

# TRANSMISSION COMPANY OF NIGERIA

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

DAILY OPERATIONAL REPORT OF SUNDAY 13/05/2018

FOR: EVENTS OF SATURDAY 12/05/2018

1.0 EXECUTIVE OPERATIONS SUMMARY:

1.1 GENERATION PROFILE: NATIONAL STATISTICS

DETAILS	MW	HRS	DATE
PEAK DEMAND FORECAST (CONNECTED + SUPPRESSED LOAD)	22,780	21:15	12/05/2018
GENERATION CAPABILITY	8101.6	-do-	-do-
UNITS ON BAR CAPABILITY AT PEAK	4800.1	-do-	-do-
PEAK GENERATION	4886.9	-do-	-do-
LOWEST GENERATION	2547.2	15:00	12/05/2018
8-HOURLY DURATION PEAK	4035.9	0100-0800	-do-
	3272.1	0900-1600	-do-
	4088	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	305	Gombe & Yola T/S	10:00

1.3 FREQUENCY RANGE

DETAILS	HZ	HRS
NOMINAL FREQUENCY	50	
STATUTORY LIMITS	49.75 - 50.25	
HIGHEST FREQUENCY	50.71	04:05
LOWEST FREQUENCY	50.14	19:51

1.4 SYSTEM COLLAPSE UP DATE

Date of last total collapse: 1st Feb., 2018	No. of days since last total collapse: 93
Date of last partial collapse: 12 <sup>th</sup> April., 2018	No. of days since last partial collapse: 29
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	8
2013													
Total	--	1	2	2	3	4	1	1	1	1	4	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	0	1	0	6
Partial	--	--	1	0	2	0		0	0	1	0	0	4
2016													
Total	--	--	2	3	6	5	0	0	1	1	2	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	0										6
Partial	0	0	0	1									1

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

STATION	TURBINE	PEAK GEN. (MW)	OFF-PEAK GEN.(MW)
1 KAINJI	HYDRO	183	90
2 JEBBA	HYDRO	320	149
3 SHIRORO	HYDRO	535	140
4 EGBIN ST2 - 5	STEAM	335	235
5 SAPELE	STEAM	47	47
6 DELTA	GAS	307	258
7 AFAM IV-V	GAS	0	0
8 GEREGU GAS	GAS	55	55
9 OMOTOSHO GAS	GAS	138.6	101.5
10 OLORUNSOGO GAS	GAS	138.3	123.2
11 GEREGU NIPP	GAS	70	70
12 SAPELE NIPP	GAS	174.7	156.8
13 ALAQJI NIPP	GAS	0	0
14 OLORUNSOGO NIPP	GAS	0	0
15 OMOTOSHO NIPP	GAS	103	87.5
16 ODUKPANI NIPP	GAS	0	0
17 IHOVBOR NIPP	GAS	90.2	90.1
18 OKPAI	GAS	261	131
19 AFAM VI	GAS	390	220
20 IBOM POWER	GAS	88	72.5
21 ASCO	GAS	0	0
22 A.E.S	GAS	0	0
23 OMOKU	GAS	78.7	75.8
24 TRANS AMADI	GAS	0	0
25 RIVERS IPP	(GAS)	150	0
26 AZURA - EDO IPP	(GAS)	414	277
27 EGBIN ST6	(GAS)	141	100
28 PARAS ENERGY	(GAS)	69.4	67.8
29 GBARAIN NIPP	GAS	0	0
<b>TOTAL</b>		<b>4088.9</b>	<b>2547.2</b>

