

# TRANSMISSION COMPANY OF NIGERIA

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

**DAILY OPERATIONAL REPORT OF THURSDAY 04/10/2018**

**FOR: EVENTS OF WEDNESDAY 03/10/2018**

**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	03/10/2018
GENERATION CAPABILITY	7630	-do-	-do-
UNITS ON BAR CAPABILITY AT PEAK	5028.2	-do-	-do-
PEAK GENERATION	4705.9	-do-	-do-
LOWEST GENERATION	3212.4	04:00	03/10/2018
8-HOURLY DURATION PEAK	3687.49	0100-0800	-do-
	3679.8	0900-1600	-do-
	4705.9	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	358	Omotosho T/S	16:00
LOWEST VOLTAGE FOR THE DAY	296	Jos T/S	20:00

**1.3 FREQUENCY RANGE**

DETAILS	HZ	HRS
NOMINAL FREQUENCY	50	
STATUTORY LIMITS	49.75-50.25	
HIGHEST FREQUENCY	50.94	07:26
LOWEST FREQUENCY	49.84	21:18

**1.4 SYSTEM COLLAPSE UP DATE**

Date of last total collapse: 20th Sept, 2018		No. of days since last total collapse: 14											
Date of last partial collapse: 12th April, 2018		No. of days since last partial collapse: 173											
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
2011	Total	--	--	--	--	4	3	1	1	2	1	--	13
	Partial	--	1	1	--	--	--	1	--	1	2	--	6
2012	Total	--		2	1	5	2	1	--	2	2	1	16
	Partial	--		2	3	--	--	--	1	--	1	1	8
2013	Total	--	1	2	2	3	4	1	1	1	4	2	22
	Partial	--		--	--	--	--	--	2				2
2014	Total	2			2	0	3	1	0	0	1	0	9
	Partial			0	0	1	0	0	0	0	2	1	4
2015	Total	1	0	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	2	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	0	1	0	3	3		9
2018	Total	5	1	0	0	0	1	1	0	2			10
	Partial	0	0	0	1	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	370	339
2 JEBBA	HYDRO	437	286
3 SHIRORO	HYDRO	446	416
4 EGBIN ST2 - 5	STEAM	450	333
5 SAPELE	STEAM	48	0
6 DELTA	GAS	291	258
7 AFAM IV-V	GAS	44	0
8 GEREGU GAS	GAS	138	80
9 OMOTOSHO GAS	GAS	137.4	101.6
10 OLORUNSOGO GAS	GAS	139.6	107.9
11 GEREGU NIPP	GAS	0	0
12 SAPELE NIPP	GAS	211.5	69.4
13 ALAOJI NIPP	GAS	78.6	81
14 OLORUNSOGO NIPP	GAS	109.1	76.1
15 OMOTOSHO NIPP	GAS	109.1	70.4
16 ODUKPANI NIPP	GAS	0	0
17 IHOVBOR NIPP	GAS	108.5	75.4
18 OKPAI	GAS	321	177
19 AFAM VI	GAS	257	103
20 IBOM POWER	GAS	102.4	86.9
21 ASCO	GAS	0	0
22 A.E.S	GAS	0	0
23 OMOKU	GAS	57.2	45.1
24 TRANS AMADI	GAS	64.3	51.8
25 RIVERS IPP	(GAS)	150	80
26 AZURA - EDO IPP	(GAS)	458	150
27 EGBIN ST6	(GAS)	110	110
28 PARAS ENERGY	(GAS)	70.2	67.8
29 GBARAIN NIPP	GAS	0	67
<b>TOTAL</b>		<b>4705.9</b>	<b>3212.4</b>

  

