

# TRANSMISSION COMPANY OF NIGERIA

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

**DAILY OPERATIONAL REPORT OF SUNDAY 11/03/2018**

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

1.0 EXECUTIVE OPERATIONS SUMMARY:

1.1 GENERATION PROFILE: NATIONAL STATISTICS

DETAILS	MW	HRS	DATE
PEAK DEMAND FORECAST (CONNECTED + SUPPRESSED LOAD)	22,230	21:45	10/03/2018
GENERATION CAPABILITY	7254.9	-do-	-do-
UNITS ON BAR CAPABILITY AT PEAK	5135.9	-do-	-do-
PEAK GENERATION	4474.4	-do-	-do-
LOWEST GENERATION	3792.2	17:00	10/03/2018
8-HOURLY DURATION PEAK	4171	0100-0800	-do-
	4074.8	0900-1600	-do-
	4474.4	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		Lokoja T/S	12:00
LOWEST VOLTAGE FOR THE DAY	300	Gombe, Kumbotso & Yola T/S	03:00, 04:00 & 05:00

## 1.3 FREQUENCY RANGE

DETAILS	HZ	HRS
NOMINAL FREQUENCY	50	
STATUTORY LIMITS	49.75-50.25	
HIGHEST FREQUENCY	50.572	08:04
LOWEST FREQUENCY	49.841	19:36

## 1.4 SYSTEM COLLAPSE UP DATE

Date of last total collapse: 1st Feb., 2018		No. of days since last total collapse: 36											
Date of last partial collapse: 17 <sup>th</sup> Oct., 2017		No. of days since last partial collapse: 137											
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	4	4	3	2	--	1	20
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	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	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	1	0	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	399	227
2 JEBBA	HYDRO	352	234
3 SHIRORO	HYDRO	0	0
4 EGBIN ST2 - 5	STEAM	423	413
5 SAPELE	STEAM	50	45
6 DELTA	GAS	580	495
7 AFAM IV.V	GAS	62	60
8 GEREGU GAS	GAS	141	123
9 OMOTOSHO GAS	GAS	142.1	133.4
10 OLORUNSOGO GAS	GAS	135.5	113.1
11 GEREGU NIPP	GAS	139	130
12 SAPELE NIPP	GAS	200.5	164
13 ALAQJI NIPP	GAS	0	0
14 OLORUNSOGO NIPP	GAS	0	0
15 OMOTOSHO NIPP	GAS	113	94
16 ODUKPANI NIPP	GAS	251.1	217.4
17 IHOBOR NIPP	GAS	97.6	81.4
18 OKPAI	GAS	240	210
19 AFAM VI	GAS	570	531
20 IBOM POWER	GAS	80.2	70.5
21 ASCO	GAS	0	0
22 A.E.S	GAS	0	0
23 OMOKU	GAS	31.2	31
24 TRANS AMADI	GAS	42.4	42.7
25 RIVERS IPP	(GAS)	103	85
26 AZURA - EDO IPP	(GAS)	0	0
27 EGBIN ST6	(GAS)	150	150
28 PARAS ENERGY	(GAS)	70	68.6
29 IGBARAIN NIPP	GAS	101.8	73.6
<b>TOTAL</b>		<b>4474.4</b>	<b>3792.2</b>

## 1.6 ENERGY GENERATED/ENERGY SENT OUT:

STATION	TURBINE	ENERGY GENERATED		ENERGY SENT OUT	
		MWH	MWH/H	MWH	MWH/H
1 KAINJI	HYDRO	7322.00	305.08	7305.90	304.41
2 JEBBA	HYDRO	6691.00	278.79	6664.04	277.67
3 SHIRORO	HYDRO	0.00	0.00	0.00	0.00
4 EGBIN ST2 - 5	STEAM	9748.00	406.17	9197.60	383.23
5 SAPELE	STEAM	657.80	27.41	623.30	25.97
6 DELTA	GAS	12387.44	516.14	12263.30	510.97
7 AFAM IV.V	GAS	1493.00	62.21	1488.37	62.02
8 GEREGU GAS	GAS	3046.00	126.92	3023.98	126.00
9 OMOTOSHO GAS	GAS	3329.00	138.71	3304.30	137.68
10 OLORUNSOGO GAS	GAS	2922.48	121.77	2892.58	120.52
11 GEREGU NIPP	GAS	3165.88	131.91	3149.53	131.23
12 SAPELE NIPP	GAS	4067.49	169.48	4041.87	168.41
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	2377.40	99.06	2369.10	98.30
16 ODUKPANI NIPP	GAS	5956.00	248.17	5917.30	246.55
17 IHOBOR NIPP	GAS	2460.00	102.50	2441.74	101.74
18 OKPAI	GAS	5587.00	232.79	5430.30	226.26
19 AFAM VI	GAS	12982.87	540.95	12729.79	530.41
20 IBOM	GAS	1927.59	80.32	1919.00	79.96
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	822.40	34.27	802.76	33.45
25 TRANS AMADI	GAS	962.20	40.93	958.40	39.93
26 RIVERS IPP	GAS	2152.60	89.69	2146.80	89.45
27 EGBIN ST6	STEAM	3486.00	145.25	3393.60	141.40
28 PARAS ENERGY	GAS	1665.80	69.41	1660.30	69.18
29 IGBARAIN NIPP	GAS	1973.00	82.21	1957.00	81.54
<b>TOTAL</b>		<b>97,202.95</b>	<b>4,050.12</b>	<b>95,670.86</b>	<b>3,986.29</b>

