GEREGU GAS	GAS	246	153
9 OMOTOSHO GAS	GAS	140.8	142
10 OLORUNSOGO GAS	GAS	169.1	177.4
11 GEREGU NIPP	GAS	139	111
12 SAPELE NIPP	GAS	219.8	150.8
13 ALAOJI NIPP	GAS	0	0
14 OLORUNSOGO NIPP	GAS	0	0
15 OMOTOSHO NIPP	GAS	111.7	90.2
16 ODUKPANI NIPP	GAS	252.9	193.3
17 IHOVBOR NIPP	GAS	106.2	97.1
18 OKPAI	GAS	333	221
19 AFAM VI	GAS	570	432
20 IBOM POWER	GAS	94.1	81
21 ASCO	GAS	0	0
22 A.E.S	GAS	0	0
23 OMOKU	GAS	76.5	73.7
24 TRANS AMADI	GAS	0	41.2
25 RIVERS IPP	(GAS)	105	90
26 AZURA - EDO IPP	(GAS)	0	0
27 EGBIN ST16	(GAS)	146	137
28 PARAS ENERGY	(GAS)	72.6	69.4
29 GBARAIN NIPP	GAS	107.2	90.7
<b>TOTAL</b>		<b>4779.9</b>	<b>3947.8</b>

##### 1.6 ENERGY GENERATED/ENERGY SENT OUT.

STATION	TURBINE	ENERGY GENERATED		ENERGY SENT OUT	
		MWH	MWH/H	MWH	MWH/H
1 KAINJI	HYDRO	8503.00	354.29	8485.00	353.54
2 JEBBA	HYDRO	7031.00	292.96	7002.96	291.79
3 SHIRORO	HYDRO	0.00	0.00	0.00	0.00
4 EGBIN ST2 - 5	STEAM	11219.00	467.42	10628.70	442.86
5 SAPELE	STEAM	1493.40	62.23	1493.40	62.23
6 DELTA	GAS	11325.80	471.91	11153.60	464.73
7 AFAM IV-V	GAS	1471.00	61.29	1466.57	61.11
8 GEREGU GAS	GAS	5740.20	239.18	5712.92	238.04
9 OMOTOSHO GAS	GAS	3394.00	141.42	3366.80	140.28
10 OLORUNSOGO GAS	GAS	4124.12	171.84	4092.72	170.53
11 GEREGU NIPP	GAS	3182.50	132.60	3166.20	131.93
12 SAPELE NIPP	GAS	4086.63	170.28	4061.09	169.21
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	2399.50	99.98	2390.50	99.19
16 ODUKPANI NIPP	GAS	5194.70	216.45	5155.67	214.82
17 IHOVBOR NIPP	GAS	2370.00	98.75	2351.44	97.98
18 OKPAI	GAS	6432.00	269.00	6279.00	261.63
19 AFAM VI	GAS	11809.43	492.06	11552.01	481.33
20 IBOM	GAS	2078.29	86.60	2069.00	86.21
21 ASCO	GAS	0.00	0.00	0.00	0.00
22 AZURA - EDO IPP	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	1772.40	73.85	1729.46	72.06
25 TRANS AMADI	GAS	862.60	35.94	840.30	35.01
26 RIVERS IPP	GAS	2340.80	97.53	2335.29	97.30
27 EGBIN ST16	STEAM	3492.00	145.50	3301.20	137.55
28 PARAS ENERGY	GAS	1688.20	70.34	1682.40	70.10
29 GBARAIN NIPP	GAS	2277.80	94.91	2261.30	94.22
<b>TOTAL</b>		<b>104,287.37</b>	<b>4,345.31</b>	<b>102,567.53</b>	<b>4,273.65</b>