1.6 ENERGY GENERATED/ENERGY SENT OUT:					
STATION	TURBINE	ENERGY GENERATED		ENERGY SENT OUT	
		MWH	MWH/H	MWH	MWH/H
1 KAINJI	HYDRO	9141.00	380.88	9125.70	380.24
2 JEBBA	HYDRO	9501.00	395.88	9475.16	394.80
3 SHIRORO	HYDRO	10533.00	438.88	10500.80	437.53
4 EGBIN ST2 - 5	STEAM	8462.00	352.58	7945.60	331.07
5 SAPELE	STEAM	808.60	33.69	755.50	31.48
6 DELTA	GAS	8397.80	349.91	8237.80	343.24
7 AFAM IV-V	GAS	250.00	10.42	248.56	10.36
8 GEREGU GAS	GAS	2580.10	107.50	2560.06	106.67
9 OMOTOSHO GAS	GAS	2749.00	114.54	2726.20	113.59
10 OLORUNSOGO GAS	GAS	2823.40	117.64	2794.72	116.45
11 GEREGU NIPP	GAS	0.00	0.00	0.00	0.00
12 SAPELE NIPP	GAS	2481.90	103.41	2464.00	102.67
13 ALAOJI NIPP	GAS	1722.75	71.78	1717.07	71.54
14 OLORUNSOGO NIPP	GAS	2216.40	92.35	2181.60	90.90
15 OMOTOSHO NIPP	GAS	2119.20	88.30	2093.20	87.22
16 ODUKPANI NIPP	GAS	0.00	0.00	0.00	0.00
17 IHOVBOR NIPP	GAS	1931.55	80.48	1907.89	79.50
18 OKPAI	GAS	4976.00	207.33	4853.30	202.22
19 AFAM VI	GAS	3334.42	138.93	3244.58	135.19
20 IBOM	GAS	1780.72	74.20	1772.00	73.83
21 ASCO	GAS	0.00	0.00	0.00	0.00
22 AZURA - EDO IPP	GAS	5563.60	231.82	5543.70	230.99
23 A.E.S	GAS	0.00	0.00	0.00	0.00
24 OMOKU	GAS	1230.50	51.27	1199.30	49.97
25 TRANS AMADI	GAS	1310.00	54.58	1279.40	53.31
26 RIVERS IPP	GAS	2445.10	101.88	2438.92	101.62
27 EGBIN ST6	STEAM	2585.00	107.71	2436.30	101.51
28 PARAS ENERGY	GAS	1573.40	65.56	1564.60	65.19
29 GBARAIN NIPP	GAS	1247.00	51.96	1234.70	51.45
<b>TOTAL</b>		<b>91,763.44</b>	<b>3,823.48</b>	<b>90,300.66</b>	<b>3,762.53</b>

