

# TRANSMISSION COMPANY OF NIGERIA

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

## DAILY OPERATIONAL REPORT OF TUESDAY 08/01/2019

### FOR: EVENTS OF MONDAY 07/01/2019

#### 1.0 EXECUTIVE OPERATIONS SUMMARY:

##### 1.1 GENERATION PROFILE: NATIONAL STATISTICS

DETAILS	MW	HRS	DATE
PEAK DEMAND FORECAST (CONNECTED + SUPPRESSED LOAD)	23,020	21:00	07/01/2019
GENERATION CAPABILITY	5295.8	-do-	-do-
UNITS ON BAR CAPABILITY AT PEAK	4934.8	-do-	-do-
PEAK GENERATION	4884.8	-do-	-do-
LOWEST GENERATION	3591.6	04:00	07/01/2019
8-HOURLY DURATION PEAK	4060.3	0100-0800	-do-
	4148.5	0900-1600	-do-
	4884.8	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	346	Jos & Lokoja T/S	03:00 & 04:00
LOWEST VOLTAGE FOR THE DAY	300	Alagbon Lekki, Ajah & Gombe T/S	20:00, 24:00, 24:00 & 06:00

#### 1.3 FREQUENCY RANGE

DETAILS	HZ	HRS
NOMINAL FREQUENCY	50	
STATUTORY LIMITS	49.75-50.25	
HIGHEST FREQUENCY	50.39	00:17
LOWEST FREQUENCY	49.930	20:11

#### 1.4 SYSTEM COLLAPSE UP DATE

Date of last total collapse: 3rd Jan., 2019		No. of days since last total collapse: 05												
Date of last partial collapse: 12th April, 2018		No. of days since last partial collapse: 270												
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	0	0	1	1	0	2	--	--	1	11
	Partial	0	0	0	1	0	--	--	--	0	--	--	--	1
2019	Total	1	--	--	--	--	--	--	--	--	--	--	--	1
	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	428	373
2 JEBBA	HYDRO	460	262
3 SHIRORO	HYDRO	297	117
4 EGBIN ST2 - 5	STEAM	111	113
5 SAPELE	STEAM	0	0
6 DELTA	GAS	305	257
7 AFAM IV-V	GAS	50	40
8 GEREGU GAS	GAS	434	332
9 OMOTOSHO GAS	GAS	133.9	121.4
10 OLORUNSOGO GAS	GAS	168.8	198.8
11 GEREGU NIPP	GAS	275	211
12 SAPELE NIPP	GAS	104.9	88.5
13 ALAOJI NIPP	GAS	78.4	61.6
14 OLORUNSOGO NIPP	GAS	0	0
15 OMOTOSHO NIPP	GAS	110.9	101.2
16 ODUKPANI NIPP	GAS	229.3	96.2
17 IHOVBOR NIPP	GAS	107.3	106.4
18 OKPAI	GAS	337	219
19 AFAM VI	GAS	110	0
20 IBOM POWER	GAS	110.7	93.6
21 ASCO	GAS	0	0
22 A.E.S	GAS	0	0
23 OMOKU	GAS	58.5	61.1
24 TRANS AMADI	GAS	20.2	58.2
25 RIVERS IPP	(GAS)	165	80
26 AZURA - EDO IPP	(GAS)	446	280
27 EGBIN ST6	(GAS)	166	163
28 PARAS ENERGY	(GAS)	68.8	68.8
29 GBARAIN NIPP	GAS	109.1	88.8
<b>TOTAL</b>		<b>4884.8</b>	<b>3591.6</b>

  