1.7A GENERATION POSITION AT 06:00HRS OF TUESDAY 13/03/2018

	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	397	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. 1G11 - Generation reduced due to low head water elevation. 1G12 - On frequency response
	JEBBA HYDRO	6	2G1, 2, 4 & 5 4	380	380	2G1, 2, 4 & 5 4	380	345	2G1, 2, 4 & 5 - On frequency response. 2G3 - Out on maintenance. 2G6 - Out due to burnt generator winding and AVR.
	SHIRORO HYDRO	4	0 0	0	0	0 0	0	0	The station is out due to turbine pit flooding.
	EGBIN STEAM	5	ST1, 2, 4 & 5 4	880	600	ST1, 2 & 4 3	450	445	ST3 - Tripped on high vibration. GT5 - Out due to gas constraint.
	SAPELE (STEAM)	1	ST2 1	120	55	ST2 1	55	55	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, 16 18 - 20 11	615	577	GT3 & 5 - Out due to generator winding fault. GT4 - Shut down on high vibration problem. GT6 & 14 - Out on major overhaul. GT15,16 & 20 - On frequency response. GT17 - Out on excitation trouble.
	AFAM IV & V (GAS)	8	GT18 1	75	62	GT18 1	62	62	GT1 - 12 - De-commissioned and scrapped. GT13 -16 - Out on blade failure. GT17 - Out on fault. GT19 & 20 - Awaiting major overhaul.
	GEREGU GAS	3	GT11 - 13 3	435	435	GT12 & 13 2	290	220	GT11 - Out due to gas constraint. GT12 & 13 - Generation reduced due to gas constraint.
	OMOTOSHO GAS	8	GT1 - 8 8	336	304	GT2, 3, 5, 6 & 8 5	190	178.8	GT1,4 & 7 - Out due to gas constraint.
	OLORUNSOGO GAS	8	GT1 - 8 8	336	304	GT2, 4 - 6 & 8 5	190	159.2	GT1,3 & 7 - Out due to gas constraint.
NIPP	GEREGU NIPP	3	GT22 & 23 2	290	290	GT23 1	145	134	GT21 - Out on maintenance. GT22 - Out due to gas constraint. GT23 - On frequency response.
	SAPELE NIPP	4	GT1 & 3 2	230	230	GT1 & 3 2	225	202.5	GT2 - Out due to high air inlet differential pressure. GT1 & 3 - On frequency response. 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	375	360	0 0	0	0	GT1 - 3 - Out due to gas constraint. GT4 - Out on 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	109.8	GT1 & 4 - Out due to gas constraint. GT2 - On frequency response. GT3 - Shut down due to oil leakage on the unit.
	ODUKPANI NIPP	5	GT3 & 4 2	240	230	GT3 & 4 2	230	168	GT1 - Shut down due to fire alarm that refused to cancel. GT2 - Tripped on high vibration. GT3 - Generation reduced due to fuel/gas system problem. GT4 - On frequency response. GT5 - Out on gas filter prolem.
	IHOVBOR NIPP	4	GT1 - 3 3	345	330	GT3 1	110	105.7	GT1 & 2 - Out due to gas constraint. GT3 - On frequency response. GT4 - Out on maintenance.
	GBARAIN NIPP GAS	1	GT2 1	112.5	112.5	GT2 1	112.5	98.2	GT2 - On frequency response.
IPP	OKPAI GAS/STEAM	3	GT11, 12 & ST18 3	375	375	GT11, 12 & ST18 3	375	316	GT11 & 12 - On frequency response. ST18 - Generation reduced due to broken spray water valve of boiler #12.
	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	GT11 -13 & ST10 4	650	550	GT13 - On frequency response. ST10 - Generation reduced on Afam management decision.
	IBOM POWER GAS	3	GT3 1	115	115	GT3 1	115	86.4	GT1 & 2 - Out on fault. GT3 - Generation reduced due to line constraint.
	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	GT1, 2 & 5 3	75	60	GT1, 2 & 5 3	61.2	61.2	GT3 - Out due to gas leakage. GT4 - Awaiting major overhaul. GT6 - Out on fault.
	TRANS-AMADI	4	GT1 & 2 2	50	40	0 0	0	0	GT1 & 2 - Shut down due to fire incident close to the gas pipe line behind the station. GT3 - Out on fault. GT4 - Tripped on stator differential.
	RIVERS	1	GT1 1	180	160	GT1 1	112	105	Generation reduced due to gas constraint.
	<b>SUB TOTAL</b>	<b>120</b>	<b>77</b>	<b>7424.5</b>	<b>6887.5</b>	<b>56</b>	<b>4927.7</b>	<b>4375.8</b>	Frequency = 50.18Hz.

1.7B GENERATION POSITION AT 06:00HRS OF TUESDAY 13/03/2018 FOR UNITS ON BILATERAL AGREEMENT

FEEDERS NAME	MAX. LOAD (MW)	ST6		150	145	Available unit on bar.
		1	220			
EGBIN	1	1	220	150	145	Available unit on bar.
PARAS ENERGY	8	GT2 - 9		71	71	Available units on bar.
		8	71			
<b>SUB TOTAL</b>	<b>9</b>	<b>9</b>	<b>291</b>	<b>221</b>	<b>216</b>	
<b>GRAND TOTAL</b>	<b>129</b>	<b>86</b>	<b>7715.5</b>	<b>7108.5</b>	<b>65</b>	<b>5,148.70</b> <b>4,591.80</b> Frequency = 50.18Hz.