1.7A GENERATION POSITION AT 06:00HRS THURSDAY 04/10/2018

	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.Hz.	REMARKS
PRIVATISED COMPANIES	KAINJI HYDRO	8	1G5, 6, 11 & 12 4	440	420	1G5, 6, 11 & 12 4	420	374	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	475	450	2G1- 5 5	450	423	2G6 - Out due to burnt generator winding and AVR.
	SHIRORO HYDRO	4	411G2 - 4 3	450	450	411G2 - 4 3	450	450	411G1 - Out due to technical problem.
	EGBIN STEAM	5	ST2, 4 & 5 3	660	448	ST2, 4 & 5 3	448	419	ST1 - Out due to undisclosed fault since 04/09/2018. ST3 - Out on high vibration since 19th June 2017. Generation reduced due to low load demand by the Discos.
	SAPELE (STEAM)	6	ST2 1	120	50	ST2 1	50	50	ST1 - Shut down due to alarm on inlet gas guide control trouble. ST4 & 5 - Awaiting major overhaul. ST6 - Out on gas control valve not following reference point.
	DELTA (GAS)	18	GT9 - 13, 15, 16 & 18 - 20 10	625	610	GT9 - 13, 18 & 19 7	300	296	GT3 & 5 - Out due to generator winding fault. GT4 - Out on loss of excitation. GT6, 8 & 14 - Out on major overhaul. GT7 - Out on fault. GT15, 16 & 20 - Out due to low load demand by the Discos. GT17 - Tripped on bearing vibration more than maximum.
	AFAM IV & V (GAS)	8	GT17 1	75	65	GT17 1	46	46	GT1 - 12 - De-commissioned and scrapped. GT13,14 & 16 - Out on blade failure. GT18 - Out on maintenance. GT19 & 20 - Awaiting major overhaul.
	GEREGU GAS	3	GT11 - 13 3	435	435	GT12 1	145	65	GT11 & 13 - Out due to gas constraint. GT12 - Generation reduced due to low gas pressure.
	OMOTOSHO GAS	8	GT1 - 8 8	336	304	GT1,2, 5 & 7 4	152	139	GT3, 4, 6 & 8 - Out due to low load demand by the Discos.
	OLORUNSOGO GAS	8	GT1 - 8 8	336	304	GT2 & 4 - 6 4	152	142.7	GT1, 3, 7 & 8 - Out due to low load demand by the Discos.
NIPP	GEREGU NIPP	3	GT22 & 23 2	290	290	0 0	0	0	GT21 - Out on maintenance. GT22 & 23 - Out due to gas constraint.
	SAPELE NIPP	4	GT1, 3 & 4 3	337.5	337.5	GT1 1	112.5	93.6	GT2 - Out due to high air inlet differential pressure. GT3 - Out due to low load demand by the Discos. GT4 - Out due to gas constraint.
	ALAOJI NIPP GAS	4	GT1 & 2 2	250	240	GT2 1	120	80.9	GT1 - Out due to low load demand by the Discos. GT3 - Shut down due to lack of spare part. GT4 - Tripped on over voltage lockout relay trip. Generation reduced due to low load demand by the Discos.
	OLORUNSOGO NIPP	6	GT1 - 3 3	375	360	GT1 1	120	103.8	GT2 & 3 - Out due to low load demand by the Discos. 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	GT4 1	120	106.7	GT1 & 2 - Out due to low load demand by the Discos. GT3 - Out due to oil leakage on the unit.
	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	GT4 1	112.5	100.2	GT1 & 2 - Out due to low load demand by the Discos. GT3 - Tripped on high vibration.
	GBARAIN NIPP GAS	1	GT2 1	115	112.5	0 0	0	0	GT2 - Tripped on reverse power due to tripping of Alaoji/Owerri 132kV line.
IPP	OKPAI GAS/STEAM	3	GT11, 12 & ST18 3	370	370	GT11, 12 & ST18 3	370	204	GT11 - Generation reduced due to low load demand by the Discos. ST18 - Generation reduced due to boiler problem.
	AZURA - EDO	3	GT11 - 13 3	461	461	GT12 & 13 2	306	212	GT11 - Out due to low load demand by the Discos. GT12 - Generation reduced due to low load demand by the Discos.
	AFAM VI GAS/STEAM	4	GT11 - 13 & ST10 4	650	640	GT13 1	150	126	GT11 & 12 - Out due to low load demand by the Discos. ST10 - Out due to gas constraint.
	IBOM POWER GAS	3	GT3 1	115	115	GT3 1	115	81.5	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 & 5 3	75	60	GT1, 2 & 5 3	55.7	55.7	GT3 - Tripped on over speed. GT4 - Awaiting major overhaul. GT6 Out on maintenance.
	TRANS-AMADI	4	GT 1, 2 & 4 3	75	62.5	GT1,2 & 4 3	62.5	62.5	GT3 - Out on fault.
	RIVERS	1	GT1 1	160	160	GT1 1	160	105	GT1 - Generation reduced due to low load demand by the Discos.
	SUB TOTAL	140	81	7938	7442	52	4417.2	3736.6	Frequency = 50.22Hz.