1.6 ENERGY GENERATED/ENERGY SENT OUT:					
STATION	TURBINE	ENERGY GENERATED MWH	AV ENERGY GENERATED MWH/H	ENERGY SENT OUT MWH	AV. ENERGY SENT OUT MWH/H
1 KAINJI	HYDRO	9323.00	388.46	9307.70	387.82
2 JEBBA	HYDRO	7414.00	308.92	7395.04	308.13
3 SHIRORO	HYDRO	3861.00	160.88	3832.41	159.68
4 EGBIN ST2 - 5	STEAM	6663.00	277.63	6255.50	260.65
5 SAPELE	STEAM	0.00	0.00	0.00	0.00
6 DELTA	GAS	7966.02	331.92	7805.40	325.23
7 AFAM IV-V	GAS	1172.09	48.84	1167.71	48.65
8 GEREGU GAS	GAS	8970.30	373.76	8938.74	372.45
9 OMOTOSHO GAS	GAS	2984.00	124.33	2961.10	123.38
10 OLORUNSOGO GAS	GAS	4179.93	174.16	4150.82	172.95
11 GEREGU NIPP	GAS	5860.14	244.17	5841.31	243.39
12 SAPELE NIPP	GAS	2281.60	95.07	2261.20	94.22
13 ALAOJI NIPP	GAS	1385.31	57.72	1373.81	57.24
14 OLORUNSOGO NIPP	GAS	0.00	0.00	0.00	0.00
15 OMOTOSHO NIPP	GAS	2541.50	105.90	2522.50	105.10
16 ODUKPANI NIPP	GAS	3928.63	163.69	3901.53	162.56
17 IHOVBOR NIPP	GAS	2340.00	97.50	2321.21	96.72
18 OKPAI	GAS	6801.00	283.38	6673.70	278.07
19 AFAM VI	GAS	646.91	26.95	605.00	25.21
20 IBOM	GAS	2319.30	96.64	2311.00	96.29
21 ASCO	GAS	0.00	0.00	0.00	0.00
22 AZURA - EDO IPP	GAS	8856.45	369.02	8824.27	367.68
23 A.E.S	GAS	0.00	0.00	0.00	0.00
24 OMOKU	GAS	1448.30	60.35	1412.12	58.84
25 TRANS AMADI	GAS	931.70	38.82	905.90	37.75
26 RIVERS IPP	GAS	2867.90	119.50	2853.00	118.88
27 EGBIN ST6	STEAM	0.00	0.00	0.00	0.00
28 PARAS ENERGY	GAS	1637.40	68.23	1632.20	68.01
29 GBARAIN NIPP	GAS	2296.00	95.67	2282.30	95.10
<b>TOTAL</b>		<b>98,675.48</b>	<b>4,111.48</b>	<b>97,535.47</b>	<b>4,063.98</b>

