

TRANSMISSION COMPANY OF NIGERIA

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

DAILY OPERATIONAL REPORT OF TUESDAY 06/03/2018

FOR: EVENTS OF MONDAY 05/03/2018

1.0 EXECUTIVE OPERATIONS SUMMARY:

1.1 GENERATION PROFILE: NATIONAL STATISTICS

DETAILS	MW	HRS	DATE
PEAK DEMAND FORECAST (CONNECTED + SUPPRESSED LOAD)	21,390	22:00	05/03/2018
GENERATION CAPABILITY	7098	-do-	-do-
UNITS ON BAR CAPABILITY AT PEAK	5104.5	-do-	-do-
PEAK GENERATION	4300.3	-do-	-do-
LOWEST GENERATION	3489.5	11:00	05/03/2018
8-HOURLY DURATION PEAK	3889.8	0100-0800	-do-
	3767.3	0900-1600	-do-
	4300.3	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	352	Omotosho T/S	12:00
LOWEST VOLTAGE FOR THE DAY	300	Gombe & Yola T/S	18:00 & 22:00

1.3 FREQUENCY RANGE

DETAILS	HZ	HRS
NOMINAL FREQUENCY	50	
STATUTORY LIMITS	49.75-50.25	
HIGHEST FREQUENCY	50.55	08:09
LOWEST FREQUENCY	49.725	22:18

1.4 SYSTEM COLLAPSE UP DATE

Date of last total collapse: 1st Feb., 2018		No. of days since last total collapse: 31												
Date of last partial collapse: 17 th Oct., 2017		No. of days since last partial collapse: 132												
Highest No of days ever attained in-between total collapses:		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	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	4	2	2	22
	Partial	--	--	--	--	--	--	--	2	--	--	--	--	2
2014	Total	2	--	2	0	3	1	0	0	0	1	0	0	9
	Partial	--	--	0	1	0	0	0	0	0	2	1	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	0	4
2016	Total	--	--	2	3	6	5	0	0	1	2	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	0	0	15
	Partial	1	0	1	0	0	0	1	0	3	3	--	--	9
2018	Total	5	1	--	--	--	--	--	--	--	--	--	--	6
	Partial	--	--	--	--	--	--	--	--	--	--	--	--	0

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

STATION	TURBINE	PEAK GEN. (MW)	OFF-PEAK GEN.(MW)
1 KAINJI	HYDRO	398	393
2 JEBBA	HYDRO	364	358
3 SHIRORO	HYDRO	0	0
4 EGBIN ST2 - 5	STEAM	447	431
5 SAPELE	STEAM	48	0
6 DELTA	GAS	577	490
7 AFAM IV-V	GAS	61	60
8 GEREGU GAS	GAS	141	135
9 OMOTOSHO GAS	GAS	138.5	135.6
10 OLORUNSOGO GAS	GAS	147	135.6
11 GEREGU NIPP	GAS	138	129
12 SAPELE NIPP	GAS	216.9	187.9
13 ALAQJI NIPP	GAS	0	0
14 OLORUNSOGO NIPP	GAS	0	0
15 OMOTOSHO NIPP	GAS	111.1	105.2
16 ODUKPANI NIPP	GAS	252.7	89.2
17 IHOVBOR NIPP	GAS	102.3	87.3
18 OKPAI	GAS	203	182
19 AFAM VI	GAS	559	225
20 IBOM POWER	GAS	0	0
21 ASCO	GAS	0	0
22 A.E.S	GAS	0	0
23 OMOKU	GAS	73.8	13.3
24 TRANS AMADI	GAS	43.3	0
25 RIVERS IPP	(GAS)	108	50
26 AZURA - EDO IPP	(GAS)	0	0
27 EGBIN ST6	(GAS)	110	110
28 PARAS ENERGY	(GAS)	70.2	70.2
29 GBARAIN NIPP	GAS	0	101.2
TOTAL		4300.3	3489.5