1.7B GENERATION POSITION AT 06:00HRS OF THURSDAY 04/10/2018 FOR UNITS ON BILATERAL AGREEMENT

EGBIN	1	ST6		220	113	ST6		113	113	Available unit on bar.
		1	1			1	1			
PARAS ENERGY	8	GT2 - 9		69.4	69.4	GT2 - 9		69.4	69.4	Available units on bar.
		8	8			8	8			
SUB TOTAL	9	9		289.4	182.4	9		182.4	182.4	
GRAND TOTAL	149	90		8227.4	7624.4	61		4,599.60	3,919.00	Frequency = 50.22Hz

1.7C

BILATERAL AGREEMENT UNITS DISPATCH - WEDNESDAY 03/10/2018.  
EGBIN ST6 120MW 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	14	1000HRS		24		NIL
IKORODU	PULK IT	1	0100HRS		24		NIL
	INDUSTRIAL	13	1400HRS		24		NIL
	SPINTEX	15	2100HRS		24		NIL
	DANGOTE	ON	0100HRS		24		NIL
	LAND CRAFT	32	1900HRS		24		NIL
ALAUSA	TR4 15MVA	7.8	1500HRS		24		NIL
	TR5 -15MVA	5.2	1600HRS		24		NIL
	ALAUSA	17	1000HRS		24		NIL
M/LAND	PTC (MARYLAND)	19	1400HRS		21		PRIMARY TRANSFORMER TRIPPED ON O/C ABC.
	<b>TOTAL LOAD</b>	<b>124</b>					

BILATERAL AGREEMENT LOAD DISPATCH 60MW PARAS ENERGY GENERATION TO CEB OF WEDNESDAY 03/10/2018							
FEEDER	MAX LOAD (MW)	TIME (HRS)	MIN LOAD (MW)	TIME (HRS)	HOURS IN SERVICE	TOTAL (MWH)	REMARK
Ikeja West/Sakete 330kV line	69.4	19:00	66.2	07:00	23:00	1567	Due to tripping of Ikorodu/Shagamu 132kV line.

BILATERAL AGREEMENT MAIN STREAM ENERGY KAINJI LOAD DISPATCH TO THE FOLLOWING COMPANIES OF: WEDNESDAY 03/10/2018									
COMPANY NAME	VOLTAGE LEVEL	CONTRACTUAL LOAD (MW)	MAX LOAD (MW)	TIME (HRS)	MIN LOAD (MW)	TIME (HRS)	HOURS IN SERVICE	TOTAL (MWH)	REMARK
INNER GALAXY	132kV line 2	0	ON					<b>ON</b>	SUPPLY NOT INTERRUPTED
KAM STEEL		15.0	0.3					<b>5.2</b>	SUPPLY NOT INTERRUPTED
ASAKA CEMENT		0.0	6.6					<b>80.2</b>	SUPPLY NOT INTERRUPTED
XING 1	33kV feeder	0.0	21.4					<b>380.2</b>	SUPPLY NOT INTERRUPTED
XING 2		0.0	25					<b>523.7</b>	SUPPLY NOT INTERRUPTED
KAM INTEGRATED		15.0	4.5					<b>46.6</b>	SUPPLY NOT INTERRUPTED
OLAM FLOUR MILLS		3.0	2.7					<b>31.2</b>	SUPPLY NOT INTERRUPTED
LORDSMITH		0	0.4					<b>2.6</b>	SUPPLY NOT INTERRUPTED

**1.8 HYDROLOGICAL DATA: THURSDAY 04/10/2018**

	KAINJI	JEBBA	SHIRORO
HEAD WATER ELEVATION (METERS)	140.75	103.11	382.39
TAIL WATER ELEVATION (METERS)	105.2	76.0	271.3
GROSS OPERATING HEAD (METERS)	<b>35.55</b>	<b>27.11</b>	<b>111.09</b>
AVERAGE TURBINE DISCHARGE (M3/SEC)	1179.00	1667.00	448.00
AVERAGE SPILLAGE (M3/SEC)	803.00	1175.00	310.00
AVERAGE TOTAL STATION DISCHARGE (M3/SEC)	<b>1982.00</b>	<b>2842.00</b>	<b>758.00</b>
COMPUTED INFLOW (M3/SEC)	3394.00	2738.00	793.00
STORAGE DIFFERENTIAL	<b>1412.00</b>	<b>-104</b>	<b>35</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 WEDNESDAY 03/10/2018**