1.7A GENERATION POSITION AT 06:00HRS OF TUESDAY 08/01/2019

	STATIONS	NO OF UNITS INSTALLED	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 50.23Hz.	REMARKS
PRIVATISED COMPANIES	KAINJI HYDRO	8	1G5, 6, 11 & 12 4	440	420	1G5, 6, 11 & 12 4	420	398	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	461	2G1, 3, 4 & 5 4	364	329	2G2 - Out due to low load demand by the Discos. 2G6 - Out due to burnt generator winding and AVR.
	SHIRORO HYDRO	4	411G1, 2 & 4 3	450	450	411G1 & 4 2	300	209	411G1 - Generation reduced due to low load demand by the Discos. 411G2 - Shut down on water management. 411G3 - Out on annual maintenance.
	EGBIN STEAM	6	ST4 & 6 2	440	278	ST4 & 6 2	278	278	ST1 - Out due to the unit transformer problem. ST2 - Out due to middle burner level problem. ST3 - Out on high vibration since 19th June 2017. ST4 - Generation reduced due to turbine valve problem. ST5 - Tripped due to loss of lower burner and tube leakage. ST6 - Generation reduced due to a burner problem.
	SAPELE (STEAM)	6	0 0	0	0	0 0	0	0	ST1 & 3 - Tripped on low water drum level. ST2 - Tripped on high vibration. ST4 & 5 - Awaiting major overhaul. ST6 - Tripped on gas control valve not following reference point.
	DELTA (GAS)	18	GT6, 7, 9 - 13, 16 & 19 9	335	335	GT6, 7, 9 - 13, 16 & 19 9	312	312	GT2 - Tripped on transformer differential lockout. GT3 & 5 - Out on generator winding fault. GT4 - Out on loss of excitation. GT8 & 14 - Out on major overhaul. GT20 - Out due to high inlet differential pressure. GT15 - Out due to cooling fan trouble. GT17 - Tripped on bearing vibration more than maximum. GT18 - Out due to generator lockout problem.
	AFAM IV & V (GAS)	8	GT18 1	70	44	0 0	0	0	GT11 - 12 - De-commissioned and scrapped. GT13, 14 & 16 - Out on blade failure. GT17 - Out due to oil leakage on the bearing compartment. GT18 - Out due to low load demand by the Discos. GT19 & 20 - Awaiting major overhaul.
	GEREGU GAS	3	GT11 - 13 3	435	435	GT11 - 13 3	435	397	Available units on bar.
	OMOTOSHO GAS	8	GT1, 4, 6, 7 & 8 5	210	190	GT1, 6, 7 & 8 4	135.9	135.9	GT2, 3 & 5 - Out due to gas constraint. GT4 - Out due to low load demand by the Discos.
	OLORUNSOGO GAS	8	GT1, 3, 4, 5, 7 & 8 6	252	169.2	GT1, 3, 4, 5, 7 & 8 6	169.2	169.2	GT2 & 6 - Out due to gas constraint.
NIPP	GEREGU NIPP	3	GT21 & 23 2	290	290	GT21 & 23 2	290	263	GT22 - Out on maintenance.
	SAPELE NIPP	4	GT1 1	112.5	112.5	GT1 1	112.5	95.2	GT2 - Out due to 125V D.C battery ground alarm. GT3 - Out due to low gas pressure. GT4 - Out due to high air filter differential pressure.
	ALAOJI NIPP GAS	4	0 0	0	0	0 0	0	0	GT1 - 2 - Out due to high air inlet differential pressure. GT3 - Shut down due to lack of spare part. GT4 - Tripped on over voltage lockout relay trip.
	OLORUNSOGO NIPP	6	0 0	0	0	0 0	0	0	GT1 - 3 - Shut down due to low gas pressure. GT4 - Out due to ignition failure and control relay failure alarm. ST13 & ST23 - Out on maintenance.
	OMOTOSHO NIPP GAS	4	GT2 1	125	120	GT2 1	120	106.7	GT1, 3 & 4 - Out due to gas constraint.
	ODUKPANI NIPP	5	GT4 & 5 2	225	225	GT4 & 5 2	225	215.8	GT1 - Out on fault. GT2 & 3 - Tripped on low gas pressure.
	IHOVBOR NIPP	4	GT4 1	113.7	113.7	GT4 1	113.7	113.7	GT1 - Out due to gas station maintenance. GT2 - Tripped on main transformer oil temperature 2nd phase trip alarm. GT3 - Tripped on high vibration.
	GBARAIN NIPP GAS	1	GT2 1	112.5	112.5	GT2 1	112.5	103.1	Available unit on bar.
IPP	OKPAI GAS/STEAM	3	GT11, 12 & ST18 3	450	370	GT11, 12 & ST18 3	370	227	GT12 - Generation reduced due to low load demand by the Discos. ST18 - Generation limited due to boiler problem.
	AZURA - EDO	3	GT11 - 13 3	461	461	GT11 - 13 3	461	349	GT11 - Generation reduced due to low load demand by the Discos.
	AFAM VI GAS/STEAM	4	GT12, 13 & ST10 3	500	500	GT13 1	150	137	GT11 - Out on type C inspection. GT12 & ST10 - Out due to low load demand by the Discos.
	IBOM POWER GAS	3	GT3 1	115	115	GT3 1	115	100.3	GT1 & 2 - Out due to fire outbreak on the control panel. GT3 - On manual adjustment to frequency. Generation reduced due to low load demand by the Discos.
	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, 3 & 5 3	75	61	GT1, 3 & 5 3	61	61	GT2 - Tripped on high vibration. GT4 - Out on major overhaul. GT6 - Out on maintenance.
	TRANS-AMADI	4	0 0	0	0	0 0	0	0	GT1, 2 & 4 - Out due to gas constraint. GT3 - Out on fault.
	RIVERS	1	GT 1	160	160	GT 1	160	120	GT1 - Generation reduced due to low load demand by the Discos.
	SUB TOTAL	141	60	5846.7	5422.9	54	4704.8	4119.9	Frequency = 50.23Hz.

1.7B GENERATION POSITION AT 06:00HRS OF TUESDAY 08/01/2019 FOR UNITS ON BILATERAL AGREEMENT

PARAS ENERGY	8	GT2 - 9 8	70	65.6	GT2 - 9 8	65.6	65.6	Available units on bar.
SUB TOTAL	8	8	70	65.6	8	65.6	65.6	
GRAND TOTAL	149	68	5916.7	5488.5	62	4,770.40	4,185.50	Frequency = 50.23Hz