1.6 ENERGY GENERATED/ENERGY SENT OUT:

STATION	TURBINE	ENERGY GENERATED		ENERGY SENT OUT	
		MWH	MWH/H	MWH	MWH/H
1 KAINJI	HYDRO	8795.00	366.46	8777.80	365.74
2 JEBBA	HYDRO	8146.00	339.42	8118.28	336.26
3 SHIRORO	HYDRO	0.00	0.00	0.00	0.00
4 EGBIN ST2 - 5	STEAM	10274.00	428.08	9673.60	403.07
5 SAPELE	STEAM	119.10	4.96	106.50	4.44
6 DELTA	GAS	12638.96	526.62	12452.90	518.87
7 AFAM IV-V	GAS	1892.00	78.83	1886.14	78.59
8 GEREGU GAS	GAS	3202.30	133.43	3179.76	132.49
9 OMOTOSHO GAS	GAS	3400.00	141.67	3376.90	140.70
10 OLORUNSOGO GAS	GAS	3431.27	142.97	3400.27	141.68
11 GEREGU NIPP	GAS	3065.25	127.72	3048.76	127.03
12 SAPELE NIPP	GAS	4407.83	183.66	4382.94	182.62
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	2679.50	111.65	2656.10	110.67
16 ODUKPANI NIPP	GAS	5135.87	213.99	5098.87	212.45
17 IHOVBOR NIPP	GAS	2520.00	105.00	2501.67	104.24
18 OKPAI	GAS	4337.00	180.71	4180.00	174.17
19 AFAM VI	GAS	8560.79	356.70	8403.00	350.13
20 IBOM	GAS	0.00	0.00	0.00	0.00
21 ASCO	GAS	0.00	0.00	0.00	0.00
22 AZURA - EDO IPP	GAS	0.00	0.00	0.00	0.00
23 A.E.S	GAS	0.00	0.00	0.00	0.00
24 OMOKU	GAS	1105.20	46.05	1068.82	44.53
25 TRANS AMADI	GAS	725.50	30.23	704.60	29.36
26 RIVERS IPP	GAS	1580.20	65.84	1574.00	65.58
27 EGBIN ST6	STEAM	2620.00	109.17	2464.20	102.68
28 PARAS ENERGY	GAS	1693.70	70.57	1687.20	70.30
29 GBARAIN NIPP	GAS	1836.40	76.52	1822.10	75.92
TOTAL		92,165.87	3,840.24	90,564.41	3,773.52

1.7A GENERATION POSITION AT 06:00HRS OF TUESDAY 06/03/2018.

