

# TRANSMISSION COMPANY OF NIGERIA

To: Head (ISO), TCN - Abuja

From: General Manager, NCC, Osogbo

## DAILY OPERATIONAL REPORT OF WEDNESDAY 29/11/2017

### FOR: EVENTS OF TUESDAY 28/11/2017

#### 1.0 EXECUTIVE OPERATIONS SUMMARY:

##### 1.1 GENERATION PROFILE: NATIONAL STATISTICS

DETAILS	MW	HRS	DATE
PEAK DEMAND FORECAST (CONNECTED + SUPPRESSED LOAD)	17,720	21:45	28/11/2017
GENERATION CAPABILITY	7441.8	-do-	-do-
UNITS ON BAR CAPABILITY AT PEAK	5347.4	-do-	-do-
PEAK GENERATION	4682.2	-do-	-do-
LOWEST GENERATION	3523.9	08:00	28/11/2017
8-HOURLY DURATION PEAK	4247.7	0000-0800	-do-
	3709.9	0900-1600	-do-
	4682.2	1700-2400	-do-
PEAK GENERATION TO DATE	5074.7	21:30	02/02/2016
MAXIMUM AVAILABLE CAPACITY TO DATE	7492.6	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	352	Omotosho T/S	16:00
LOWEST VOLTAGE FOR THE DAY	300	Gombe & Kumbotso T/S	06:00 & 11:00

##### 1.3 FREQUENCY RANGE

DETAILS	HZ	HRS
NOMINAL FREQUENCY	50	
STATUTORY LIMITS	49.75-50.25	
HIGHEST FREQUENCY	50.511	11:37
LOWEST FREQUENCY	49.926	15:41

##### 1.4 SYSTEM COLLAPSE UP DATE

Date of last total collapse: 30th Oct, 2017		No. of days since last total collapse: 30												
Date of last partial collapse: 17 <sup>th</sup> Oct., 2017		No. of days since last partial collapse: 42												
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
2009	Total	1	--	--	--	2	5	5	4	1	--	--	1	19
	Partial	--	5	4	3	3	--	--	1	--	2	1	1	20
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	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

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

STATION	TURBINE	PEAK GEN. (MW)	OFF-PEAK GEN(MW)
1	KAINJI	418	212
2	JEBBA	440	315
3	SHIRORO	288	140
4	EGBIN ST2 - 5	589	506
5	SAPELE	0	0
6	DELTA	470	317
7	AFAM IV-V	62	63
8	GEREGU GAS	414	178
9	OMOTOSHO GAS	140.1	135.6
10	OLORUNSOGO GAS	124.2	114.2
11	GEREGU NIPP	141	133
12	SAPELE NIPP	192.7	159.2
13	ALAOJI NIPP	0	0
14	OLORUNSOGO NIPP	109.2	109.4
15	OMOTOSHO NIPP	106.4	100.4
16	ODUKPANI NIPP	187.5	75.2
17	IHOVBOR NIPP	90.2	80.6
18	OKPAI	215	215
19	AFAM VI	246	265
20	IBOM POWER	101.3	71.4
21	ASCO	0	0
22	A.E.S	0	0
23	OMOKU	35.6	40.4
24	TRANS AMADI	60.6	61.9
25	RIVERS IPP (GAS)	0	0
26	EGBIN ST6 (GAS)	182	163
27	PARAS ENERGY (GAS)	69.4	68.6
28	GBARAIN NIPP	0	0
<b>TOTAL</b>		<b>4682.2</b>	<b>3523.9</b>

  