	MAXIMUM LOAD (MW)	TIME (HRS)	ALLOCATED LOAD (MW)	MINIMUM LOAD (MW)	TIME (HRS)
ABUJA					
EKO					
IKEJA					

**2.0 GAS POSITION: THURSDAY 04/10/2018**

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	419	1100		448	652
DELTA (GAS)	296	915		315	600
OMOTOSHO GAS	139	336.8		152	184.8
OMOTOSHO NIPP	106.7	500		120	380
OLORUNSOGO (GAS)	142.7	336		152	184
OLORUNSOGO NIPP	103.8	750		120	630
SAPELE NIPP	93.6	500		112.5	387.5
SAPELE STEAM	50	720		51	669
AFAM IV-V	46	300		46	254
AFAM VI	126	650		150	500
GEREGU GAS	65	435		145	290
GEREGU NIPP	0	435		0	435
OKPAI (GAS/STEAM)	204	480		370	110
ALAOJI NIPP	80.9	504		120	384
IHOVBOR NIPP	100.2	450		112.5	337.5
IBOM	81.5	198		115	83
ODUKPANI NIPP	0	625		0	625
<b>TOTAL</b>	<b>2054.4</b>	<b>9234.80</b>		<b>2529</b>	<b>6705.8</b>

1 MMSCF IS EQUIVALENT TO 3.75MW

**3.0 SPINNING RESERVE FOR : WEDNESDAY 03/10/018**

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

**3.1 SYSTEM SPINNING RESERVE AS AT 0600HRS OF THURSDAY 04/10/2018 = 0MW. FREQUENCY Hz.**

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	
				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 Thursday 04/10/2018 as at 0600Hrs was = 3380.6MW.

6	STATION	ACTUAL GENERATION CAPABILITY (MW)	GENERATION AT 0600HRS (MW)	UNAVAILABLE GENERATION CAPABILITY (MW)	SUB-TOTAL
<b>4.1 DUE TO GAS CONSTRAINTS:</b>					
1	Geregu Gas GT11 - 13	435	65	370	1085
2	Afam VI ST10	200	0	200	
3	Geregu NIPP GT22 & 23	290	0	290	
4	Sapele NIPP GT4	112.5	0	112.5	
5	Gbarain NIPP GT2	112.5	0	112.5	
				0	
				0	
				0	
				0	
				0	
				0	
				0	
				0	
				0	
IT IS ENVISAGED WITH IMPROVED PLANT AVAILABILITY AND RELIEF FROM EXISTING POWER SYSTEM NETWORK RELATED CONSTRAINTS, ADDITIONAL 1788.21MMSCF OF GAS (EQUIVALENT TO 6705.8MW) WILL BE REQUIRED WHEN ALL THERMAL UNITS ARE ON BAR.					
<b>4.2 DUE TO LINE CONSTRAINTS</b>					
		0	0		0
		0	0		
		0	0		
<b>4.3 DUE TO LOW LOAD DEMAND BY THE DISCOS</b>					
1	Ihovbor GT1 & 2	225	0	225	2295.6
2	Azura Edo GT11 & 12	301	75	226	
3	Egbin ST2, 4 & 5	448	419	29	
4	Rivers IPP GT1	160	105	55	
5	Delta GT15, 16 & 20	325	0	325	
6	Alaoji NIPP GT1 & 2	240	80.9	159.1	
7	Omotosho NIPP GT1 & 2	240	0	240	
8	Olorunsogo NIPP GT2 & 3	240	0	240	
9	Omotosho Gas GT3, 4, 6 & 8	152	0	152	
10	Olorunsogo Gas GT1, 3, 7 & 8	152	0	152	
12	Afam VI GT11 & 12	300	0	300	
13	Sapele NIPP GT3112.50	42.5	0	42.5	
14	Okpai GT11	150	0	150	
				0	
				0	
				0	
				0	
<b>4.1 DUE TO WATER MANAGEMENT:</b>					
<b>Grand Total</b>					<b>3380.6</b>