	STATIONS	NO OF INSTALLED UNITS	AVAILABLE UNITS	INSTALLED CAPACITY OF AVAILABLE UNITS(MW)	GENERATION CAPABILITY OF AVAILABLE UNITS(MW)	UNITS ON BAR	CAPABILITY OF UNITS ON BAR (MW)	GENERATION AT 06:00HRS (MW)	REMARKS
PRIVATISED COMPANIES	KAINJI HYDRO	7	1G5, 6, 11 & 12	440	440	1G5, 6, 11 & 12	440	404	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.
			4			4			
	JEBBA HYDRO	6	2G1, 2, 4 & 5	380	380	2G1, 2, 4 & 5	380	362	2G3 - Out on maintenance. 2G6 - Out due to burnt generator winding and AVR.
	SHIRORO HYDRO	4	0	0	0	0	0	0	The station is out due to turbine pit flooding.
	EGBIN STEAM	5	ST1, 2, 4 & 5	880	449	ST1, 2, 4 & 5	449	449	ST3 - Tripped on high vibration.
			4			4			
	SAPELE (STEAM)	6	0	0	0	0	0	0	ST1 - Tripped on low drum level. ST2 - Tripped on high vibration. 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	655	655	GT4, 7, 9 - 13, 15, 16 & 18 - 20	655	605	GT3 & 5 - Out due to generator winding fault. GT6 & 14 - Out on major overhaul. GT17 - Out on excitation trouble.
	AFAM IV & V (GAS)	8	GT18	75	62	GT18	62	62	GT1 - 12 - De-commissioned and scrapped. GT13 - 16 - Out on blade failure. GT17 - Out on fault. GT19 & 20 - Awaiting major overhaul.
			1			1			
GEREGU GAS	3	GT11 - 13	435	435	GT12	145	142	GT11 & 13 - Shut down due to gas constraint.	
OMOTOSHO GAS	8	GT1 - 8	336	304	GT1, 2, 6 & 8	152	142.9	GT3, 4, 5 & 7 - Out due to gas constraint.	
OLORUNSOGO GAS	8	GT1 - 8	336	304	GT1, 2, 4, 5 & 6	190	148.3	GT3, 7 & 8 - Out due to gas constraint. Generation reduced due to gs constraints.	
		8			5				
NIPP	GEREGU NIPP	3	GT22 & 23	290	290	GT23	145	137	GT21 - Out on maintenance. GT22 - Out due to gas constraint.
			2			1			
	SAPELE NIPP	4	GT1 & 3	230	230	GT1 & 3	225	221.6	GT2 - Out due to high air inlet differential pressure. GT4 - Tripped on fire protection alarm.
			2			2			
	ALAQJI NIPP GAS	4	GT1, 2 & 4	375	360	0	0	0	GT1, 2 & 4 - Tripped due to low gas pressure. GT3 - Shut down due to generator air inlet filter trouble.
			3			0			
	OLORUNSOGO NIPP	6	GT1 - 3	375	360	0	0	0	GT1 - 3 - Out due to gas constraint. GT4 - Out on ignition failure and control relay failure alarm. ST13 & ST23 - Out on maintenance.
			3			0			
	OMOTOSHO NIPP GAS	4	GT1, 2 & 4	375	360	GT2	120	111.2	GT1 & 4 - Out due to gas constraint. GT3 - Shut down due to oil leakage on the unit.
			3			1			
ODUKPANI NIPP	5	GT1, 2 & 5	375	345	GT1, 2 & 5	345	244.7	GT1 - Generation reduced on Odukpani management decision. GT3 - Tripped on heat vent gas module compartment fan motor trip. GT4 - Out due to smoke coming out of bearing 2.	
		3			3				
IHOVBOR NIPP	4	GT1 - 3	345	330	GT3	110	102.6	GT1 & 2 - Out due to gas constraint. GT4 - Out on maintenance.	
		3			1				
GBARAIN NIPP GAS	1	GT2	112.5	112.5	0	0	0	GT2 - Shut down due to gas constraints.	
IPP	OKPAI GAS/STEAM	3	GT11 & ST18	225	225	GT11 & ST18	225	190	GT12 - Out for maintenance. ST18 - Generation reduced due to broken spray water valve of boiler #12.
			2			2			
	AZURA - EDO	0	0	0	0	0	0	0	GT11 - Undergoing commissioning tests. GT12 & 13 - Awaiting commissioning.
	AFAM VI GAS/STEAM	4	GT11 - 13 & ST10	650	650	GT11 - 13 & ST10	650	571	Generation reduced on Afam management decision.
			4			4			
	IBOM POWER GAS	3	0	0	0	0	0	0	GT1 & 2 - Out on fault. GT3 - Out due to heat exchanger problem.
	AES	0	0	0	0	0	0	0	Out of production since 27/09/2014.
	ASCO	0	0	0	0	0	0	0	GT1 - Shut down due to leakage in the furnace.
	OMOKU GAS	6	GT1, 2, 5 & 6	100	80	GT1, 2, 5 & 6	80	72.3	GT3 - Out due to gas leakage. GT4 - Awaiting major overhaul.
			4			4			
TRANS-AMADI	4	GT1 & 2	50	40.7	GT1 & 2	40.7	40.7	GT3 - Out on fault. GT4 - Tripped on stator differential.	
		2			2				
RIVERS	1	GT1	180	160	GT1	160	108	Available unit on bar.	
	SUB TOTAL	125	77	7219.5	6572.2	56	4573.7	4114.3	Frequency = 50.13Hz.

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

FEEDER	UNIT	ST6		170	170	ST6		110	110	Available unit on bar.
		1	1			1	1			
EGBIN	1	ST6		170	170	ST6		110	110	Available unit on bar.
		1	1			1	1			
PARAS ENERGY	8	GT2-9		71	71	GT2-9		71	71	Available units on bar.
		8	8			8	8			
SUB TOTAL	9	9	9	241	241	9	9	181	181	
GRAND TOTAL	134	86	86	7460.5	6813.2	65	65	4,754.70	4,295.30	Frequency = 50.13Hz.