1.6 ENERGY GENERATED/ENERGY SENT OUT:		ENERGY GENERATED		ENERGY SENT OUT	
STATION	TURBINE	MWH	MWHH	MWH	MWHH
1	KAINJI	7305.00	304.38	7288.70	303.70
2	JEBBA	7201.00	300.04	7178.07	299.09
3	SHIRORO	4279.00	178.29	4247.50	176.98
4	EGBIN ST2 - 5	12521.00	521.71	11919.50	496.65
5	SAPELE	0.00	0.00	0.00	0.00
6	DELTA	9790.53	407.94	9645.00	401.88
7	AFAM IV-V	973.00	40.64	968.88	40.37
8	GEREGU GAS	5925.70	246.90	5899.12	245.80
9	OMOTOSHO GAS	3339.00	139.13	3309.60	137.90
10	OLORUNSOGO GAS	2831.43	117.98	2802.60	116.78
11	GEREGU NIPP	3188.50	132.85	3174.26	132.26
12	SAPELE NIPP	3957.20	164.88	3936.50	164.02
13	ALAOJI NIPP	0.00	0.00	0.00	0.00
14	OLORUNSOGO NIPP	2420.60	100.86	2380.00	99.17
15	OMOTOSHO NIPP	2399.00	99.96	2399.00	99.71
16	ODUKPANI NIPP	3036.30	126.51	3005.65	125.24
17	IHOVBOR NIPP	2080.00	86.67	2061.03	85.88
18	OKPAI	5143.00	214.29	4987.40	207.81
19	AFAM VI	6147.89	256.16	6082.23	253.43
20	IBOM	1838.75	76.61	1830.00	76.25
21	ASCO	0.00	0.00	0.00	0.00
22	A.E.S	0.00	0.00	0.00	0.00
23	OMOKU	936.70	39.03	912.00	38.00
24	TRANS AMADI	1443.40	60.14	1408.50	58.69
25	RIVERS IPP	0.00	0.00	0.00	0.00
26	EGBIN ST6	3992.00	166.33	3795.00	158.13
27	PARAS ENERGY	1648.70	68.70	1640.50	68.35
28	GBARAIN NIPP	0.00	0.00	0.00	0.00
<b>TOTAL</b>		<b>92,397.70</b>	<b>3,849.90</b>	<b>90,865.04</b>	<b>3,786.04</b>