1.7C BILATERAL AGREEMENT UNITS DISPATCH - MONDAY 12/03/2018

FEEDERS NAME	MAX. LOAD (MW)	TIME (HRS)		REMARK	
Egbin ST6 120MW GENERATION TO IKEJA ELECTRICITY DISTRIBUTION COMPANY					
OGBA	U-STEEL	1	0700HRS	22	PLANNED OUTAGE
	PTCEXPRESS	13	1200HRS	24	NIL
	SANKYO	OUT	0100HRS	NIL	TRIPPED ON O/C & E/F
	FEEDER 8	17	0900HRS	24	NIL
IKORODU	PULK IT	3	0100HRS	24	NIL
	INDUSTRIAL	22	1800HRS	24	NIL
	SPINTEX	3	0700HRS	24	NIL
	DANGOTE	1	0100HRS	24	NIL
	LAND CRAFT	42	0400HRS	24	NIL
ALAUJA	TR4 15MVA	8.7	1400HRS	24	NIL
	TR5 -15MVA	6.4	0900HRS	24	NIL
	ALAUJA	17	1600HRS	23	PLANNED OUTAGE ON TRANSFORMER
MILAND	PTC (MARYLAND)	18	1100HRS	24	NIL
	<b>TOTAL LOAD</b>	<b>152.1</b>			

BILATERAL AGREEMENT LOAD DISPATCH  
60MW PARAS ENERGY GENERATION TO CEB

FEEDER	MAX	TIME	HOURS IN SERVICE	REMARK
Ikeja West/Sakete 330kV line	72.6	24:00	24	NIL

**1.8 HYDROLOGICAL DATA: TUESDAY 13/03/2018**

	KAINJI	JEBBA	SHIRORO
HEAD WATER ELEVATION (METERS)	139.14	101.37	370.89
TAIL WATER ELEVATION (METERS)	103.34	74.10	268.60
GROSS OPERATING HEAD (METERS)	<b>35.80</b>	<b>27.27</b>	<b>102.29</b>
AVERAGE TURBINE DISCHARGE (M3/SEC)	1106.00	1219.00	0.00
AVERAGE SPILLAGE (M3/SEC)	0.00	0.00	0.00
AVERAGE TOTAL STATION DISCHARGE (M3/SEC)	<b>1106</b>	<b>1219</b>	<b>0</b>
COMPUTED INFLOW (M3/SEC)	201.00	1184.00	0.00
STORAGE DIFFERENTIAL	<b>-905.00</b>	<b>-35</b>	<b>0</b>
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 12/03/2018**

DISCO	MAXIMUM LOAD(MW)	TIME(HRS)	ALLOCATED LOAD (MW)	MINIMUM LOAD(MW)	TIME(HRS)
ABUJA	526.60	02:00	469.47	366.3	18:00
EKO	480.7	19:00	549.06	325.8	12:00
IKEJA	638.8	21:00	612.35	483.9	12:00

**2.0 GAS POSITION: TUESDAY 13/03/2018**

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	422	1100		600	500
DELTA (GAS)	591	915		635	280
OMOTOSHO GAS	143.9	336.8		190	146.8
OMOTOSHO NIPP	98.3	500		120	380
OLORUNSOGO (GAS)	137.1	336		190	146
OLORUNSOGO NIPP	0	750		0	750
SAPELE NIPP	168.1	500		230	270
SAPELE STEAM	48	720		55	665
AFAM IV-V	63	300		62	238
AFAM VI	566	650		650	0
GEREGU GAS	103	435		290	145
GEREGU NIPP	145	435		145	290
OKPAL (GAS/STEAM)	214	480		375	105
ALAOJI NIPP	0	504		0	504
IHOVBOR NIPP	95.5	450		110	340
IBOM	80.1	198		115	83
ODUKPANI NIPP	231.6	625		230	395
<b>TOTAL</b>	<b>3104.6</b>	<b>9236.47</b>		<b>3997</b>	<b>5237.8</b>

1 MMSCF IS EQUIVALENT TO 3.75MW

**3.0 SPINNING RESERVE FOR : MONDAY 12/03/2018**

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

**3.1 SYSTEM SPINNING RESERVE AS AT 0600HRS OF TUESDAY 13/03/2018 = 0MW. FREQUENCY 50.18Hz.**

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

**4.0 UNUTILIZED GENERATION CAPABILITY**

The unutilized generation capability for Tuesday 13/03/2018 as at 0600Hrs was = 2006.6MW.