1.7A GENERATION POSITION AT 06:00HRS OF SUNDAY 11/03/2018

	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	315	1G5 & 6 - Generation reduced on frequency management. 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.
	JEBBA HYDRO	6	2G1, 2, 4 & 5 4	380	380	2G1, 2, 4 & 5 4	380	309	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	422	ST1 - Generation reduced on observation after maintenance. ST2 & 4 - Generation reduced due to gas constraint. ST3 - Tripped on high vibration. GT5 - Shut down due to gas constraint.
	SAPELE (STEAM)	1	ST2 1	120	46	ST2 1	46	46	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	GT4, 7, 9 - 13, 15, 16 & 18 - 20 12	655	655	GT4, 7, 9 - 13, 15, 16 18 - 20 12	655	591	GT3 & 5 - Out due to generator winding fault. GT6 & 14 - Out on major overhaul. GT17 - Out on excitation trouble.
	AFAM IV & V (GAS)	8	GT18 1	75	63	GT18 1	63	63	GT1 - 12 - De-commissioned and scrapped. GT13 - 16 - Out on blade failure. GT17 - Out on fault. GT19 & 20 - Awaiting major overhaul.
	GEREGU GAS	3	GT11 - 13 3	435	435	GT12 1	145	103	GT11 & 13 - Shut down due to gas constraint. Generation reduced due to gas constraint.
	OMOTOSHO GAS	8	GT1 - 8 8	336	304	GT1, 2, 6 & 8 4	152	143.9	GT3, 4, 5 & 7 - Out due to gas constraint.
	OLORUNSOGO GAS	8	GT1 - 8 8	336	304	GT4 - 6 & 8 4	152	137.1	GT1-3 & 7 - Shut down due to low gas pressure. Generation reduced due to gas constraints.
NIPP	GEREGU NIPP	3	GT22 & 23 2	290	290	GT23 1	145	145	GT21 - Out on maintenance. GT22 - Out due to gas constraint.
	SAPELE NIPP	4	GT1 & 3 2	230	230	GT1 & 3 2	225	168.1	GT2 - Out due to high air inlet differential pressure. GT4 - Tripped on fire protection alarm.
	ALAOJI NIPP GAS	4	GT1, 2 & 4 3	375	360	0 0	0	0	GT1, 2 & 4 - Tripped due to low gas pressure. GT3 - Shut down due to generator air inlet filter trouble.
	OLORUNSOGO NIPP	6	GT1 - 3 3	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	98.3	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 & 5 3	360	345	GT3, 4 & 5 3	345	231.6	GT1 - Shut down due to fire alarm that refused to cancel. GT2 - Out due to motor starting problem. GT4 - On frequency response. GT3 & 5 - Generation reduced due to gas constraint.
	IHOVBOR NIPP	4	GT1 - 3 3	345	330	GT3 1	110	95.5	GT1 & 2 - Out due to gas constraint. GT4 - Out on maintenance.
	GBARAIN NIPP GAS	1	GT2 1	112.5	112.5	GT2 1	112.5	82.6	Available unit on bar.
	IPP	OKPAI GAS/STEAM	3	GT11, 12 & ST18 3	375	375	GT11, 12 & ST18 3	358	214
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	566	GT13 & ST10 - Generation reduced on Afam management decision.
IBOM POWER GAS		3	GT3 1	115	115	GT3 1	115	80.1	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 & 6 4	100	80	GT1 & 5 2	40	31.6	GT2 - Shut down due to low gas pressure. GT3 - Out due to gas leakage. GT4 - Awaiting major overhaul. GT6 - Out due to tripping of Afam 1 T/S 162MVA 330/132/33kV interbus transformer.
TRANS-AMADI		4	GT1 & 2 2	50	42.5	GT1 & 2 2	42.5	42.5	GT3 - Out on fault. GT4 - Tripped on stator differential.
RIVERS		1	GT1 1	180	160	GT1 1	120	105	Generation reduced due to gas constraint.
	<b>SUB TOTAL</b>	<b>120</b>	<b>80</b>	<b>7589.5</b>	<b>7037</b>	<b>56</b>	<b>4866</b>	<b>3990.3</b>	Frequency = 50.40Hz.