## GENERATION POSITION AT 06:00HRS OF WEDNESDAY 29/11/2017

	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, 6,11 & 12 4	440	440	1G5, 6, 11 & 12 4	440	336	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.
	JEBBA HYDRO	6	2G2 - 5 4	380	380	2G3-5 3	285	251	2G1 - Tripped on generator protection board trouble. 2G2 - Out on frequency management. 2G6 - Out due to burnt generator winding and AVR.
	SHIRORO HYDRO	4	411G1, 2 & 4 3	450	450	411G1 & 2 2	300	194	411G3 - Out on maintenance. 411G4 - Out on water management. Generation reduced on frequency management.
	EGBIN STEAM	5	ST2, 4 & 5 2	660	660	ST2, 4 & 5 2	660	510	ST1 - Tripped on generator CB trouble. ST3 - Tripped on high vibration.
	SAPELE (STEAM)	6	0 0	0	0	0 0	0	0	ST1 - Tripped on low drum level. ST2 - Out on maintenance. 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, 19 & 20 12	700	665	GT4, 7, 9 -13, 15, 16, 18, & 20 11	565	511	GT3 & 5 - Out due to generator winding fault. GT6 & 14 - Out on major overhaul. GT8 - Out on maintenance. GT17 - Out on excitation trouble. GT19 - Out on frequency management.
	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 - Tripped on loss of excitation. GT19 & 20 - Awaiting major overhaul.
	GEREGU GAS	3	GT11 - 13 3	435	435	GT11 - 13 3	435	261	Generation reduced on frequency management.
	OMOTOSHO GAS	8	GT1 - 8 8	336	304	GT1, 3, 5 & 7 4	152	113.4	GT2, 4, 6 & 8 - Out on frequency management. Generation reduced on frequency management.
	OLORUNSOGO GAS	8	GT1 - 8 8	336	304	GT2, 4, 6 & 8 4	152	124.4	GT1, 3, 5 & 7 - Out on frequency management.
NIPP	GEREGU NIPP	3	GT22 & 23 2	290	290	GT23 1	145	132	GT21 - Out on maintenance. GT22 - Out due to gas constraints.
	SAPELE NIPP	4	GT1 & 2 2	225	225	GT1 & 2 2	225	167.5	GT3 - Out on undisclosed fault. GT4 - Tripped on fire protection alarm. Generation reduced due to high gas temperature.
	ALAOJI NIPP GAS	4	GT1 & 2 2	250	240	0 0	0	0	GT1 & 2 - Tripped due to low gas pressure. GT3 - Shut down due to generator air inlet filter trouble. GT4 - Out on maintenance.
	OLORUNSOGO NIPP GAS	6	GT1 - 3 3	375	360	GT1 1	120	111.6	GT2 & 3 - Out on frequency management. GT4 - Out of production since 25/10/2016. ST13 & ST23 - Out on condensate pump problem.
	OMOTOSHO NIPP GAS	4	GT1 & 4 2	250	240	GT4 1	120	99.3	GT1 - Out on frequency management. GT2 - Tripped on loss of power supply from MCC. GT3 - Shut down due to oil leakage on the unit.
	ODUKPANI NIPP	5	GT2, 3, 4 & 5 4	480	468	GT2 & 4 2	234	190.1	GT1 - Out due to air inlet differential pressure. GT2 & 4 - On frequency response. GT3 & 5 - Out due to line constraint.
	IHOVBOR NIPP	4	GT1 - 3 3	337.5	337.5	GT3 1	112.5	81.7	GT1 & 2 - Out due to gas constraint. GT4 - Out on maintenance.
	GBARAIN NIPP GAS	1	0 0	0	0	0 0	0	0	GT2 - Out due to heater problem.
IPP	OKPAI GAS/STEAM	3	GT11, 12 & ST18 3	375	375	GT11, 12 & ST18 3	375	215	Generation limited to 375MW due to unavailability of one boiler as a result of water shortage.
	AFAM VI GAS/STEAM	4	GT11, 12, 13 & ST10 4	620	620	GT11 & 13 2	280	270	GT12 & ST10 - Out on frequency management.
	IBOM POWER GAS	3	GT3 1	115	77.1	GT3 1	77.1	77.1	GT1 & 2 - Out on fault. Generation reduced due to high air inlet differential pressure
	AES		0 0	0	0	0 0	0	0	Out of production since 27/09/2014.
	ASCO		0 0	0	0	0 0	0	0	GT1 - Shut down due to leakage in the furnace.
	OMOKU GAS	6	GT2 & 5 2	50	40	GT2 & 5 2	34.5	34.5	GT1 & 6 - Out on fault. GT3 - Out due to gas leakage. GT4 - Awaiting major overhaul.
	TRANS-AMADI	4	GT1, 2 & 4 3	75	60	GT1, 2 & 4 3	58.3	58.3	GT3 - Out on fault.
	RIVERS		0 0	0	0	0 0	0	0	Out of production since 16/09/2016.
	<b>SUB TOTAL</b>	<b>125</b>	<b>77</b>	<b>7254.5</b>	<b>7033.6</b>	<b>54</b>	<b>4833.4</b>	<b>3800.9</b>	Frequency = 50.35Hz.

1.7B GENERATION POSITION AT 06:00HRS OF WEDNESDAY 29/11/2017 FOR UNITS ON BILATERAL AGREEMENT

GENERATOR	UNIT	ST6	GT2 - 9	ST6	GT2 - 9	REMARK		
EGBIN	1	1	220	220	220	164	Available unit on bar.	
PARAS ENERGY	8	8	68.6	68.6	68.6	68.6	Available units on bar.	
<b>SUB TOTAL</b>	<b>9</b>	<b>9</b>	<b>288.6</b>	<b>288.6</b>	<b>288.6</b>	<b>232.6</b>		
<b>GRAND TOTAL</b>	<b>134</b>	<b>86</b>	<b>7543.1</b>	<b>7322.2</b>	<b>63</b>	<b>5,122.00</b>	<b>4,033.50</b>	Frequency = 50.35Hz.