1.7C		BILATERAL AGREEMENT UNITS DISPATCH - MONDAY 07/01/2019							
		EGBIN ST6 5MW GENERATION TO IKEJA ELECTRICITY DISTRIBUTION COMPANY							
FEEDERS NAME	MAX. LOAD (MW)	TIME (HRS)	MIN LOAD (MW)	TIME (HRS)	HRS IN SERVICE	TOTAL (MWH)	REMARK		
U-STEEL	ON	0100HRS			24		NIL		
PTCEXPRESS	ON	0100HRS			24		NIL		
SANKYO	2	1700HRS			24		NIL		
FEEDER 8	14	0900HRS			24		NIL		
PULK IT	3	1000HRS			24		NIL		
INDUSTRIAL	7	2400HRS			24		NIL		
SPINTEX	6	2300HRS			24		NIL		
DANGOTE	3	1200HRS			24		NIL		
LAND CRAFT	42	2200HRS			24		NIL		
TR4 15MVA	8.3	1000HRS			23		DUE TO L/S		
TR5 -15MVA	6	1100HRS			24		NIL		
ALAUUSA	15.2	1000HRS			24		NIL		
PTC (MARYLAND)	21MW	1300HRS			24		NIL		
<b>TOTAL LOAD</b>									

BILATERAL AGREEMENT LOAD DISPATCH 60MW PARAS ENERGY GENERATION TO CEB OF MONDAY 07/01/2019									
FEEDER	MAX LOAD (MW)	TIME (HRS)	MIN LOAD (MW)	TIME (HRS)	HOURS IN SERVICE	TOTAL (MWH)	REMARK		
Ikeja West/Sakete 330kV line	68.8	01:00	65.6	07:00	24	1637.4	NIL		
BILATERAL AGREEMENT MAIN STREAM ENERGY KAINJI LOAD DISPATCH TO THE FOLLOWING COMPANIES OF: MONDAY 07/01/2019									
COMPANY NAME	VOLTAG E LEVEL	CON-TRAC-TUAL LOAD (MW)	MAX LOAD (MW)	TIME (HRS)	MIN LOAD (MW)	TIME (HRS)	HOURS IN SERVICE	TOTAL (MWH)	REMARK
INNER GALAXY	132kV line 2	0	44	16:00	24	21:00	17	602	
KAM STEEL		25.0	1.1	13:00	0.1	08:00	24	<b>11.8</b>	SUPPLY NOT INTERRUPTED
ASHAKA CEMENT		0	7.2	20:00	4.9	11:00	24	<b>149.3</b>	SUPPLY NOT INTERRUPTED
XING 1		0	16.2	22:00	9	19:00	24	<b>9.4</b>	TRIPPED ON E/F
XING 2	33kV feeder	0	31.5	24:00	15.6	19:00	24	<b>603.7</b>	
KAM INTEGRATED		15	4.7	10:00	1.5	03:00	24	<b>63.6</b>	SUPPLY NOT INTERRUPTED
OLAM FLOUR MILLS		3	2	20:00	0.6	08:00	24	<b>32.7</b>	SUPPLY NOT INTERRUPTED
LORDSMITH		3	0.5	13:00	0.3	01:00	24	<b>32.7</b>	SUPPLY NOT INTERRUPTED

1.8 HYDROLOGICAL DATA: TUESDAY 08/01/2019

	KAINJI	JEBBA	SHIRORO
HEAD WATER ELEVATION (METERS)	141.39	102.44	376.84
TAIL WATER ELEVATION (METERS)	104.5	74.3	270.0
GROSS OPERATING HEAD (METERS)	<b>36.89</b>	<b>28.14</b>	<b>106.84</b>
AVERAGE TURBINE DISCHARGE (M3/SEC)	1161.00	1199.00	184.00
AVERAGE SPILLAGE (M3/SEC)	200.00	0.00	0.00
AVERAGE TOTAL STATION DISCHARGE (M3/SEC)	<b>1361.00</b>	<b>1199.00</b>	<b>184.00</b>
COMPUTED INFLOW (M3/SEC)	1663.00	1373.00	45.00
STORAGE DIFFERENTIAL	<b>302.00</b>	<b>174</b>	<b>-139</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 MONDAY 07/01/2019

	MAXIMUM LOAD (MW)	TIME (HRS)	ALLOCATED LOAD (MW)	MINIMUM LOAD (MW)	TIME (HRS)
ABUJA	519.3	12:00	484.11	352	04:00
EKO	465.7	03:00	563.06	305.7	10:00
IKEJA	543.9	10:00	613.44	462.2	14:00