1.7B GENERATION POSITION AT 06:00HRS OF SUNDAY 11/03/2018 FOR UNITS ON BILATERAL AGREEMENT

GENERATOR	UNIT	ST6		ST6		150	150	Available unit on bar.
		1	220	1	150			
EGBIN	1	1	220	1	150	150	Available unit on bar.	
PARAS ENERGY	8	GT2-9	69.4	GT2-9	69.4	69.4	69.4	Available units on bar.
		8		8				
<b>SUB TOTAL</b>		<b>9</b>	<b>289.4</b>	<b>9</b>	<b>219.4</b>	<b>219.4</b>		
<b>GRAND TOTAL</b>		<b>129</b>	<b>7878.9</b>	<b>65</b>	<b>5,085.40</b>	<b>4,209.70</b>		Frequency = 50.40Hz.

1.7C BILATERAL AGREEMENT UNITS DISPATCH - SATURDAY 10/03/2018

FEEDERS NAME	MAX. LOAD (MW)	TIME (HRS)		REMARK
Egbin ST6 120MW GENERATION TO IKEJA ELECTRICITY DISTRIBUTION COMPANY				

FEEDER	STATUS	TIME (HRS)	HOURS	REMARK	
OGBA	U-STEEL	ON	0100HRS	24	NIL
	PTCEXPRESS		1600HRS	24	NIL
	SANKYO	OUT	0100HRS	0	TRIP ON FAULT.O/C & E/F
	FEEDER 8		1000HRS	24	NIL
IKORODU	PULK IT		1600HRS	22	. PLANNED OUTAGE ON BUS III EXTENSION BRK.
	INDUSTRIAL		2000HRS	24	NIL
	SPINTEX		0300HRS	24	NIL
	DANGOTE		0400HRS	22	. PLANNED OUTAGE ON BUS III EXTENSION BRK.
	LAND CRAFT		2100HRS	24	NIL
ALAJUSA	TR4 15MVA		1400HRS	24	NIL
	TR5 -15MVA		1100HRS	24	NIL
	ALAUSSA		1700HRS	24	NIL
MILAND	PTC (MARYLAND)		1600HRS	15	FAULT
<b>TOTAL LOAD</b>					

BILATERAL AGREEMENT LOAD DISPATCH  
60MW PARAS ENERGY GENERATION TO CEB

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

1.8 HYDROLOGICAL DATA: SUNDAY 11/03/2018

	KAINJI	JEBBA	SHIRORO
HEAD WATER ELEVATION (METERS)	139.27	101.4	370.90
TAIL WATER ELEVATION (METERS)	103.43	74.10	268.60
GROSS OPERATING HEAD (METERS)	35.84	27.28	102.30
AVERAGE TURBINE DISCHARGE (M3/SEC)	953.00	1143.00	0.00
AVERAGE SPILLAGE (M3/SEC)	0.00	0.00	0.00
AVERAGE TOTAL STATION DISCHARGE (M3/SEC)	953	1143	0
COMPUTED INFLOW (M3/SEC)	29.00	865.00	0.00
STORAGE DIFFERENTIAL	-924.00	-278	0
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 SATURDAY 10/03/2018

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

2.0 GAS POSITION: SUNDAY 11/03/2018

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		655	260
OMOTOSHO GAS	143.9	336.8		162	184.8
OMOTOSHO NIPP	98.3	500		120	380
OLORUNSOGO (GAS)	137.1	336		152	184
OLORUNSOGO NIPP	0	750		10	750
SAPELE NIPP	168.1	500		230	270
SAPELE STEAM	46	720		46	674
AFAM IV-V	63	300		63	237
AFAM VI	566	650		650	0
GEREGU GAS	103	435		145	290
GEREGU NIPP	145	435		145	290
IKPAI (GAS/STEAM)	214	480		358	122
ALAOJI NIPP	0	504		0	504
IHOVBOR NIPP	95.5	450		110	340
IBOM	80.1	198		115	83
ODUKPANI NIPP	231.6	625		345	280
<b>TOTAL</b>	<b>3104.6</b>	<b>9234.80</b>		<b>3886</b>	<b>5348.8</b>