1.7C BILATERAL AGREEMENT UNITS DISPATCH - TUESDAY 28/11/2017

FEEDERS NAME	MAX. LOAD (MW)	TIME (HRS)	HOURS IN SERVICE	REMARK	
Egbin ST6 120MW GENERATION TO IKEJA ELECTRICITY DISTRIBUTION COMPANY					
OGBA	U-STEEL	1MW	0900HRS	12HR	AWAIT PATROL
	PTCEXPRESS	OUT	out	out	TRIPPED ON O/C & E/F
	SANKYO	ON	0100HRS	22HRS	STATION WAS OPEN
	FEEDER 8	17MW	0900HRS	22HRS	STATION WAS OPEN
IKORODU	PULK IT	ON	0100	24	Nil
	INDUSTRIAL	20	2100	24	Nil
	SPINTEX	2	0100	24	Nil
	DANGOTE	4	0100	24	Nil
	LAND CRAFT	42	1700	24	Nil
ALAUISA	TR4 15MVA	OUT	OUT	OUT	PLANNED OUTAGE
	TR5 -15MVA	9.2	8:00	24	Nil
	ALAUISA	16.6	8:00	19	TRIPPED ON E/F
MLAND	PTC (MARYLAND)	17	17:00	24HRS	Nil
<b>TOTAL LOAD</b>		<b>110.8</b>			

BILATERAL AGREEMENT LOAD DISPATCH  
60MW PARAS ENERGY GENERATION TO CEB

FEEDER	MAX	TIME	HOURS IN SERVICE	REMARK
Ikeja West/Sakete 330KV line	69.4	03:00	24	NIL

**1.8 HYDROLOGICAL DATA: WEDNESDAY 29/11/2017**

	KAINJI	JEBBA	SHIRORO
HEAD WATER ELEVATION (METERS)	141.64	102.17	377.68
TAIL WATER ELEVATION (METERS)	104.10	73.80	270.2
GROSS OPERATING HEAD (METERS)	<b>37.54</b>	<b>28.37</b>	<b>107.48</b>
AVERAGE TURBINE DISCHARGE (M3/SEC)	902	1209	198
AVERAGE SPILLAGE (M3/SEC)	201	0	0
AVERAGE TOTAL STATION DISCHARGE (M3/SEC)	<b>1103</b>	<b>1209</b>	<b>198</b>
COMPUTED INFLOW (M3/SEC)	971	1070	51
STORAGE DIFFERENTIAL	-132	-139	-147
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 TUESDAY 28/11/2017**

DISCO	MAXIMUM LOAD(MW)	TIME(HRS)	ALLOCATED LOAD (MW)	MINIMUM LOAD(MW)	TIME(HRS)
ABUJA	484	22:00	642.24	297	08:00
EKO	342.5	21:00	714.31	185.1	13:00
IKEJA	485.5	22:00	837.70	356.2	04:00

**2.0 GAS POSITION: WEDNESDAY 29/11/2017**

STATION	SIGNED ACQ Annual Contracted Quantity MMSCF/D	NGC DECLARED QUANTITY (MMS317.578CF/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	510		1100		880	220
DELTA (GAS)	511		765		565	200
OMOTOSHO GAS	113.4		336.8		152	184.8
OMOTOSHO NIPP	99.3		500		120	380
OLORUNSOGO (GAS)	124.4		336		152	184
OLORUNSOGO NIPP	111.6		750		120	630
SAPELE NIPP	167.5		500		225	275
SAPELE STEAM	0		720		0	720
AFAM IV-V	63		300		63	237
AFAM VI	270		650		280	370
GEREGU GAS	261		435		435	0
GEREGU NIPP	132		435		145	290
OKPAI (GAS/STEAM)	215		480		375	105
ALAOJI NIPP	0		504		0	504
IHOVBOR NIPP	81.7		450		112.5	337.5
IBOM	77.1		198		77.1	120.9
ODUKPANI NIPP	190.1		625		234	391
<b>TOTAL</b>	<b>2927.1</b>		<b>9084.80</b>		<b>3935.6</b>	<b>5149.2</b>