1.6 ENERGY GENERATED/ENERGY SENT OUT:

STATION	TURBINE	ENERGY GENERATED		ENERGY SENT OUT	
		MWH	MWH/H	MWH	MWH/H
1 KAINJI	HYDRO	4862.00	202.58	4842.20	201.76
2 JEBBA	HYDRO	5664.00	236.00	5641.96	235.08
3 SHIRORO	HYDRO	7305.00	304.38	7277.32	303.22
4 EGBIN ST2 - 5	STEAM	6859.00	285.79	6378.10	265.75
5 SAPELE	STEAM	1140.00	47.50	1018.60	42.44
6 DELTA	GAS	10416.90	434.04	10191.20	424.63
7 AFAM IV-V	GAS	0.00	0.00	0.00	0.00
8 GEREGU GAS	GAS	1253.90	52.25	1233.28	51.39
9 OMOTOSHO GAS	GAS	3140.00	130.83	3114.50	129.77
10 OLORUNSOGO GAS	GAS	3157.97	131.58	3131.38	130.47
11 GEREGU NIPP	GAS	1725.74	71.91	1713.62	71.40
12 SAPELE NIPP	GAS	4047.25	168.64	4027.70	167.82
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	2267.80	94.49	2248.40	93.68
16 ODUKPANI NIPP	GAS	0.00	0.00	0.00	0.00
17 IHOVBOR NIPP	GAS	2150.00	89.58	2133.50	88.90
18 OKPAI	GAS	4308.00	179.50	4232.10	176.34
19 AFAM VI	GAS	6596.89	274.87	6499.77	270.82
20 IBOM	GAS	1774.46	73.94	1766.00	73.58
21 ASCO	GAS	0.00	0.00	0.00	0.00
22 AZURA - EDO IPP	GAS	8322.70	346.78	8297.60	345.73
23 A.E.S	GAS	0.00	0.00	0.00	0.00
24 OMOKU	GAS	1867.10	77.80	1827.08	76.13
25 TRANS AMADI	GAS	0.00	0.00	0.00	0.00
26 RIVERS IPP	GAS	2129.40	88.73	2124.70	88.53
27 EGBIN ST6	STEAM	2674.00	111.42	2516.30	104.85
28 PARAS ENERGY	GAS	1652.90	68.85	1647.20	68.63
29 GBARAIN NIPP	GAS	0.00	0.00	0.00	0.00
<b>TOTAL</b>		<b>83,314.41</b>	<b>3,471.43</b>	<b>81,862.51</b>	<b>3,410.94</b>

