

# TRANSMISSION COMPANY OF NIGERIA

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

DAILY OPERATIONAL REPORT OF THURSDAY 10/05/2018

FOR: EVENTS OF WEDNESDAY 09/05/2018.

1.0 EXECUTIVE OPERATIONS SUMMARY:

1.1 GENERATION PROFILE: NATIONAL STATISTICS

DETAILS	MW	HRS	DATE
PEAK DEMAND FORECAST (CONNECTED + SUPPRESSED LOAD)	22,780	21:30	09/05/2018
GENERATION CAPABILITY	8209.4	-do-	-do-
UNITS ON BAR CAPABILITY AT PEAK	5376.4	-do-	-do-
PEAK GENERATION	4740.0	-do-	-do-
LOWEST GENERATION	3379.2	08:00	09/05/2018
8-HOURLY DURATION PEAK	3727.4	0100-0800	-do-
	3904.7	0900-1600	-do-
	4740	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	355	Omotosho T/S	02:00
LOWEST VOLTAGE FOR THE DAY	300	Gombe T/S	14:00

1.3 FREQUENCY RANGE

DETAILS	HZ	HRS
NOMINAL FREQUENCY	50	
STATUTORY LIMITS	49.75 - 50.25	
HIGHEST FREQUENCY	50.66	08:00
LOWEST FREQUENCY	49.85	19:54

1.4 SYSTEM COLLAPSE UP DATE

Date of last total collapse: 1st Feb., 2018		No. of days since last total collapse: 90											
Date of last partial collapse: 12 <sup>th</sup> April., 2018		No. of days since last partial collapse: 26											
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	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	0	1	6
	Partial	--	--	1	0	2	0	--	0	0	1	0	4
2016	Total	--	--	2	3	6	5	0	0	1	1	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	--	--	--	--	--	--	--	--	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	270	176
2 JEBBA	HYDRO	330	215
3 SHIRORO	HYDRO	534	240
4 EGBIN ST2 - 5	STEAM	478	380
5 SAPELE	STEAM	52	47
6 DELTA	GAS	601	343
7 AFAM IV-V	GAS	0	67
8 GEREGU GAS	GAS	55	80
9 OMOTOSHO GAS	GAS	136.7	140.7
10 OLORUNSOGO GAS	GAS	166.1	146.7
11 GEREGU NIPP	GAS	80	80
12 SAPELE NIPP	GAS	194.1	113.9
13 ALAQJI NIPP	GAS	0	0
14 OLORUNSOGO NIPP	GAS	57.1	149.9
15 OMOTOSHO NIPP	GAS	109.5	82.2
16 ODUKPANI NIPP	GAS	0	0
17 IHOVBOR NIPP	GAS	90.6	90.4
18 OKPAI	GAS	247	150
19 AFAM VI	GAS	393	230
20 IBOM POWER	GAS	90.3	80.4
21 ASCO	GAS	0	0
22 A.E.S	GAS	0	0
23 OMOKU	GAS	56.2	21.2
24 TRANS AMADI	GAS	0	0
25 RIVERS IPP	(GAS)	150	105
26 AZURA - EDO IPP	(GAS)	450	262
27 EGBIN ST6	(GAS)	130	111
28 PARAS ENERGY	(GAS)	69.4	67.8
29 GBARAIN NIPP	GAS	0	0
<b>TOTAL</b>		<b>4740</b>	<b>3379.2</b>