S/NO	STATION	ACTUAL GENERATION CAPABILITY (MW)	GENERATION AT 0600HRS (MW)	UNUTILIZED GENERATION CAPABILITY (MW)	SUB-TOTAL
<b>4.1 DUE TO GAS CONSTRAINTS:</b>					
1	Omotosho NIPP GT1 & 4	240	0	240	1978
2	Ihovbor GT1 & 2	225	0	225	
3	Alaoji NIPP GT1, 2 & 3	360	0	360	
4	Olorunsogo Gas GT1, 3 & 7	114	0	114	
5	Olorunsogo NIPP GT1 - 3	360	0	360	
6	Omotosho Gas GT1, 4 & 7	114	0	114	
7	Egbin ST5	150	0	150	
8	Geregu Gas GT11- 13	435	220	215	
9	Rivers GT1	160	105	55	
10	Geregu NIPP GT22	145	0	145	
				0	
				0	
				0	
				0	
IT IS ENVISAGED WITH IMPROVED PLANT AVAILABILITY AND RELIEF FROM EXISTING POWER SYSTEM NETWORK RELATED CONSTRAINTS, ADDITIONAL 1396.75MMSCF OF GAS (EQUIVALENT TO 5237.8MW WILL BE REQUIRED WHEN ALL THERMAL UNITS ARE ON BAR.					
<b>4.2 DUE TO LINE CONSTRAINTS</b>					
1	Ibom Power GT3	115	86.4	28.6	28.6
		0	0	0	
				0	
<b>4.3 DUE TO FREQUENCY MANAGEMENT OCCASIONED BY DISCOS' LOAD DEMAND</b>					
				0	0
				0	
				0	
				0	
				0	
				0	
				0	
				0	
				0	
				0	
<b>4.4 DUE TO WATER MANAGEMENT</b>					
				0	0
<b>Grand Total</b>					<b>2006.6</b>

5.0 **OUTAGES:**

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

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

- 1 00:15 – 01:22Hrs, Ilupeju T/S 2x15MVA 132/11kV transformers T1 & T2 secondary CBs tripped on SBEF due to tripping of Cooler 11kV feeder. LHR = 2.7MW each.
- 2 11:55 – 11:45Hrs, Ilupeju T/S 2x15MVA 132/11kV transformers T1 & T2 secondary CBs tripped on SBEF due to restoration of L & K 11kV feeder. LHR = 3.1MW each.
- 3 12:31 - 19:00Hrs, Delta/Benin 330kV line (cct G3B) CBs tripped at both ends on the following relay indications:  
**At Delta T/S:** Siprotec Relay: Distance protection trip, O/C Red Phase and E/F, zone 1, distance PU, L1E, PU time = 80ms, trip time = 10ms, distance = 51.3km.  
**At Benin T/S:** ABB Relay: trip-trip, trip-TRL1, AR in progress, DEF blocked, PHS – STF1W1, PE, ZMI – trip, EFC-CS, ZM2 & 3 – start, ZCIP – CSL1, TOC-STL1, fault loop – L1-N, distance = 63.7km.  
 Auxiliary Relay: MVAJ – K86A. No load loss as ccts S4G, S4B & S3B were in service.
- 4 12:44 – 13:31Hrs, Akangba/Ojo 132kV line 1 CB tripped at Akangba T/S on O/C stage 2 and distance protection ABC, distance = 11km. LHR = 45MW.

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

- 1 15:24 through 24:00Hrs, Sapele/Benin 330kV line 3 (cct S5B) was released out for maintenance crew to mend almost detached Red Phase conductor on tower # 12. No load loss as the line was out on fault.

5(D) **URGENT OUTAGES:**

- 1 09:46 – 12:40Hrs, Mando T/S 60MVA 132/33kV transformer T2 was taken out for maintenance crew to seal point of oil leakage on the transformer. No load loss as the transformer was on soak.
- 2 09:51 – 11:34Hrs, Egbin/Ikeja West 330kV line (cct N6W) CB was taken out for maintenance crew to build up low gas pressure in the line CB to normal at Ikeja West T/S. No load loss as ccts B5M, N7K, N8K & K8W were in service.
- 3 11:43 – 13:08Hrs, Port Harcourt town T/S 45MVA 132/33kV transformer T2B was taken out for maintenance crew to treat hot spot on the Blue Phase secondary bushing terminal. No load loss as the transformer was on soak.
- 4 13:34 – 14:55Hrs, Port Harcourt town T/S 30MVA 132/33kV transformer T2A was taken out for maintenance crew to treat hot spot on the secondary Red Phase CT terminal. LHR = 13.4MW.
- 5 17:03 through 24:00Hrs, Delta GT4 was shut down due to high vibration. LHR = 20MW.
- 6 20:25 through 24:00Hrs, Trans-Amadi GTs 1 & 2 were shut down on emergency due to fire incident close to the gas pipe line behind the station. LHR = 21.7 & 22.2MW respectively.