1.7C BILATERAL AGREEMENT UNITS DISPATCH - MONDAY 05/03/2018

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

FEEDER	MAX. LOAD (MW)	TIME (HRS)	24HRS	REMARK	
					OGBA
U-STEEL	1MW	0900HRS	24HRS	NIL	
PTCEXPRESS	12MW	1600HRS	23HRS	STATION WAS OPENED	
SANKYO	OUT	0100HRS	NIL	TRIP ON FAULT.O/C & E/F	
FEEDER 8	12MW	1000HRS	23HRS	STATION WAS OPENED	
IKORODU	PULK IT	2	2300	7	O/S DUE TO T3-100MVA SEC THAT IS O/S ON PERMIT
	INDUSTRIAL	24	1100	24	NIL
	SPINTEX	7	1000	24	NIL
	DANGOTE	1	2000	7	O/S DUE TO T3-100MVA SEC THAT IS O/S ON PERMIT
ALAUUSA	LAND CRAFT	34	1900	24	NIL
	TR4 15MVA	8.7	12:00	24	nil
	TR5 -15MVA	7.4	15:00	24	NIL
PTC (MARYLAND)	14.3	17:00	24	NIL	
MLAND	PTC (MARYLAND)	10MW	1900HRS	9HRS	TRIPPED ON O/C PHASES A&B
TOTAL LOAD	98.4				

BILATERAL AGREEMENT LOAD DISPATCH
60MW PARAS ENERGY GENERATION TO CEB

FEEDER	MAX	TIME	HOURS IN SERVICE	REMARK
Ikeja West/Sakete 330kV line	71.8	19:00	24	Nil

1.8 HYDROLOGICAL DATA: TUESDAY 06/03/2018

	KAINJI	JEBBA	SHRORO
HEAD WATER ELEVATION (METERS)	139.63	101.8	370.94
TAIL WATER ELEVATION (METERS)	103.88	74.10	268.60
GROSS OPERATING HEAD (METERS)	35.75	27.68	102.34
AVERAGE TURBINE DISCHARGE (M3/SEC)	1145.00	1384.00	0.00
AVERAGE SPILLAGE (M3/SEC)	0.00	0.00	0.00
AVERAGE TOTAL STATION DISCHARGE (M3/SEC)	1145	1384	0
COMPUTED INFLOW (M3/SEC)	92.00	1222.00	0.00
STORAGE DIFFERENTIAL	-1053.00	-182	0
MAXIMUM LEVEL FOR SPILLAGE COMMENCEMENT	141.73	103	382.5
MINIMUM LEVEL BELOW WHICH NO GENERATION	130	99	355

1.9 MAXIMUM/ALLOCATED LOAD/MINIMUM LOADS FOR ABUJA AND LAGOS AS AT MONDAY 05/03/2018

DISCO	MAXIMUM LOAD(MW)	TIME(HRS)	ALLOCATED LOAD (MW)	MINIMUM LOAD(MW)	TIME(HRS)
ABUJA	532.30	22:00	328.56	349.4	08:00
EKO	431.0	19:00	655.92	315.16	11:00
IKEJA	533.3	20:00	968.08	334.1	12:00

2.0 GAS POSITION: TUESDAY 06/03/2018

STATION	SIGNED ACQ Annual Contracted Quantity MMSCF/D	INSTALLED CAPACITY OF THERMAL STATIONS (MW)	PREVIOUS DAY OFF-TAKE (MMSCF/D)	CAPABILITY OF UNITS ON BAR OF THERMAL STATIONS (MW)	DIFFERENCE (MW)
EGBIN P/S	449	1100		449	651
DELTA (GAS)	605	915		655	260
OMOTOSHO GAS	142.9	336.8		162	184.8
OMOTOSHO NIPP	111.2	500		120	380
OLORUNSOGO (GAS)	148.3	336		190	146
OLORUNSOGO NIPP	0	750		0	750
SAPELE NIPP	221.6	500		230	270
SAPELE STEAM	0	720		0	720
AFAM IV-V	62	300		62	238
AFAM VI	571	650		650	0
GEREGU GAS	142	435		145	290
GEREGU NIPP	137	435		145	290
IKPAL (GAS/STEAM)	190	480		225	295
ALAOJU NIPP	0	504		0	504
IHOVBOR NIPP	102.6	450		110	340
IBOM	0	198		0	198
ODUKPANI NIPP	244.7	625		345	280
TOTAL	3127.3	9234.80		3478	5756.8