1 MMSCF IS EQUIVALENT TO 3.78MW

3.0 SPINNING RESERVE FOR : SATURDAY 10/03/2018

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

3.1 SYSTEM SPINNING RESERVE AS AT 0600HRS OF SUNDAY 11/03/2018 = 0MW. FREQUENCY 50.40Hz.

S/N	POWER STATION	UNIT ON SPINNING RESERVE	CONTRACTED RESERVE	ACTUAL RESERVE (MW)	TOTAL (MW)
1	Egbin	ST2	100	0	0
		ST4		0	
		ST6		0	
		ST6		0	
2	Delta	GT16	40	0	0
		GT17	40	0	
3	Olorunsogo NIPP	GT1	40	0	0
		GT2		0	
		GT3		382.5	
		GT4		0	
4	Geregu NIPP	GT22	35	0	0
		GT1	0		
5	Omotosho NIPP	GT2	40	0	0
		GT3		0	
		GT3		0	
		GT4		0	
<b>TOTAL (MW)</b>			<b>295</b>	<b>0</b>	<b>0</b>

4.0 UNUTILIZED GENERATION CAPABILITY

The unutilized generation capability for Sunday 11/03/2018 as at 0600Hrs was = 2402.3MW.

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	2281.4
2	Ihobor GT1 & 2	225	0	225	
3	Alaoji NIPP GT1, 2 & 3	360	0	360	
4	Olorunsogo Gas GT1 - 8	304	0	304	
5	Olorunsogo NIPP GT1 - 3	360	0	360	
6	Omotosho Gas GT3, 4, 5 & 7	152	0	152	
7	Odukpani GT3 & 5	230	135	95	
8	Geregu Gas GT11 & 12	290	0	290	
9	Rivers GT1	160	105	55	
10	Egbin ST 2, 4 & 5	450	422	28	
11	Ikpa GT11 & 12	300	156	144	
12	Omoku GT1, 2 & 5	60	31.6	28.4	
IT IS ENVISAGED WITH IMPROVED PLANT AVAILABILITY AND RELIEF FROM EXISTING POWER SYSTEM NETWORK RELATED CONSTRAINTS, ADDITIONAL 1426.34MMSCF OF GAS (EQUIVALENT TO 5348.8MW) WILL BE REQUIRED WHEN ALL THERMAL UNITS ARE ON BAR.					
<b>4.2 DUE TO LINE CONSTRAINTS</b>					
1	Ibom Power GT3	115	80.1	34.9	54.9
2	Omoku GT6	20	0	20	
<b>4.3 DUE TO FREQUENCY MANAGEMENT OCCASIONED BY DISCOS' LOAD DEMAND</b>					
1	Kainji 1GS & 6	240	174	66	66
				0	
				0	
				0	
				0	
				0	
				0	
				0	
				0	
				0	
<b>4.4 DUE TO WATER MANAGEMENT</b>					
					0
<b>Grand Total</b>					<b>2402.3</b>

5.0 **OUTAGES:**

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

- 1 05:52 – 14:43Hrs, Sapele ST02 tripped on cooling water failure. LHR = 53MW.
- 2 13:12Hrs, Paras Energy GTs 2 – 9 tripped on reverse power due to tripping of Ikorodu/Shagamu 132kV line. Total LHR = 69.4MW.  
13:35Hrs, GT4 was tied. 13:37Hrs, GT6 was tied. 13:38Hrs, GT7 was tied. 13:40Hrs, GT9 was tied. 13:41Hrs, GT3 was tied. 13:43Hrs, GT2 was tied. 13:44Hrs, GT8 was tied. 13:47Hrs, GT5 was tied.
- 3 17:25 – 18:11Hrs, Trans-Amadi GTs 1 & 2 tripped due to Afam 1 T/S 162MVA 330/132/33kV interbus transformer. LHR = 42MW.
- 4 17:21 – 18:33Hrs, Rivers IPP GT1 tripped due to Afam 1 T/S 162MVA 330/132/33kV interbus transformer. LHR = 85MW.
- 5 17:24Hrs, Omoku P/S GTs 1 & 5 tripped due to Afam 1 T/S 162MVA 330/132/33kV interbus transformer. LHR = 30MW.  
18:12Hrs – GT5 was tied, 18:14Hrs – GT1 was tied.