**5.0 OUTAGES:**

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

- 12:44Hrs, Paras Energy GTs 2 – 9 tripped due to the tripping of Ikorodu/Shagamu 132kV line. LHR = 68.6MW.  
13:07Hrs - GT2 was tied, 13:09Hrs - GT3 was tied, 13:11Hrs – GT4 was tied, 13:13Hrs – GT5 was tied, 13:16Hrs - GT6 was tied, 13:17Hrs – GT7 was tied, 13:18Hrs – GT1 was tied & 13:20Hrs – GT9 was tied.
- 13:07 - 13:54Hrs, Ihovbor GT1 tripped on exhaust dust pressure switch failure. LHR = 87.2MW.

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

- 06:39 - 06:50Hrs, Ayede/lbadan North/lwo/seyin 132kV line CB tripped at Ayede T/S on distance protection on the following relays operations: Siemens Relay: Distance protection O/C Red, Yellow & Blue Phases. LHR = 70MW.
- 09:58 – 12:06Hrs, Maryland T/S 60MVA 132/33kV transformer T2 primary CB tripped on O/C 3-Phases. Load loss = 34MW.
- 11:25 – 12:20Hrs, Otta/Ogba 132kV line CB tripped at Otta T/S on Siemens Relay: Back up protection. Normal E/F, instantaneous O/C trip line 2 phase 2. O/C trip line 3 phase 3. LHR = 66MW.
- 12:44 – 13:06Hrs, Ikorodu/Shagamu 132kV line CB tripped at Ikorodu T/S on O/C C –N, distance = 22.20km. LHR = 16MW.
- 15:42 – 16:07Hrs, Omotosho/Ikeja West 330kV line (cct M5W) CBs tripped at both ends on the following relay indications:  
**At Omotosho T/S:** PSL 601 & PSL 602 RTIPC, ground distance zone 1 trip, zero sequence zone 1 trip, O/C trip, Phase C grounded, Auxiliary Relay: Fix 22HP, tripping relay (A, B, C) stages 1 & 2, distance on PSL 601 – 34.64km.  
PSL 602 – 36.05km, same relays operated on both PSL 601 & PSL 602 the difference is the distance.  
**At Ikeja West T/S:** Siprotec Relay: General trip, B Phase fault, DEF trip, 50N/51N pick up, PU time = 589ms, trip time = 497ms, distance = 19.6km.  
Micom Relay: Blue Phase fault, fault duration = 603ms, trip time = 0.00s, started Phase C-N, E/F start IN-1. No load loss as ccts B5M, B6N & H1W were in service (LHR = 258MW).
- 16:45 – 17:02Hrs, Osogbo/llesha/lfe/Ondo 132kV line CB tripped at Osogbo T/S on time delay O/C, differential protection short cct 3 phases and E/F. LHR = 29MW.
- 16:45 – 17:15Hrs, lfe/Ondo 132kV line CB tripped at lfe T/S end on Optimho distance relay Z1 AM, location = 317km PS 77.0ms. LHR = 12.0MW.
- 20:23 – 20:48Hrs, Alaoji/Owerri 132kV lines 1 & 2 CBs tripped at Alaoji T/S on the following relay indications:  
**On line 1:** Siemens Relay – Relay trip, instantaneous trip ie>>, Red Phase. LHR = 27MW.  
**On line 2:** Siemens Relay – trip, instantaneous trip ie>>, i>>, Red Phase, Optimho Relay – trip, DEF start, location = 196.6km, period = 79.5ms. LHR = 27MW.
- 21:50 - 22:07Hrs, Alaoji/Owerri 132kV line 2 CB tripped at Alaoji T/S on Siemens Relay - i>>, ie>> Yellow & Blue Phases.  
Optimho Relay: DEF start, location = 237.8ms, period = 68ms. LHR = 40MW.