1 MMSCF IS EQUIVALENT TO 3.79MW

3.0 SPINNING RESERVE FOR : MONDAY 05/03/2018

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

3.1 SYSTEM SPINNING RESERVE AS AT 0600HRS OF TUESDAY 06/03/2018 = 0MW. FREQUENCY 50.13Hz.

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

4.0 UNUTILIZED GENERATION CAPABILITY

The unutilized generation capability for Tuesday 06/03/2018 as at 0600Hrs was = 2040.2MW.

S/NO	STATION	ACTUAL GENERATION CAPABILITY (MW)	GENERATION AT 0600HRS (MW)	UNUTILIZED GENERATION CAPABILITY (MW)	SUB-TOTAL
4.1 DUE TO GAS CONSTRAINTS:					
1	Omotosho NIPP GT1 & 4	240	0	240	2040.2
2	IhoVbor GT1 & 2	225	0	225	
3	Alaoju NIPP GT1, 2 & 3	360	0	360	
4	Olorunsogo Gas GT1 - 8	304	148.3	155.7	
5	Olorunsogo NIPP GT1 - 3	360	0	360	
6	Omotosho Gas GT3, 4, 5 & 7	152	0	152	
7	Geregu NIPP GT22	145	0	145	
8	Geregu Gas GT11 & 13	290	0	290	
9	Gbarain NIPP GT2	112.5	0	112.5	
				0	
IT IS ENVISAGED WITH IMPROVED PLANT AVAILABILITY AND RELIEF FROM EXISTING POWER SYSTEM NETWORK RELATED CONSTRAINTS, ADDITIONAL 1535.14MMSCF OF GAS (EQUIVALENT TO 5756.8MW) WILL BE REQUIRED WHEN ALL THERMAL UNITS ARE ON BAR.					
4.2 DUE TO LINE CONSTRAINTS					
				0	0
				0	
				0	
				0	
4.3 DUE TO FREQUENCY MANAGEMENT OCCASIONED BY DISCOS' LOAD DEMAND					
				0	0
				0	
				0	
				0	
				0	
				0	
				0	
				0	
				0	
				0	
				0	
				0	
4.4 DUE TO WATER MANAGEMENT					
				0	
Grand Total					2040.2

5.0 **OUTAGES:**

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

- 05:23 - 09:08Hrs, Rivers IPP GT1 tripped on reverse power due to the tripping of Afam/IPP/PH 132kV lines 1 & 2. LHR = 80MW
- 05:23Hrs, Trans-Amadi GTs 1 & 2 tripped on reverse power due to the tripping of Afam/IPP/PH 132kV lines 1 & 2. LHR = 40MW. 06:15Hrs - GT2 was tied, 06:53Hrs - GT1 was tied.
- 10:47 through 24:00Hrs, Odukpani NIPP GT2 tripped on low gas pressure. LHR = 11MW
- 16:10 – 17:12Hrs, Rivers IPP GT1 tripped on reverse power due to tripping of 162MVA 330/132/33kV transformer T1A at Afam 1 T/S. LHR = 120MW.
- 16:10Hrs, Omoku P/S GTs1, 2, 5 & 6 tripped on reverse power due to tripping of 162MVA 330/132/33kV transformer T1A at Afam 1 T/S. LHR = 15MW, 20.8MW, 20MW & 13MW respectively. 16:49Hrs – GT5 was tied, 16:52Hrs – GT2 was tied, 16:53Hrs – GT6 was tied, 16:56Hrs – GT1 was tied.