1 MMSCF IS EQUIVALENT TO 3.75MW

**3.0 SPINNING RESERVE FOR : TUESDAY 28/11/2017**

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

**3.1 SYSTEM SPINNING RESERVE AS AT 0600HRS OF WEDNESDAY 29/11/2017 = 0MW. FREQUENCY 50.35Hz.**

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

**4.0 UNUTILIZED GENERATION CAPABILITY**

The unutilized generation capability for Wednesday 29/11/2017 as at 0600hrs was = 2473MW.

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	Geregu NIPP GT22	145	0	145	610
2	Ihovbor GT1 & 2	225	0	225	
3	Alaoji NIPP GT1 & 2	240	0	240	
			0	0	
			0	0	
			0	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 1373.12MMSCF OF GAS (EQUIVALENT TO 5149.2MW) WILL BE REQUIRED WHEN ALL THERMAL UNITS ARE ON BAR.					
<b>4.2 DUE TO LINE CONSTRAINTS</b>					
1	Odukpani NIPP GT3 & 5	234	0	234	234
			0	0	
			0	0	
<b>4.3 DUE TO FREQUENCY MANAGEMENT OCCASIONED BY DISCOS' LOAD DEMAND</b>					
1	Olorunsogo Gas GT1 , 3, 5 & 7	152	0	152	1479
2	Omotosho NIPP GT1	120	0	120	
3	Jebba 2G2	95	0	95	
4	Shiroro 411G1 & 2	300	194	106	
5	Geregu Gas GT11 - 13	435	261	174	
6	Afam VI GT12 & ST10	340	0	340	
7	Omotosho Gas GT2, 4, 6 & 8	152	0	152	
8	Olorunsogo NIPP GT2 & 3	240	0	240	
9	Delta GT19	100	0	100	
			0	0	
			0	0	
<b>4.4 DUE TO WATER MANAGEMENT</b>					
1	Shiroro 411G4	150	0	150	150
<b>Total</b>					<b>2473</b>

**5.0 OUTAGES:**

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

- 02:09 - 05:35Hrs, Geregu Gas GT13 tripped on fire protection fault. LHR = 125MW
- 15:39 through 24:00Hrs, Olorunsogo NIPP GT2 tripped on reverse power due to tripping of cct R2A. LHR = 101.5MW
- 21:47 through 24:00Hrs, Jebba 2G1 tripped on generator board trouble. LHR = 92MW.

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

- 01:28 - 01:44Hrs, Itu/Uyo 132kV line CB tripped at Itu T/S without relay indications. LHR = 40MW
- 01:28 through 24:00Hrs, Uyo T/S 60MVA 132/33kV transformer T1 primary CB tripped on REF. LHR = 20MW
- 10:38 – 11:38Hrs, Ayede/MCpherson/Shagamu/Ijebu-Ode 132kV line tripped at Ayede T/S on the following relay indications:  
Optimho relay – DEF delay  
Micom Relay: O/C Red & Yellow phases. LHR = 34MW
- 12:30 - 20:20Hrs, Ogba T/S 60MVA 132/33kV transformer T1 primary and secondary CBs tripped on the following relay indications:  
Primary: Differential.  
Secondary: E/F. LHR = 1MW  
Note: Transformer tripped due to trial restoration on PTC express 33kV feeder that failed on instantaneous O/C & E/F.
- 15:39 – 16:05Hrs, Olorunsogo/Ayede 330kV line (cct R2A) tie and main CBs tripped at both end on the following relay indications:  
**At Olorunsogo T/S:** NARI Relay: PB re-trip-OP ABC 609ms, PC re-trip OP ABC 609ms, 2PR1G3, 3P-OP ABC 623ms. **Note:** Line CB has been faulty  
**At Ayede T/S:** Siprotec Relay: General trip, Red phase zone 1, E/F O/C PUIP. L1, PU time = 598ms, trip time = 525ms, distance = 75.1km. No load interrupted as ccts R1W & H2A were in service.
- 19:09 – 19:55Hrs, Ikeja West/Sakete 330kV line (cct NW1BS) CB tripped on Siprotec Relay – General trip, Yellow Phase fault, backup O/C/STUP operated 5X – B PU. Phase B, PU time = 3006.5ms, trip time = 30000ms. LHR = 298MW.
- 22:00 – 23:15Hrs, Ikeja West/Alimosho 132kV line 1 CB tripped at Ikeja West T/S on Siemens Relay: General trip, directional O/C Red Phase, directional O/C Yellow Phase. LHR = 23MW.
- 22:00 – 23:16Hrs, Ikeja West/Alimosho 132kV line 2 CB tripped at Ikeja West T/S on Siemens Relay: directional O/C Red, Yellow & Blue Phases. LHR = 34MW.
- 22:00 – 23:20Hrs, Alimosho T/S 100MVA 132/33kV transformer T2 secondary CB tripped on instantaneous O/C & E/F. LHR = 10MW.