1.6 ENERGY GENERATED/ENERGY SENT OUT:

STATION	TURBINE	ENERGY GENERATED		ENERGY SENT OUT	
		MWH	MWH/H	MWH	MWH/H
1 KAINJI	HYDRO	5580.00	232.50	5563.10	231.80
2 JEBBA	HYDRO	6191.00	257.96	6169.60	257.07
3 SHIRORO	HYDRO	7993.00	333.04	7962.64	331.77
4 EGBIN ST2 - 5	STEAM	9486.00	395.25	8946.10	372.75
5 SAPELE	STEAM	1049.40	43.73	1049.40	43.73
6 DELTA	GAS	12249.06	510.38	12078.50	503.27
7 AFAM IV-V	GAS	849.00	35.38	844.00	35.17
8 GEREGU GAS	GAS	1652.30	68.85	1630.76	67.95
9 OMOTOSHO GAS	GAS	3383.00	140.96	3358.00	139.92
10 OLORUNSOGO GAS	GAS	3442.74	143.45	3416.69	142.36
11 GEREGU NIPP	GAS	2132.49	88.85	2119.80	88.33
12 SAPELE NIPP	GAS	3646.47	151.94	3622.00	150.92
13 ALAQJI NIPP	GAS	0.00	0.00	0.00	0.00
14 OLORUNSOGO NIPP	GAS	3057.60	127.40	3004.70	125.20
15 OMOTOSHO NIPP	GAS	2337.70	97.40	2321.70	96.74
16 ODUKPANI NIPP	GAS	0.00	0.00	0.00	0.00
17 IHOVBOR NIPP	GAS	2140.00	89.17	2122.53	88.44
18 OKPAI	GAS	4624.00	192.67	4546.30	189.43
19 AFAM VI	GAS	6414.12	267.26	6306.64	262.78
20 IBOM	GAS	1885.87	78.58	1877.00	78.21
21 ASCO	GAS	0.00	0.00	0.00	0.00
22 AZURA - EDO IPP	GAS	7454.00	310.58	7432.70	309.70
23 A.E.S	GAS	0.00	0.00	0.00	0.00
24 OMOKU	GAS	898.00	37.42	870.80	36.28
25 TRANS AMADI	GAS	0.00	0.00	0.00	0.00
26 RIVERS IPP	GAS	2959.30	123.30	2953.01	123.04
27 EGBIN ST6	STEAM	3035.00	126.46	2867.70	119.49
28 PARAS ENERGY	GAS	1646.70	68.61	1637.50	68.23
29 GBARAIN NIPP	GAS	0.00	0.00	0.00	0.00
<b>TOTAL</b>		<b>94,106.75</b>	<b>3,921.11</b>	<b>92,701.07</b>	<b>3,862.54</b>

1.7A GENERATION POSITION AT 06:00HRS OF THURSDAY 10/05/2018

	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 & 12 3	340	290	1G5, 6 & 12 3	290	143	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 - Out on maintenance.
	JEBBA HYDRO	6	2G1 - 3 & 5 4	380	380	2G1 & 5 2	190	141	2G2 - Out on water management. 2G3 - 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	411G1, 2 & 4 3	450	150	411G1, 2 & 4 - Generation reduced on frequency management. 411G3 - Out on frequency management.
	EGBIN STEAM	5	ST1, 2, 4 & 5 4	880	880	ST2, 4 & 5 3	384	335	ST1 - Out on frequency management. ST3 - Tripped on high vibration since 19th June 2017. Generation reduced on frequency management.
	SAPELE (STEAM)	6	ST2 1	120	47	ST2 1	47	47	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	635	456	GT3 & 5 - Out due to generator winding fault. GT4, 7 & 9 - 13 - Generation reduced on frequency management. GT6 & 14 - Out on major overhaul. GT17 - Out on excitation trouble.
	AFAM IV & V (GAS)	8	GT18 1	75	62	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 loss of gas pressure. GT19 & 20 - Awaiting major overhaul.
	GEREGU GAS	3	GT11 - 13 3	435	435	GT12 1	145	71	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	142.3	GT2 - 5 - Out on frequency management.
	OLORUNSOGO GAS	8	GT1 - 8 8	336	304	GT1 & 4 - 6 4	152	109.9	GT2, 3, 7 & 8 - Out on frequency management. Generation reduced on frequency management.
NIPP	GEREGU NIPP	3	GT21 - 23 3	435	435	GT22 3	145	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	148.3	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	77.3	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	GT2 1	112.5	112.5	GT2 1	112.5	90.5	GT1 & 4 - Out on maintenance. GT3 - Tripped on bleed inlet valve position.
	GBARAIN NIPP GAS	1	GT2 1	112.5	112.5	0 0	0	0	GT2 - Shut down due to staff on strike.
	OKPAI GAS/STEAM	3	GT11, 12 & ST18 3	375	375	GT11 & 12 2	300	135	GT12 - Generation reduced on frequency management. ST18 - Shut down on frequency management.
	AZURA - EDO	3	GT11 - 13 3	450	450	GT11 & 13 2	300	262	GT12 - Out on frequency management.
IPP	AFAM VI GAS/STEAM	4	GT11 - 13 & ST10 4	640	640	GT12 & 13 2	300	203	GT11 - Out on frequency management. ST10 - Out due to gas constraint.
	IBOM POWER GAS	3	GT3 1	115	115	GT3 1	115	71.3	GT1 & 2 - Out on fault.
	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	80	GT1 1	21.4	21.4	GT2, 5 & 6 - Out due to tripping of Alaoji/Afam 1132kV line 2. 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	140	Available unit on bar.
	<b>SUB TOTAL</b>	<b>130</b>	<b>84</b>	<b>8204.5</b>	<b>8012</b>	<b>47</b>	<b>4243.9</b>	<b>2815</b>	Frequency = 50.75Hz.