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

- 05:23 - 06:10Hrs, Afam/IPP/Port Harcourt 132kV line 1 CB tripped at IPP on distance protection relay, distance pick up, L1E, PU time = 50ms, trip time = 4ms, distance = 14km. LHR = 33MW
- 05:23 - 05:57Hrs, Afam/IPP/Port Harcourt 132kV 2 CBs tripped at Afam T/S and IPP T/S on the following relay indications:
At Afam T/S: Microm Relay; O/C time delay, E/F time delay, E/F instantaneous trip relay
At IPP T/S: Trip relay, protection trip relay, auto reclosure lockout trip relay. LHR = 61MW
- 06:45 through 24:00Hrs, Onitsha 132kV T/S 15MVA 132/11kV transformer TR12 primary tripped on differential relay. Load loss = 1.0MW
- 14:59 – 15:10Hrs, Osogbo/Offa/Omuaran 132kV line CB tripped at Osogbo T/S on NARI Relay – O/C 3-phases. LHR = 16MW.
- 16:10 – 16:35Hrs, Afam 1 T/S 162MVA 330/132/33kV transformer T1A secondary CB tripped on O/C time delay relay. LHR = 120MW.
- 22:39 – 22:50Hrs, Umuahia T/S 40MVA 132/33kV transformer ET1 primary CB tripped on instantaneous O/C and bus bar protection. LHR = 18MW.
- 22:39 – 22:54Hrs, Umuahia T/S 40MVA 132/33kV transformer ET2 secondary CB tripped on instantaneous O/C and bus bar protection. LHR = 18MW.

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

- 16:11 – 17:20Hrs, Irua T/S 30MVA 132/33kV transformer T2 was taken out for EMD crew to replace 110V battery bank with new one. Load loss = 13MW.

5(D) **URGENT OUTAGES:**

- 00:17 through 24:00Hrs, Okpai GT12 was shut down for maintenance. Load loss = 109MW
- 05:23Hrs, Omoku GTs 1, 2, 5 & 6 went on full speed no load due to the tripping of Afam/IPP/PH 132kV lines 1 & 2. LHR = 56.3MW 08:55Hrs - GT2 was tied, 08:59Hrs - GT5 was tied.
- 08:53 through 24:00Hrs, Afam IV GT17 was shut down due to fault. Load loss = 48MW
- 09:15 – 11:56Hrs, Delta GT16 was shut down to enable maintenance crew carry out maintenance work on the overhead crane. Load loss = 80MW
- 10:27Hrs Trans-Amadi GTs 1 & 2 were shut down due to maintenance work at Port Harcourt Main T/S. Total Load loss = 43.1MW. 15:26Hrs - GT1 was tied, 15:29Hrs – GT2 was tied.
- 10:27Hrs, Omoku GTs 2 & 5 went on station load due to maintenance work at Port Harcourt Main T/S. Load loss = 39.9MW 15:27Hrs – GT2 was tied, 15:33Hrs – GT5 was tied, 15:37Hrs – GT6 was tied, 15:41Hrs – GT1 was tied.
- 19:04 through 24:00Hrs, Gbarain NIPP GT2 was shut down due to low gas pressure. Load loss = 99.4MW.

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 ODUK PANI, AZURA, SHELL AFAM VI AGIP OKPAI, OLORUNSOGO POWER PLC AND OMOTOSHO POWER PLC.

GROUP 2B - OTHER GENERATOR UNITS IDENTIFIED TO BE ON FREE GOVERNOR CONTROL.

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

The under mentioned lines were opened on frequency control:-

- 12:44 – 12:47Hrs, 15:17 – 15:22Hrs, 18:59 – 19:06Hrs & 19:18 – 19:21Hrs, Osogbo/Akure/Ado-Ekiti 132kV line. Load loss = 42MW, 42MW 54MW & 51MW respectively. Frequency was 49.88Hz, 49.88Hz, 49.80Hz & 49.76Hz respectively.
- 15:21 – 15:36Hrs & 22:16 – 23:07Hrs, Akangba/Ire 132kV line 2. Load loss = 27MW & 24MW respectively. Frequency was 49.99Hz & 49.66Hz respectively.
- 15:23 – 15:50Hrs & 19:03 - 19:51Hrs, Akangba/Ojo 132kV line 2. Load loss = 45MW & 29MW respectively. Frequency was 50.01Hz & 49.62Hz respectively.
- 19:02 – 19:20Hrs, Ayede/Ibadan North/Iwo/Iseyin 132kV line. Load loss = 50MW. Frequency was = 49.76Hz.
- 19:02 – 19:05Hrs, Osogbo/Ilesha/Ife 132kV line. Load loss = 35MW. Frequency was 49.83Hz.