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

- 09:01 – 12:15Hrs, Gombe T/S 15MVA 132/33kV transformer T1 was taken out for maintenance crew to carry out annual preventive maintenance on the transformer. Load loss = 4.4MW
- 10:07 - 17:48Hrs, Afam IV GT18 was shut down to enable maintenance crew carry out test on unit GT17 breaker. Note GTs 17 & 18 are tied to the same transformer. Load loss = 61MW.
- 10:15 – 19:12Hrs, Egbin/Aja 330kV line 1 (cct N3J) was taken out for LMD crew to replace corroded glass insulator with silicone composite type on tower #11. Load loss = 80MW.
- 10:27 - 15:56Hrs, Kainji 1G12 was shut down to enable maintenance crew seal point of oil leakage on 150MVA 16/330kV unit transformer and top up low oil level on Yellow phase HV bushing to normal. Load loss = 45MW

**5 (D) URGENT OUTAGES:**

- 09:18 - 09:58Hrs, Jebba/Osogbo 330kV line 2 (cct J2H) was taken out at Jebba T/S to enable maintenance crew to top up low SF6 gas pressure of line GCB to normal. No load loss as cct J1H was in service.
- 10:15 - 11:28Hrs, Benin/Omotosho 330kV line (cct B5M) CB was taken out to enable maintenance crew refill low oil level on the hydraulic oil system of the Yellow phase pole to normal at Omotosho T/S. No load interruption as tie breaker was in service.
- 11:37 – 18:01Hrs, Suleja T/S 45MVA 132/33kV transformer TR2 was taken out as additional apparatus for safe working space to allow MBH contractor continue the installation of a new 60MVA transformer in the station. Load loss = 8MW.
- 13:25 – 14:38Hrs, Iseyin T/S 45MVA 132/33kV primary CB was taken out to top up low SF6 gas pressure to normal. Load loss = 3.5MW
- 13:27 through 24:00Hrs, Omotosho T/S 150MVA 330/132/33kV auto transformer was taken out to carry out maintenance on Omotosho Phase II, 7MVA 33/6.6kV that was out on fault. No load interruption as transformer was on soak.  
16:57Hrs, Job on the 150MVA 330/132/33kV auto transformer at Omotosho T/S was suspended.

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

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

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

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

**5 (H) 330KV LINES THAT ARE OUT ON BREAKER PROBLEM:-** cct N4J (on soak at Egbin T/S).

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

**5 (J) 330KV LINES THAT ARE OUT ON LINE FAULT:-** ccts D1K, U1A, U2A, H7V, K4U & S5B

**6 WEATHER REPORT:-** NIL

**7 INTERNATIONAL LINES:-**

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

Maximum load - 298MW at 19:00Hrs.  
Minimum load - 166MW at 12:00Hrs.