2.0 GAS POSITION: TUESDAY 08/01/2019

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	282	1100	278	822	822
DELTA (GAS)	416	915	312	603	603
OMOTOSHO GAS	134	336.8	135.9	200.9	200.9
OMOTOSHO NIPP	114.7	500	120	380	380
OLORUNSOGO (GAS)	172.6	336	169.2	166.8	166.8
OLORUNSOGO NIPP	0	750	0	750	750
SAPELE NIPP	0	500	112.5	387.5	387.5
SAPELE STEAM	0	720	0	720	720
AFAM IV-V	50	300	0	300	300
AFAM VI	134	650	150	500	500
GEREGU GAS	270	435	435	0	0
GEREGU NIPP	181	435	290	145	145
OKPAI (GAS/STEAM)	216	480	370	110	110
ALAOJI NIPP	0	504	0	504	504
IHOV/BOR NIPP	100.1	337.5	112.5	225	225
IBOM	97.8	198	115	83	83
ODUKPANI NIPP		625	225	400	400
<b>TOTAL</b>	<b>2168.2</b>	<b>9122.30</b>	<b>2825.1</b>	<b>6297.2</b>	<b>6297.2</b>

1 MMSCF IS EQUIVALENT TO 3.75MW

3.0 SPINNING RESERVE FOR : MONDAY 07/01/2019

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

3.1 SYSTEM SPINNING RESERVE AS AT 0600HRS OF TUESDAY 08/01/2019 = 0MW, FREQUENCY 50.23Hz.

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	
		GT4		0	
4	Geregu NIPP	GT22	35	0	0
		GT1		0	
5	Omotosho NIPP	GT2	40	0	0
		GT3		0	
				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 Tuesday 08/01/2019 as at 0600Hrs was = 993MW.

S/N	STATION	ACTUAL GENERATION CAPABILITY (MW)	GENERATION AT 0600HRS (MW)	UNAVAILABLE GENERATION CAPABILITY (MW)	SUB-TOTAL
<b>4.1 DUE TO LINE CONSTRAINTS</b>					
			0	0	0
			0	0	
			0	0	
			0	0	
<b>4.2 DUE TO LOW LOAD DEMAND BY THE DISCOS</b>					
1	Okpai GT12	145	50	95	843
2	Jebba 2G2	90	0	90	
3	Afam VI GT12 & ST10	350	0	350	
4	Azura-Edo GT11	153	75	78	
5	Omotosho GT4	38	0	50	
6	Shiroro 411G1	150	60	90	
7	Afam IV GT18	50	0	50	
8	Rivers GT1	160	120	40	
				0	
				0	
				0	
<b>4.3 DUE TO WATER MANAGEMENT:</b>					
1	Shiroro 411G2	150	0	150	150
<b>Grand Total</b>					<b>993</b>

5.0 OUTAGES:

5 (A) FORCED OUTAGES (GENERATION):

1 20:13 through 24:00Hrs, Delta GT19 tripped on high exhaust temperature spread. LHR = 90MW

5 (B) FORCED OUTAGES (TRANSMISSION):

1 00:58 - 01:12Hrs, Adiator/Calabar 132kV line 1 CB tripped at Adiator T/S on E/F. LHR = 10MW  
2 01:17 - 07:09Hrs, Adiator/Calabar 132kV line 1 CB tripped at Adiator T/S on O/C and distance protection relay. LHR = 4MW  
3 01:17 - 07:13Hrs, Calabar T/S 60MVA 132/33kV transformer T1 primary CB tripped on O/C Yellow phase. LHR = 4MW  
4 07:19 - 07:38Hrs, Adiator/Calabar 132kV line 1 CB tripped at Adiator T/S on distance protection relay. LHR = 0.1MW  
5 07:19 - 07:38Hrs, Calabar T/S 60MVA 132/33kV transformer T1 primary CB tripped on O/C Yellow phase. LHR = 0.1MW  
6 09:50 - 16:04Hrs, Ijora T/S 30MVA 132/33kV transformer T1A primary CB tripped on Red and Blue phases biased differential. No load loss as 30MVA 132/33kV transformer T2B & 45MVA 132/33kV transformer T2A were in service.  
7 16:30 - 20:53Hrs, Mando T/S 60MVA 132/33kV transformer T2 primary CB tripped on REF, general trip and trip repeat relay. LHR = 17.2MW  
8 16:32 - 16:50Hrs, Mando/Kumbotso 330kV line (cct M6N) CB tripped at Kumbotso T/S without relay indication. LHR = 195MW  
9 18:58 - 19:06Hrs, Ayede/Ibadan North/Iwo/Iseyin 132kV line CB tripped at Ayede T/S on Siemens back up relay – O/C Blue phase. LHR = 70MW