1.7A GENERATION POSITION AT 06:00HRS OF SUNDAY 13/05/2018

	STATIONS	NO OF INSTALLED UNITS	AVAILABLE UNITS	INSTALLED CAPACITY OF AVAILABLE UNITS(MW)	GENERATION CAPABILITY OF AVAILABLE UNITS(MW)	UNITS ON BAR	CAPABILITY OF UNITS ON BAR (MW)	GENERATION AT 06:00HRS (MW)	REMARKS
PRIVATISED COMPANIES	KAINJI HYDRO	8	1G5 & 6 2	240	210	1G5 & 6 2	210	192	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 - Out on maintenance. 1G12 - Shut down to replace draft tube drain valve.
	JEBBA HYDRO	6	2G1 - 3 & 5 4	380	380	2G1 & 5 2	190	170	2G2 & 3 - Out on frequency management. 2G4 - Out on maintenance. 2G6 - Out due to burnt generator winding and AVR.
	SHIRORO HYDRO	4	411G1 - 4 4	600	600	411G2 & 4 2	300	275	411G1 & 3 - Out on frequency management.
	EGBIN STEAM	5	ST1, 2, 4 & 5 4	880	880	ST2 & 4 2	268	268	ST1 & 5 - Out on frequency management. ST3 - Tripped on high vibration since 19th June 2017.
	SAPELE (STEAM)	6	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	GT7, 10, 11, 13, 15, 16 & 18 - 20 9	595	595	GT7, 10 - 13, 15, 18 & 20 8	415	397	GT3 & 5 - Out due to generator winding fault. GT4 - Tripped on loss of excitation. GT9 & 12 - Out on 125V battery bank problem. GT6 & 14 - Out on major overhaul. GT16 & 19 - Out on frequency management. GT17 - Out on excitation trouble.
	AFAM IV & V (GAS)	8	0 0	0	0	0 0	0	0	GT1 - 12 - De-commissioned and scrapped. GT13 - 16 - Out on blade failure. GT17 - Tripped on loss of excitation. GT18 - Tripped on lube oil pressure. GT19 & 20 - Awaiting major overhaul.
	GEREGU GAS	3	GT11 - 13 3	435	435	GT12 1	145	52	GT11 & 13 - Out due to gas constraint. GT12 - Generation reduced due to gas constraint.
	OMOTOSHO GAS	8	GT1 - 8 8	336	304	GT1, 6 - 8 4	152	142	GT2 - 5 - Out on frequency management.
	OLORUNSOGO GAS	8	GT1 - 8 8	336	304	GT1, 4, 6 & 8 4	152	136.8	GT2, 3, 5 & 7 - Out on frequency management.
NIPP	GEREGU NIPP	3	GT21 - 23 3	435	435	GT22 1	120	71	GT21 & 23 - Out due to gas constraint. GT22 - Generation reduced due to gas constraint.
	SAPELE NIPP	4	GT1 & 3 2	112.5	225	GT1 & 3 2	225	172.2	GT2 - Shut down due to air inlet differential pressure. GT4 - Tripped on fire protection.
	ALAOJI NIPP GAS	4	GT1, 2 & 4 3	375	360	0 0	0	0	GT1, 2 & 4 - Tripped due to low gas pressure. GT3 - Shut down due to generator air inlet filter trouble.
	OLORUNSOGO NIPP	6	GT1 - 3 3	375	360	0 0	0	0	GT1 - 3 - Out due to gas constraint. GT4 - Out due to ignition failure and control relay failure alarm. ST13 & ST23 - Out on maintenance.
	OMOTOSHO NIPP GAS	4	GT1, 2 & 4 3	375	360	GT2 1	120	98.3	GT1 & 4 - Out due to gas constraint. GT3 - Shut down due to oil leakage on the unit.
	ODUKPANI NIPP	5	GT4 & 5 2	240	230	0 0	0	0	GT1 - Out on fault. GT2 - Out due to malfunctioning gas regulating valve. GT3 - Tripped on high air inlet differential pressure. GT4 & 5 - Shut down due to work on gas pipe line equipment.
	IHOVBOR NIPP	4	GT3 1	112.5	112.5	GT3 1	110	90.3	GT1, 2 & 4 - Out on maintenance. GT3 - Removed from free governor due to gas vent problem.
	GBARAIN NIPP GAS	1	GT2 1	112.5	112.5	0 0	0	0	GT2 - Shut down due to staff on strike.
IPP	OKPAI GAS/STEAM	3	GT11, 12 & ST18 3	375	375	GT11 & 12 2	300	169	GT12 - Generation reduced on frequency management. ST18 - Shut down on frequency management.
	AZURA - EDO	3	GT11 - 13 3	450	450	GT11 & 12 2	300	262	GT13 - Out on frequency management.
	AFAM VI GAS/STEAM	4	GT11 - 13 & ST10 4	640	640	GT12 & 13 2	300	252	ST10 & GT11 - Out on frequency management.
	IBOM POWER GAS	3	GT3 1	115	115	GT3 1	115	71.8	GT1 & 2 - Out on fault. GT3 - Generation reduced due to gas constraint.
	AES	0	0 0	0	0	0 0	0	0	Out of production since 27/09/2014.
	ASCO	1	0 0	0	0	0 0	0	0	GT1 - Shut down due to leakage in the furnace.
	OMOKU GAS	6	GT1, 2, 5 & 6 4	100	81.6	GT1, 2, 5 & 6 4	81.1	81.1	GT3 - Out due to gas leakage. GT4 - Awaiting major overhaul.
	TRANS-AMADI	4	GT1 & 2 2	50	40	0 0	0	0	GT1 & 2 - Out due to line constraint since 03/04/2018. GT3 - Out on fault. GT4 - Tripped on generator differential lockout.
	RIVERS	1	GT1 1	180	160	GT1 1	160	150	Available unit on bar.
	<b>SUB TOTAL</b>	<b>130</b>	<b>79</b>	<b>7969.5</b>	<b>7810.6</b>	<b>43</b>	<b>3499.1</b>	<b>3096.5</b>	Frequency = 50.36Hz.