1.7B GENERATION POSITION AT 06:00HRS OF THURSDAY 10/05/2018 FOR UNITS ON BILATERAL AGREEMENT

FEEDER	MAX. LOAD (MW)	ST6		MAX. LOAD (MW)	ST6		REMARK
		1	220		101	101	
EGBIN	1	1	220	101	101	Available unit on bar.	
PARAS ENERGY	8	GT2 - 9	69.4	69.4	GT2 - 9	Available units on bar.	
		8			8		
<b>SUB TOTAL</b>	<b>9</b>	<b>9</b>	<b>289.4</b>	<b>170.4</b>	<b>170.4</b>		
<b>GRAND TOTAL</b>	<b>139</b>	<b>93</b>	<b>8493.9</b>	<b>8182.4</b>	<b>56</b>	<b>4,414.30</b>	<b>2,985.40</b> Frequency = 50.75Hz.

1.7C BILATERAL AGREEMENT UNITS DISPATCH - WEDNESDAY 09/05/2018

FEEDERS NAME	MAX. LOAD (MW)	TIME (HRS)		REMARK	
Egbin ST6 120MW GENERATION TO IKEJA ELECTRICITY DISTRIBUTION COMPANY					
OGBA	U-STEEL	1	0900HRS	23	PLANNED OUTAGE BY DISTRICT
	PTCEXPRESS	5	1400HRS	18	TRIPPED ON E/F
	SANKYO	ON	1200HRS	13	TRIPPED ON E/F, O/C, INST E/F & INST O/C
	FEEDER 8	16	1200HRS	24	NIL
IKORODU	PULK IT	3	0100HRS	24	NIL
	INDUSTRIAL	21	2100HRS	24	NIL
	SPINTEX	11	1200HRS	24	NIL
	DANGOTE	2	0200HRS	24	NIL
	LAND CRAFT	15	0300HRS	24	NIL
ALAUSA	TR4 15MVA	6.4	1300HRS	24	NIL
	TR5 -15MVA	6.4	1400HRS	24	NIL
	ALAUSA	16.2	1500HRS	24	NIL
MALAND	PTC (MARYLAND)	18	1600HRS	24	NIL
	LORDSMITH (PAPALANTO)	0.5	1900HRS	24	NIL
	<b>TOTAL LOAD</b>	<b>121.5</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	22:00	24	NIL