5 (C) PLANNED OUTAGES:- NIL

5 (D) URGENT OUTAGES:-

1 09:29 - 09:44Hrs, Ikeja-West/Ayobo 132kV line 1 was taken to reduced load flow on cct M5W. Load loss = 32MW.  
2 09:29 - 09:46Hrs, Ikeja-West/Alimosho 132kV line 1 was taken to reduced load flow on cct M5W. Load loss = 36MW.  
3 10:21 - 11:58Hrs, Shiroro 411G1 was shut down for maintenance. Load loss = 50MW  
4 13:26 - 13:34Hrs, Okene/Okpella 132kV line CB was taken out to top up oil level on 15MVA 132/33kV primary CB to normal level at Okene T/S. Load loss = 8MW  
5 14:42 through 24:00Hrs, Trans-Amadi GT2 was shut down due to low gas pressure. Load loss = 10.5MW  
6 14:44 through 24:00Hrs, Trans-Amadi GT1 was shut down due to low gas pressure. Load loss = 10.2MW  
7 17:17 - 17:32Hrs, Mando/Kumbotso 330kV line (cct M6N) was opened to build up low SF6 gas pressure of the line CB to normal level at Kumbotso T/S. No load loss as the tie CB was in service.  
8 19:25 - 21:21Hrs, Osogbo T/S 30MVA 132/33kV transformer 4T5 was taken out for safe working space to allow IBEDC remove jumpers on Ede/Water Works 33kV feeder and transfer it to 60MVA 132/33kV transformer 4T3 due to defective secondary CB on the transformer. No load interruption as the transformer was on soak.

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

5 (F) AUTOMATIC UNDER FREQUENCY OPERATION:-

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

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

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

5 (J) 330KV LINES THAT ARE OUT ON LINE FAULT:- ccts D3T, J2H, D2K, K3U & K4U

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

6 WEATHER REPORT:- NIL

7 INTERNATIONAL LINES:-

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

Maximum load - 292MW at 19:00Hrs.  
Minimum load - 223MW at 11:00Hrs.

B BIRNIN KEBBI/NAMEY 132KV LINE

Maximum load - 88.0MW at 20:00Hrs.  
Minimum load - 47.0MW at 04:00Hrs.

C KATSINA/GAZAOUA/MARADI 132KV LINE

Maximum load - 35.6MW at 19:00Hrs.  
Minimum load - 15MW at 17:00Hrs.

8 MISCELLANEOUS:-

1 00:29 – 05:21Hrs, Jebba 2G3 was shut down due to low load demand by the Discos. Load loss = 79MW  
2 01:10 – 05:46Hrs, Delta GT19 was shut down due to low load demand by the Discos. Load loss = 60MW  
3 07:07Hrs, Odukpani NIPP GT5 was tied. The unit was out due to low gas pressure.  
4 07:53 - 18:45Hrs, Jebba 2G3 was shut down due to low load demand by the Discos. Load loss = 78MW  
5 10:5Hrs, Alaoji NIPP GT2 was tied. The unit was out due to gas constraint.  
6 10:20Hrs, Shiroro 411G2 was tied. The unit was out due to water management

10 **COMMUNICATION MEDIA**

STATIONS	NO INSTALLED	NO. WORKING
PLC/PAX	38	33
OPTIC FIBRE	13	12
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	5	14
132kV	102	74	28

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 reactor installed.

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
- 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.

- 7 11:59 through 24:00Hrs, Shiroro 411G2 was shut down. No load loss as 50MW was transferred to 411G1.
  - 8 17:59Hrs, Delta GT20 was tied to swap with GT15. The unit was out due to low load demand by the Discos.
  - 9 18:10Hrs, Delta GT15 was shut down. No load loss as 62MW was transferred to GT20.
  - 10 19:05Hrs, Afam VI GT13 was tied. The unit was out due to low gas pressure.
  - 11 20:16Hrs, Jebba 2G2 was tied. The unit was out due to low load demand by the Discos.
  - 12 23:10 through 24:00Hrs, Jebba 2G2 was shut down due to low load demand by the Discos. Load loss = 86MW
- \*\*\*\* **THE SCADA COVERAGE OF ONLY LIMITED AREAS IS NOT GOOD FOR THE SMOOTH OPERATION OF THE GRID.**
- \*\*\*\* **LACK OF REACTOR AND UNRELIABLE STATION SERVICE SUPPLY AT IKOT-EKPENE T/S ARE HINDERING SMOOTH OPERATION.**

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