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 ODUK PANI, AZURA, SHELL AFAM VI AGIP OKPAI, OLORUNSOGO POWER PLC AND OMOTOSHO POWER PLC.
- GROUP 2B - OTHER GENERATOR 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).
- GROUP 7 - ALL OTHER PLANTS.

11 (A) **COMMUNICATION MEDIA**

STATIONS	NO INSTALLED	NO. WORKING

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

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

5 (G) **330KV LINES THAT ARE OUT ON VOLTAGE CONTROL:-** ccts A1S & K3U.

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 S5B & U1A.

5 (K) **330KV LINES THAT ARE ON SOAK:-** ccts N4J, A2K & F1K.

6 **WEATHER REPORT:-** No rainfall reported.

7 **INTERNATIONAL LINES:-**

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

Maximum load - 280MW at 22:00 Hrs.  
 Minimum load - 216MW at 08:00Hrs.

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

Maximum load - 105MW at 14:00Hrs.  
 Minimum load - 67MW at 19:00Hrs.

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

Maximum load - 39.0MW at 21:00Hrs.  
 Minimum load - 24.0MW at 05:00Hrs.

8 **MISCELLANEOUS:-**

- 1 01:34 – 05:27Hrs, Jebba 2G2 was shut down on frequency management. Load loss = 80MW.
- 2 02:10Hrs, Okpai P/S generation reduced by 50MW on frequency management.
- 3 03:40 - 12:55Hrs, Afam VI GT13 was shut down on frequency management. Load loss = 101MW.
- 4 07:20Hrs, Egbin P/S generation reduced by 55MW on frequency management.
- 5 07:24 - 18:12Hrs, Shiroro T/S placed Hold Off Tag (OF12) on cct J7R for the continuation of Optic Fibre cable installation.
- 6 07:26 – 13:54Hrs, Jebba 2G2 was shut down on frequency management. Load loss = 72MW.
- 7 08:07 - 18:44Hrs, Delta GT16 was shut down on frequency management. Load loss = 65MW.
- 8 08:56Hrs, Benin T/S placed Hold Off Tag (OF12) on ccts B6N & B5M for continuation of corroded insulators replacement along the line.
- 9 09:59 – 11:36Hrs, Omotosho/Ikeja West 330kV line (cct M5W) was taken out Omotosho T/S due to low gas pressure on cct N6W line CB.  
**Note:** cct M5W line CB is out on fault at Ikeja West T/S.
- 10 10:47Hrs, Jebba T/S 330kV 75MX Reactor 2R2 was switched off on voltage control. Voltage profile: 321/322kV.
- 11 10:49Hrs, Jebba T/S 330kV 75MX Reactor 2R1 was switched off on voltage control. Voltage profile: 322/324kV.
- 12 10:54Hrs, Osogbo T/S 330kV 75MX Reactor R1 was switched off on voltage control. Voltage profile: 320/323kV.

PLC/PAX	37	33
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	6	2
330kV	19	7	12
132kV	102	76	26

**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.

- 13 10:56Hrs, Benin T/S 330kV 75MX Reactor 6R2 was switched off on voltage control. Voltage profile: 330/332kV.
- 14 13:14Hrs, Odukpai NIPP GT2 was tied to swap with GT5. The unit was out due to motor starting problem.
- 15 13:30Hrs, Odukpai NIPP GT5 was shut down. No load loss as load was transferred to GT2.
- 16 16:32 – 18:55Hrs, Jebba 2G4 was shut down on frequency management. Load loss = 85MW.
- 17 16:33Hrs, Omotosho Gas GT3 was tied to swap with GT1.
- 18 17:10Hrs, Jebba T/S 330kV 75MX shunt Reactor 2R1 was put in service for voltage control. Voltage profile: 344/342kV.
- 19 17:11Hrs, Omotosho GT1 was shut down. No load loss as 33MW was transferred to GT3.
- 20 17:11Hrs, Jebba T/S 330kV 75MX shunt Reactor 2R2 was put in service for voltage control. Voltage profile: 342/340kV.
- 21 **LACK OF REACTOR AND UNRELIABLE STATION SERVICE SUPPLY AT IKOT-EKPENE T/S ARE HINDERING SMOOTH OPERATION.**
- 22 **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.

**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.

**BENIN 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**

- 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/Iitre 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 (G) 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