BILATERAL AGREEMENT MAIN STREAM ENERGY KAINJI LOAD DISPATCH TO THE FOLLOWING COMPANIES OF WEDNESDAY 09/05/2018

COMPANY NAME	VOLTAGE LEVEL	EXPECTED CONTRACTUAL LOAD (MW)	MAX	TIME	HOUR IN SERVICE	REMARK
INNER GALAXY	132kV line	25	48	12:00	24	NIL
KAM STEEL		15	4.8	18:00	24	NIL
OLAM FLOUR MILLS	33kV feeder	3	1.8	14:00	22	Maintenance on the line
LORDSMITH		3	0.5	19:00	24	NIL

**1.8 HYDROLOGICAL DATA: THURSDAY 10/05/2018**

	KAINJI	JEBBA	SHIRORO
HEAD WATER ELEVATION (METERS)	133.75	99.92	366.25
TAIL WATER ELEVATION (METERS)	102.2	73.90	270.80
GROSS OPERATING HEAD (METERS)	<b>31.55</b>	<b>26.02</b>	<b>95.45</b>
AVERAGE TURBINE DISCHARGE (M3/SEC)	820.00	1115.00	406.00
AVERAGE SPILLAGE (M3/SEC)	93.00	0.00	0.00
AVERAGE TOTAL STATION DISCHARGE (M3/SEC)	<b>913</b>	<b>1115</b>	<b>406</b>
COMPUTED INFLOW (M3/SEC)	0.00	1312.00	36.00
STORAGE DIFFERENTIAL	<b>-913.00</b>	<b>197</b>	<b>-370</b>
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 WEDNESDAY 09/05/2018**

DISCO	MAXIMUM LOAD(MW)	TIME(HRS)	ALLOCATED LOAD (MW)	MINIMUM LOAD(MW)	TIME(HRS)
ABUJA	552.90	22:00	625.36	410.7	04:00
EKO	569.30	22:00	785.69	364.0	13:00
IKEJA	399.8	0:00	668.17	262.7	04:00

**2.0 GAS POSITION: THURSDAY 10/05/2018**

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		1100		632	468
DELTA (GAS)	465	915		635	280
OMOTOSHO GAS	102.1	336.8		152	184.8
OMOTOSHO NIPP	192.6	500		120	380
OLORUNSOGO (GAS)	140.4	336		152	184
OLORUNSOGO NIPP	161.1	750		0	750
SAPELE NIPP	80.5	500		225	275
SAPELE STEAM	47	720		47	673
AFAM IV-V	53	300		0	300
AFAM VI	110	650		300	350
GEREGU GAS	125	435		145	290
GEREGU NIPP	90	435		145	290
OKPAI (GAS) STEAM	167	480		300	180
ALACUJI NIPP	0	504		0	504
IHOVBOR NIPP	90.6	450		112.5	337.5
IBOM	92.2	198		115	83
ODUKPANI NIPP	0	625		0	625
<b>TOTAL</b>	<b>2321.5</b>	<b>9236.72</b>		<b>3080.5</b>	<b>6154.3</b>

1 MMSCF IS EQUIVALENT TO 3.78MW

**3.0 SPINNING RESERVE FOR : WEDNESDAY 09/05/2018**

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

**3.1 SYSTEM SPINNING RESERVE AS AT 0600HRS OF THURSDAY 10/05/2018 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	
2	Delta	GT16	40	0	0
		GT17	40	0	
3	Olorunsogo NIPP	GT1	40	0	0
		GT2		0	
		GT3		0	
		GT4		0	
4	Geragu 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 10/05/2018 as at 0600Hrs was = 3963MW.