1.7B GENERATION POSITION AT 06:00HRS OF SUNDAY 13/05/2018 FOR UNITS ON BILATERAL AGREEMENT

EGBIN	1	ST6	220	102	ST6	102	102	Available unit on bar.
		1			1			
PARAS ENERGY	8	GT2 - 9	69.4	69.4	GT2 - 9	69.4	69.4	Available units on bar.
		8			8			
<b>SUB TOTAL</b>	<b>9</b>	<b>9</b>	<b>289.4</b>	<b>171.4</b>	<b>9</b>	<b>171.4</b>	<b>171.4</b>	
<b>GRAND TOTAL</b>	<b>139</b>	<b>88</b>	<b>8258.9</b>	<b>7982</b>	<b>52</b>	<b>3,670.50</b>	<b>3,267.90</b>	Frequency = 50.36Hz.

1.7C BILATERAL AGREEMENT UNITS DISPATCH - SATURDAY 12/05/2018

FEEDERS NAME	MAX. LOAD (MW)	TIME (HRS)		REMARK	
Egbin ST6 120MW GENERATION TO IKEJA ELECTRICITY DISTRIBUTION COMPANY					
OGBA	U-STEEL	ON	0100HRS	24	NIL
	PTCEXPRESS	8	0600HRS	24	NIL
	SANKYO	ON	0100HRS	24	NIL
	FEEDER 8	10	0100HRS	24	NIL
IKORODU	PULK IT	ON	0100HRS	22	URGENT OUTAGE
	INDUSTRIAL	17	0500HRS	24	NIL
	SPINTEX	6	0100HRS	24	NIL
	DANGOTE	3	2000HRS	22	URGENT OUTAGE
ALAUUSA	LAND CRAFT	15	2400HRS	24	NIL
	TR4 15MVA	6.2	1200HRS	24	NIL
	TR5 -15MVA	3.9	2200HRS	24	NIL
MLAND	ALAUUSA	13.9	1200HRS	22	PLANNED OUTAGE
	PTC (MARYLAND)	20	1400HRS	22	Tripped on O/C RYB
	LORDSMITH [PAPALANTO]	0.3	0700HRS	10	OUT ON EMERGENCY
	<b>TOTAL LOAD</b>	<b>103.3</b>			

BILATERAL AGREEMENT LOAD DISPATCH  
60MW PARAS ENERGY GENERATION TO CEB

FEEDER	MAX	TIME	HOURS IN SERVICE	REMARK
Ikeja West/Sakete 330kV line	70.2	21:00	24	Nii

BILATERAL AGREEMENT MAIN STREAM ENERGY KAINJI LOAD DISPATCH TO THE FOLLOWING COMPANIES OF SATURDAY - 12/05/2018

COMPANY NAME	VOLTAGE LEVEL	EXPECTED CONTRACTUAL LOAD (MW)	MAX	TIME	HOUR IN SERVICE	REMARK
INNER GALAXY	132kV line	25	On	On	On	On soak.
KAM STEEL		15	4.4	09:00	24	NIL
OLAM FLOUR MILLS	33kV feeder	3	1.7	09:00	24	NIL
LORDSMITH		3	0.4	21:00	21	NIL



5.0 **OUTAGES:**

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

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

- 1 04:04 – 08:43Hrs, Mando/Kumbotso 330kV line (cct M6N) CB tripped at Mando T/S on distance protection relay, trip indication, DEF trip, DEF carrier sent, MVAJ 2186A, MVAJ 2186B, MVAJ 2186C. LHR = 220MW.
- 2 14:05 – 16:33Hrs, Ilupeju T/S 2X15MVA 132/33kV transformers T1 & T2 secondary CBs tripped on SBEF. LHR = 5MW each.

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

- 1 10:17 - 17:11Hrs, Shiroo T/S 30MVA 132/33kV transformer T1 primary CB was taken out for annual preventive maintenance. Load loss = 10MW.
- 2 10:40 – 20:36Hrs, Delta/Effurun 132kV line was taken out to allow LMD crew replace defective conductors on the 3-Phases and also treat hot spot at the terminal gantry in Delta T/S. Load loss = 49.2MW.
- 3 11:07 – 16:35Hrs, Afam/Rivers IPP 132kV line 1 was taken out for annual preventive maintenance on bus section 1 CBs E05 & E06 and their associated equipment. Load loss = 82.7MW