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

Maximum load - 96MW at 16:00Hrs.  
Minimum load - 66MW at 08:00Hrs.

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

Maximum load - 30.2MW at 20:00Hrs.  
Minimum load - 17.8MW at 05:00Hrs.

**8 MISCELLANEOUS:-**

- 01:09Hrs, Olorunsogo NIPP GT1 was shut down on frequency management. Load loss = 80MW.
- 02:25Hrs, Lokoja T/S 330kV 75MX Reactor R1 was placed in service on voltage control. V/P = 350/344kV.
- 02:36 - 05:49Hrs, Jebba P/S 2G4 was shut down on frequency management. Load loss = 71MW.
- 07:50Hrs, Odukpai NIPP GT2 was shut down on frequency management. Load loss = 81.7MW
- 11:42Hrs, Jebba 2G2 was shut down on frequency management. Load loss = 70MW
- 14:06Hrs, Omotosho Gas GT6 was shut down on frequency management. Load loss = 25.1MW

6 15:14 – 15:46Hrs, Ikeja West/Alimosho/Ogba 132kV line 2 was opened by control to isolate 60MVA 132/33kV transformer T1 that tripped on differential at Ogba T/S. 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 2 - OTHER 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.

GROUP 7 - ALL OTHER PLANTS.

**10 SYSTEM BLACK START CAPABILITY**

Delta, Shiroro & Egbin - Available.

**11 (A) COMMUNICATION MEDIA**

STATIONS	NO. INSTALLED	NO. WORKING
PLC/PAX	37	31
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	5	3
330kV	19	5	14
132kV	102	82	20

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

**SHIRORO REGION:**

- 1 Apo T/S 60MVA 132/33kV transformer TR3 - Burnt.
- 2 Birnin Kebbi 75MX Reactor R1.

**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.

7 14:57Hrs, Osogbo/Ihovbor 330kV line (cct H7V) was restored. The line was restored after Osogbo T/S LMD crew removed a cut sky wire between towers #240 & 241.

8 17:40Hrs, New Haven T/S 60MVA 132/33kV newly installed transformer was energized.

9 20:29Hrs, Geregu Gas GT11 was tied. The unit was out on maintenance.

10 20:34Hrs, Odukanji P/S GT4 was tied. The unit was out due line constraint.

11 21:27Hrs, Jebba P/S 2G1 was tied. The unit was out on frequency management.

12 22:10Hrs, New Haven T/S 60MVA 132/33kV transformer was taken out for continuation of the job on transformer. No load interruption as transformer was on soak.

13 22:45Hrs, Afam VI GT13 was tied to swap with GT12.

14 23:02Hrs, Afam VI GT12 was shut down load on it was transferred to GT13.

15 23:26Hrs, Jebba 2G2 was shut down on frequency management. Load loss = 90MW.

16 **LACK OF REACTOR AT IKOT-EKPENE T/S IS HINDERING SMOOTH OPERATION.**

**12(D) LAGOS REGION**

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

**SHIRORO REGION:- Nil**

**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.

**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.

**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.

**OSOGBO REGION:**

- 1 Omotosho 330kV T/S, 2nd series 330kV CB #3322 out due to control circuit problem.
- 2 Jebba/Osogbo 330kV line 1 (cct J1H) - Defective line isolator mechanism at Osogbo T/S

**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 NIL**

**12 (C) UNAVAILABLE/DEFECTIVE GROUND SWITCHES**

**Benin Region**

- 1 Irrua T/S: Benin/Irrua 132kV line Earth Switch - faulty.

**ENUGU REGION:**

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

- 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 Apo T/S 132kV Keffi line - 36 spans
- 4 Shiroro T/S 330kV Jebba line 2 - 28 spans

**12 (G) UNAVAILABLE SYNCHROSCOPES :**

- 1 Benin, Ikeja West, Onitsha, Egbin, Ugwuaji, Osogbo, Kaduna, Jos, Gwagwalada & Alaaji 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