S/NO	STATION	ACTUAL GENERATION CAPABILITY (MW)	GENERATION AT 0600HRS (MW)	UNAVAILABLE GENERATION CAPABILITY (MW)	SUB-TOTAL
<b>4.1 DUE TO GAS CONSTRAINTS:</b>					
1	Omotosho NIPP GT1 & 4	240	0	240	2033
2	Alacji NIPP GT1, 2 & 4	360	0	360	
3	Geragu NIPP GT21 - 23	435	71	364	
4	Olorunsogo NIPP GT1 - 3	360	0	360	
5	Geragu Gas GT11 - 13	360	71	289	
6	Odukpani NIPP GT4 & 5	230	0	230	
7	Alam VI ST10	190	0	190	
				0	
				0	
				0	
				0	
				0	
				0	
				0	
IT IS ENVISAGED WITH IMPROVED PLANT AVAILABILITY AND RELIEF FROM EXISTING POWER SYSTEM NETWORK RELATED CONSTRAINTS, ADDITIONAL 1641.11MMSCF OF GAS (EQUIVALENT TO 6154.3MW) WILL BE REQUIRED WHEN ALL THERMAL UNITS ARE ON BAR.					
<b>4.2 DUE TO LINE CONSTRAINTS</b>					
1	Trans-Amadi GT1 & 2	40	0	40	100
2	Omoku GT2, 5 & 6	60	0	60	
				0	
				0	
				0	
<b>4.3 DUE TO FREQUENCY MANAGEMENT OCCASIONED BY DISCOS' LOAD DEMAND</b>					
1	Azura GT12	150	0	150	1735
2	Jebba 2G3	95	0	95	
3	Olorunsogo Gas GT2, 3, 7 & 8	152	0	152	
4	Delta GT4,7 & 9 - 13	140	35	105	
5	Egbin ST1	135	0	135	
6	Shiroro 411G1 - 4	600	150	450	
7	Okpai GT12 & ST18	225	50	175	
8	Omotosho Gas GT2 - 5	152	0	152	
9	Alam VI GT11	150	0	150	
10	Alam IV GT18	62	0	62	
11	Kanji TGS & 6	210	101	109	
				0	
				0	
<b>4.4 DUE TO WATER MANAGEMENT</b>					
1	Jebba 2G3	95	0	95	95
<b>Grand Total</b>					<b>3963</b>

5.0 **OUTAGES:**

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

- 1 11:58 – 13:59Hrs, Afam IV P/S GT18 tripped on low gas pressure. LHR = 60MW.
- 2 16:06 through 24:00Hrs, Afam IV GT18 tripped on low lubrication oil pressure less than minimum turbine trip. LHR = 60MW.
- 3 22:10 - 22:40Hrs, Sapele NIPP GT3 tripped on high condensate. LHR = 96MW.

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

- 1 00:52 – 01:10Hrs, Kumbotsho T/S 150MVA 330/132/33kV transformer T2A secondary CB (E11 – Q) and tie CB (E12 –Q) tripped on O/C Red Phase each. LHR = 117MW.
- 2 01:18 – 13:50Hrs, Dan - Agundi T/S 60MVA 132/33kV transformer TR2 primary CB tripped on differential relay. No load loss as the transformer was on soak.
- 3 02:17 – 02:37Hrs, Benin/Irrua 132kV line CB tripped at Benin T/S on E/F relay, period = 2958ms, location = 22.5km. LHR = 20MW.
- 4 02:17 – 13:12Hrs, Irrua T/S 30MVA 132/33kV transformer T2 primary CB tripped without relay indication. LHR = 4.3MW.
- 5 10:46 – 10:55Hrs, Birnin-Kebbi/Sokoto 132kV line CB tripped at Birnin-Kebbi T/S on general trip, instantaneous O/C Red Phase and 86 lockout relay. LHR = 42MW.
- 6 10:19 – 14:37Hrs & 15:28 – 15:40Hrs, Iwo T/S 40MVA Mobitra primary & secondary CBs tripped on O/C relays. LHR = 0.6MW & 2.2MW respectively.
- 7 11:53 – 12:31Hrs, Akure T/S 60MVA 132/33kV transformer T3A primary and secondary CBs respectively tripped on instantaneous O/C Red Phase and trip relay each. LHR = 15MW.
- 8 11:53 – 12:20Hrs, Osogbo/Akure 132kV line CB tripped at Osogbo T/S on BBC distance protection relay. LHR = 43MW.
- 9 16:42 – 16:51Hrs, Akangba T/S 150MVA 330/132/33kV transformer 5T4B secondary circuit breaker tripped on O/C. LHR = 97MW.
- 10 17:48 through 24:00Hrs, Ajaokuta T/S 60MVA 132/33kV transformer T2 tripped on differential relay. LHR = 0.1MW.