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

- 2 14:39 – 14:58Hrs, Benin/Egbin 330kV line (cct B6N) CBs tripped at both ends on the following relay indications:  
**At Benin T/S:** ABB relay – trip – trip, trip – TRL3, PHS –STFWL3 & PE, ZM1 – trip, EFC CS, AR in progress, DEF –block ZM2 & 3 –start, ZCIP –CSL3, fault loop – no data.  
**At Egbin T/S:** Micom relay –main A start B, trip Z1 & 2, started Phase C –N, distance = 112.8km. auxiliary K86. No load loss as ccts H7V, V7B, B5M & M5W were in service.
- 3 17:25 – 18:11Hrs, Afam 1 T/S 162MVA 330/132/33kV interbus transformer secondary CB tripped on O/C. LHR = 110MW.
- 4 21:26 – 21:56Hrs, Ayede T/S 100MVA 132/33kV transformer T1 primary and secondary CBs tripped on the following relay indications:  
Primary: O/C 3-phases  
Secondary: SBEF. LHR = 36MW.

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

- 1 11:11 – 14:20Hrs, Zaria/Funtua/Gusau 132kV line was taken out for annual preventive maintenance on the line isolator at Funtua T/S. Load loss = 38MW.
- 2 11:11 – 14:23Hrs, Funtua T/S 30MVA 132/33kV transformer T3 was taken out for annual preventive maintenance on the transformer and its associated equipment. Load loss = 18MW.
- 3 08:50 – 18:02Hrs, Mando/Kaduna Town 1 132kV lines 1 & 2 were taken out to enable maintenance crew and contractor continue replacement of ACSR with ACCC on the lines. Load loss = 48MW.

5(D) **URGENT OUTAGES:**

- 1 10:47 – 13:21Hrs, Shiroro/Minna 132kV line 2 was taken out for safe working space to allow live line crew and Phase 3 latch optic fibre on cct J7R. Load loss = 20MW.

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 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
PLC/PAX	37	33
OPTIC FIBRE	13	10
PLS	14	5

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:-** Rainfall was reported in Osogbo, Ayede.

7 **INTERNATIONAL LINES:-**

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

Maximum load - 298MW at 21:00Hrs.  
Minimum load - 204MW at 09:00Hrs.

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

Maximum load - 100MW at 15:00Hrs.  
Minimum load - 68MW at 12:00Hrs.

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

Maximum load - 39.2MW at 21:00Hrs.  
Minimum load - 26.5MW at 04:00Hrs.

8 **MISCELLANEOUS:-**

- 1 00:21Hrs, Afam VI GT13 was tied. The unit was shut down due to high load on cct T4A.
- 2 01:05 - 18:53Hrs, Kainji 1G5 was tied. The unit was out on fault.
- 3 02:13 - 17:55Hrs, Jebba 2G2 was shut down on frequency management.  
Load loss = 75MW.
- 4 07:47 – 15:15Hrs, Hold Off Tag (OF 12) placed on cct J7R to enable live line crew latch optic fibre cable on the line.
- 5 08:35Hrs, Delta P/S reduced generation by 50MW. Frequency was 50.52Hz.
- 6 19:58Hrs, Delta GT4 was tied. The unit was out due to gas constraint.
- 7 **LACK OF REACTOR AND UNRELIABLE STATION SERVICE SUPPLY AT IKOT-EKPENE T/S ARE HINDERING SMOOTH OPERATION.**
- 8 **THE SCADA COVERAGE OF ONLY LIMITED AREAS IS NOT GOOD FOR THE SMOOTH OPERATION OF THE GRID.**
- 9 **THE SCADA COVERAGE OF ONLY LIMITED AREAS IS NOT GOOD FOR THE SMOOTH OPERATION OF THE GRID.**

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.

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/Iire 132kV lines 1 & 2 - 1 span.
- 8 Ikeja West/Agbara 132kV lines 1 & 2 - 61 spans.
- 9 Ikeja West/Otta 132kV lines 1 & 2- 17 spans.

**SHIRORO REGION**

- 1 Jebba T/S 330kV Osogbo lines 1 & 2 and Ganmo line - 9 spans
- 2 Minna T/S 132kV Bida line - 32 spans
- 3 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