5(D) **URGENT OUTAGES:**

- 1 04:50 – 05:02Hrs, Mando T/S 60MVA 330/132/13.8kV transformer T2A/75MX Reactor 3R3 common primary CB was taken out to restore the Reactor to service. No load loss as the transformer was on soak.
- 2 09:50 - 21:01Hrs, Sapele/Delta 330kV line (cct S4G) CB was released to seal point of gas leakage on its Yellow Phase pole. No load interruption as the CB was in service. However, Delta P/S generation was reduced by 152MW.
- 3 10:57 - 16:55Hrs, Rivers IPP GT1 was shut down due to outage on Afam/Rivers IPP 132kV line 1. Load loss = 120MW.
- 4 12:38 through 24:00Hrs, Kainji 1G12 was shut down to replace draft tube drain valve. Load loss = 74MW.
- 5 12:41 – 20:35Hrs, Delta T/S 60MVA 132/33kV transformer T1 was taken out for safe working space for work on Delta/Effurun 132kV line. Load loss = 8.6MW
- 6 22:04 through 24:00Hrs, Jebba 2G2 was shut down for frequency management. Load loss = 76MW.

9 **GENERATOR MERIT ORDER BASED ON SYSTEM RESPONSE AND GRID RELIABILITY**

- GROUP 1 - HYDRO UNITS (LEAST COST) ON FREE GOVERNOR CONTROL AND ANCILLARY SERVICE .
- GROUP 2A - UNITS FROM ODUKPANI, AZURA, SHELL AFAM VI AGIP OKPAI, OLORUNSOGO POWER PLC AND OMOTOSHO POWER PLC.
- GROUP 2B - OTHER GENERATING UNITS IDENTIFIED TO BE ON FREE GOVERNOR CONTROL.
- GROUP 3 - OTHER UNITS IDENTIFIED TO BE OFFERING REGULATORY RESERVE.
- GROUP 4 - OTHER UNITS OFFERING SPINNING RESERVE (THE POWER PLANTS CONTACTED FOR THE ANCILLARY SERVICE).
- GROUP 5 - ALL PLANTS DISPATCHED SUBJECT TO TRANSMISSION CONSTRAINT (NOT YET IDENTIFIED).
- GROUP 6 - ALL PLANTS PROVIDING VOLTAGE SUPPORT ABOVE STATUTORY LIMIT (NOT YET IDENTIFIED).

11 (A) **COMMUNICATION MEDIA**

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

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

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

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

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

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

5 (J) **330KV LINES THAT ARE OUT ON LINE FAULT:-** ccts K3U & S5B.

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

6 **WEATHER REPORT:-** Rainfall was reported at Osogbo, Katampe, New Haven, Ikeja West, Akangba, Jebba, Ayede, Egbin, Aja & Ilupeju

7 **INTERNATIONAL LINES:-**

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

Maximum load - 282MW at 21:00Hrs.  
Minimum load - 189MW at 08:00Hrs.

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

Maximum load - 105MW at 22:00Hrs.  
Minimum load - 85MW at 20:00Hrs.

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

Maximum load - 40.0MW at 22:00Hrs.  
Minimum load - 7.0MW at 09:00Hrs.

8 **MISCELLANEOUS:-**

- 1 00:28 - 10:05Hrs, Jebba 2G2 was shut down on frequency management. Load loss = 72MW.
- 2 03:10 - 20:12Hrs, Afam VI GT11 was shut down on frequency management. Load loss = 107MW.
- 3 03:11 - 21:11Hrs, Shiroo 411G2 was shut down on frequency management. Load loss = 50MW.
- 4 03:13Hrs, Delta GT16 was shut down on frequency management. Load loss = 65MW.
- 5 04:02 - 15:13Hrs, Kumbotso T/S: Fire outbreak was observed at the LVAC room of the station, the station service cable was observed on fire and there was heavy smoke in the control room.  
**Note:** Armoured cable from the earthing transformer was damaged. The station is on station standby generator as work is going on to replace the damaged armoured cable.
- 6 04:29 through 24:00Hrs, Omotosho P/S GT5 was shut down on frequency management. Load loss = 30.5MW.
- 7 04:35 through 24:00Hrs, Olorunsogo P/S GT5 was shut down on frequency management. Load loss = 30.1MW.
- 8 04:58Hrs, Katampe T/S 330kV 75MX Reactor R1 was switched in to service on voltage control. Voltage profile: 349/342kV.
- 9 05:51Hrs, Osogbo T/S 330kV 75MX Reactor 4R1 was switched in to service on voltage control. Voltage profile: 341/339kV.
- 10 06:51 - 16:31Hrs, Shiroo T/S placed Hold Off Tag (OF12) on cct J7R for continuation of Optic Fibre work.