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

- 1 08:47 - 15:35Hrs, Jebba 2G1 was shut down for routine preventive maintenance. 30MW on it was transferred to 2G2.
- 2 10:08 - 17:39Hrs, Kainji/Jebba 330kV line 1 (cct K1J) was taken out to enable LMD crew change broken insulators on tower #166. No load loss as cct K2J was in service

5(D) **URGENT OUTAGES:**

- 1 12:54 – 14:03Hrs, Osogbo T/S 60MVA 132/33kV transformer 4T4 was taken out to top up low oil level in the conservator tanks of the transformer and its grounding transformer (500KVA 4GT4). LHR = 8.5MW.

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:-** NIL

7 **INTERNATIONAL LINES:-**

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

Maximum load - 289MW at 22:00Hrs.  
Minimum load - 182MW at 08:00Hrs.

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

Maximum load - 106MW at 17:00Hrs.  
Minimum load - 83MW at 20:00Hrs.

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

Maximum load - 42.3MW at 22:00Hrs.  
Minimum load - 26.4MW at 09:00Hrs.

**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	31
OPTIC FIBRE	13	10
PLS	14	0

**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	85	22

**8 MISCELLANEOUS:-**

- 1 00:02 - 16:31Hrs, Azura –Edo IPP GT11 was shut down on frequency management. Load loss = 74MW.
  - 2 01:02 - 19:10Hrs, Delta P/S GT16 was shut down on frequency management. Load loss = 70MW.
  - 3 02:02 - 20:38Hrs, Shiroro 411G2 was shut down on frequency management. Load loss = 50MW.
  - 4 07:03 -18:47Hrs, Shiroro P/S placed Hold off tag (OF 12) on cct J7R for the continuation of Optic Fibre cable upgrade on the line.
  - 5 08:46 - 19:11Hrs, Jebba 2G2 was tied to swap with 2G1 that was scheduled for maintenance. Unit 2G2 was out on frequency management.
  - 6 08:20Hrs, Delta P/S GT19 was tied to swap with GT18. Unit GT19 was out on frequency management.
  - 7 08:21 - 18:56Hrs, Delta GT18 was shut down a fter the load had been transferred to GT19.
  - 8 10:34Hrs, Omoku P/S GT5 was tied. The unit tripped due to loss of supply from Port Harcourt Main T/S.
  - 9 11:10Hrs, Omoku P/S GT1 was tied. The unit was out on fault.
  - 10 16:43Hrs, Afam VI GT13 was tied. The unit was out on gas constraints.
  - 11 17:02 – 19:11Hrs, Jebba 2G2 was shut down on frequency management. Load loss = 70MW.
  - 12 18:18 through 24:00Hrs, Olorunsogo NIPP GT3 was shut down on gas constraint. Load loss = 65MW.
  - 13 21:46 through 24:00Hrs, Olorunsogo NIPP GT1 was shut down due to low gas pressure. Load loss = 60MW.
- \*\*\*\*\* 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(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.

**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-Ekperne 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 Egbir/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.

**LAGOS REGION**

- 1 Omotosho/Ikeja West line (M5W) and Egbir/Ikeja West line 3 (N6W) - 21 spans.
- 2 Ikeja West/Olorunsogo line (cct R1W) - 80 spans.
- 3 330kV Ikeja West/Osobgo 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, Egbir, 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