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

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

- 11:02 - 14:56Hrs, Gbarain GT2 was shut down for an outage on Owerri/Ahoada 132kV line 2. Load loss = 94.2MW.
- 11:31 - 13:44Hrs, Jebba/Osogbo 330kV line 1 (cct J1H) was taken out of service for maintenance crew to build up low SF6 gas on the line CB to normal pressure at Osogbo T/S. No load loss as ccts H3G and J3G were in service.

**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).

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

- 21:18 - 21:33Hrs, Akangba/Ojo 132kV line 2. Load loss = 36MW. Frequency was 49.84Hz.

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

**5 (G) 330KV LINES THAT ARE OUT ON VOLTAGE CONTROL:- ccts K4U, L7G, U1A & A1S.**

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

**5 (J) 330KV LINES THAT ARE OUT ON LINE FAULT:- cct J2H.**

**5 (K) 330KV LINES THAT ARE ON SOAK:- ccts F1K, B3D & N4J**

**6 WEATHER REPORT:-** Rainfall reported at Ikeja West, Omotosho, Onitsha,

**7 INTERNATIONAL LINES:-**

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

Maximum load - 270MW at 19:00Hrs.  
Minimum load - 168MW at 08:00Hrs.

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

Maximum load - 108MW at 15:00Hrs.  
Minimum load - 88MW at 07:00Hrs.

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

Maximum load - 40.4MW at 20:00Hrs.  
Minimum load - 1.8MW at 05:00Hrs.

**8 MISCELLANEOUS:-**

- 00:18 through 24:00Hrs, Delta GT15 was shut down due to low load demand by the discos. Load loss = 105MW.
- 01:25 - 19:05Hrs, Sapele NIPP GT1 was shut down due to low load demand by the discos. Load loss = 65MW.
- 02:47 through 24:00Hrs, Delta GT16 was shut down due to low load demand by the discos. Load loss = 70MW.
- 03:07 - 19:16Hrs, Azura GT11 was shut down due to low load demand by the discos. Load loss = 75MW.
- 05:47Hrs, Sapele P/S ST2 was tied. The unit was out due to low load demand by the discos.
- 08:21 – 10:42Hrs, Alaoji NIPP GT2 was shut down due to low load demand by the discos. Load loss = 80MW.
- 18:17Hrs, Afam IV GT17 was tied. The unit was out due to technical problem.
- 19:19Hrs, Afam VI GT12 was tied. The unit was out due to low load demand by the discos.
- 20:05Hrs, Katampe T/S 75MX 330kV shunt reactor R1 was switched off on voltage control. Voltage profile: 310/315kV.

- 10 20:47Hrs, Ajaokuta/Lokoja 330kV line (cct J1L) was restored on voltage control. Voltage profile at Lokoja T/S 326/330kV and at Ajaokuta = 329/331kV.
- \*\*\*\* **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.**

**10 COMMUNICATION MEDIA**

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

**11 SCADA RTU STATUS**

STATIONS	NO. INSTALLED	NO OF RTU DISTURBED	NO OF RTU WORKING
POWER STATIONS	8	5	3
330kV	19	7	12
132kV	102	83	19

**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 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.
- 5 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**

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

**SHIRORO REGION**

- 1 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 (F) UNAVAILABLE SYNCHROSCOPES :**

- 1 Ikeja West, Onitsha, Egbin, Uguwaji, 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