11 (B) **SCADA RTU STATUS**

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

- 11 08:46Hrs, Lokoja/Gwagwalada 330kV line 2 (cct L7G) was taken out on voltage control. Voltage profile: 354/349kV.
- 12 14:26 – 18:59Hrs, Jebba 2G3 was shut down on frequency management. Load loss = 72MW.
- 13 14:54 through 24:00Hrs, Delta GT19 was shut down to reduce low flow on cct G3B due to outage on cct S4J. Load loss = 58MW.
- 14 19:53Hrs, Afam VI P/S GT11 was tied. The unit was out on frequency management.
- 15 23:19 through 24:00, Azura –Edo GT13 was shut down for frequency management. Load loss = 131MW.
- \*\*\*\*\* **LACK OF REACTOR AND UNRELIABLE STATION SERVICE SUPPLY AT IKOT-EKPENE T/S ARE HINDERING SMOOTH OPERATION.**
- \*\*\*\*\* **THE SCADA COVERAGE OF ONLY LIMITED AREAS IS NOT GOOD FOR THE SMOOTH OPERATION OF THE GRID.**

**12(A) UNAVAILABLE TRANSFORMERS/REACTORS:**

**SHIRORO REGION:**

- 1 Birnin Kebbi 75MX Reactor R1.

**ABUJA REGION**

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

**KADUNA REGION:**

- 1 Kumbotso 150MVA 330/132/33kV transformer T1A - Burnt control cables.

**BAUCHI REGION:**

- 1 Gombe T/S -30MX Reactor R2A.

**ENUGU REGION:**

- 1 Onitsha T/S 90MVA 330/132/13.8kV transformer 9T2 - Out due to differential fault.

**LAGOS REGION:**

- 1 Oke-Aro T/S 75MX Reactor R1.

**PORT HARCOURT REGION**

- 1 Ikot-Ekpene T/S: No available reactor.

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

**LAGOS REGION:**

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

**BENIN REGION:**

- 1 Omotosho T/S 330kV, 2nd series 330kV CB #3322 out due to control circuit problem.

**ENUGU REGION:**

- 1 New Haven/Yandev 132kV line CB - Faulty Red phase CB pole. Protection is transferred to the bus coupler CB.
- 2 Abakaliki T/S 30MVA 132/33kV transformer T1A and 60MVA 132/33kV transformer T2 primary CBs - Breakers were not provided since commissioning but the transformers are protected by Nkalagu 132kV line CB.
- 3 Oji River T/S 30MVA 132/33kV transformer T1A primary CB - The breaker is completely out of service and bypassed. The transformer is either protected by Onitsha/Oji 132kV line CB or New Haven/Oji 132kV line CB.
- 4 Oturkpo/Yandev 132kV By pass isolator - Canibalized to repair the line isolator.

**SHIRORO REGION**

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

**PORT HARCOURT REGION**

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

**12(C) LAGOS REGION**

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

**12(D) UNAVAILABLE CAPACITOR BANK:**

- 1 (i) Ogba T.S, (ii) Maiduguri T/S, (iii) Isolo T/S, (iv) Ado-Ekiti T/S, (v) Ilorin T/S, (vi) Akure T/S.

**LAGOS REGION**

- 1 Omotosho/Ikeja West line (M5W) and Egbin/Ikeja West line 3 (N6W) - 21 spans.
- 2 Ikeja West/Olorunsogo line (cct R1W) - 80 spans.
- 3 330kV Ikeja West/Osogbo line. - 95 spans.
- 4 Ikeja West/Alimosho/Ogba 132kV lines 1 & 2 - 15 spans.
- 5 Ikeja West/Akangba 330kV line 2 - 1 span.
- 6 Ikeja West/ Ilupeju 132kV lines 1 & 2 - 8 spans.
- 7 Akangba/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 (E) UNAVAILABLE SYNCHROSCOPES :**

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

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

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