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

5 (G) **330KV LINES THAT ARE OUT ON VOLTAGE CONTROL:-** ccts A1S & K3U.

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

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

5 (J) **330KV LINES THAT ARE OUT ON LINE FAULT:-** ccts S5B & U1A.

5 (K) **330KV LINES THAT ARE ON SOAK:-** ccts N4J, A2K & F1K.

6 **WEATHER REPORT:-** Rainfall reported at Osogbo.

7 **INTERNATIONAL LINES:-**

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

Maximum load - 298MW at 21:00Hrs.
Minimum load - 206MW at 11:00Hrs.

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

Maximum load - 104MW at 16:00Hrs.
Minimum load - 78MW at 07:00Hrs.

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

Maximum load - 37.0MW at 20:00Hrs.
Minimum load - 28.0MW at 03:00Hrs.

8 **MISCELLANEOUS:-**

- 01:34Hrs, Makurdi T/S 330kV 75MX Reactor SR01 was switched on for voltage control. V/P = 343/325kV
- 02:22 - 02:42Hrs, Delta GT16 was shut down on frequency management. Load loss = 65MW
- 04:14 - 05:52Hrs, Jebba 2G2 was shut down on frequency management. Load loss = 72MW
- 08:10 - 08:49Hrs, Jebba 2G2 was shut down on frequency management. Load loss = 70MW
- 08:33Hrs, Shiroro P/S placed Hold Off tag (OF 12) on cct J7R for the continuation of sky wire job.

GROUP 3 - OTHER UNITS IDENTIFIED TO BE OFFERING REGULATORY RESERVE.

GROUP 4 - OTHER UNITS OFFERING SPINNING RESERVE (THE POWER PLANTS CONTACTED FOR THE ANCILLARY SERVICE)

GROUP 5 - ALL PLANTS DISPATCHED SUBJECT TO TRANSMISSION CONSTRAINT (NOT YET IDENTIFIED).

GROUP 6 - ALL PLANTS PROVIDING VOLTAGE SUPPORT ABOVE STATUTORY LIMIT (NOT YET IDENTIFIED).

GROUP 7 - ALL OTHER PLANTS.

11 (A) COMMUNICATION MEDIA

STATIONS	NO INSTALLED	NO. WORKING
PLC/PAX	37	33
OPTIC FIBRE	13	10
PLS	14	5

11 (B) SCADA RTU STATUS

STATIONS	NO. INSTALLED	NO OF RTU DISTURBED	NO OF RTU WORKING
POWER STATIONS	8	6	2
330kV	19	7	12
132kV	102	77	25

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.

- 6 08:48 - 16:55Hrs, Benin T/S placed Hold Off tags (OF 12) on ccts B5M and B6N for the replacement of corroded insulators with silicone composite type along the lines.

- 7 11:19Hrs, Omotosho NIPP GT4 was tied. The unit was out on gas constraint.

- 8 12:06Hrs, Afam VI ST01 was tied. The unit was out on frequency management.

- 9 21:02Hrs, Sapele ST2 was tied. The unit was out on control oil low pressure.

- 10 LACK OF REACTOR AND UNRELIABLE STATION SERVICE SUPPLY AT IKOT-EKPENE T/S ARE HINDERING SMOOTH OPERATION.

- 11 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.

BAUCHI REGION:

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

ENUGU REGION:

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

LAGOS REGION:

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

PORT HARCOURT REGION

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

12 (B) UNAVAILABLE BREAKERS/ISOLATORS

LAGOS REGION:

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

BENIN REGION:

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

ENUGU REGION:

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

SHIRORO REGION

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

PORT HARCOURT REGION

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

12 (F) LINES WITH MISSING SKY WIRE

LAGOS REGION

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

- 1 Benin, Ikeja West, Onitsha, Egbin, Uguwaji, 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

