

TRANSMISSION COMPANY OF NIGERIA

To: Head (ISO), TCN - Abuja

From: General Manager, NCC, Osogbo

DAILY OPERATIONAL REPORT THURSDAY 13/07/2017

FOR: EVENTS OF WEDNESDAY 12/07/2017

1.0 EXECUTIVE OPERATIONS SUMMARY:

1.1 GENERATION PROFILE: NATIONAL STATISTICS

DETAILS	MW	HRS	DATE
PEAK DEMAND FORECAST (CONNECTED + SUPPRESSED LOAD)	17,720	22:00	12/07/2017
GENERATION CAPABILITY	7470.5	-do-	-do-
UNITS ON BAR CAPABILITY AT PEAK	5168.6	-do-	-do-
PEAK GENERATION	4503.8	-do-	-do-
LOWEST GENERATION	3409.3	14:00	12/07/2017
8-HOURLY DURATION PEAK	3915.4	0000-0800	-do-
	3741.2	0900-1600	-do-
	4503.8	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 PEAK GENERATION CAPABILITY TO DATE	7099	07:00	13/04/2014
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	370	Omotosho T/S	10:00
LOWEST VOLTAGE FOR THE DAY	300	Yola & Gombe T/S	04:00 & 06:00

1.3 FREQUENCY RANGE

DETAILS	HZ	HRS
NOMINAL FREQUENCY	50	
STATUTORY LIMITS	49.75-50.25	
HIGHEST FREQUENCY	50.55	08:15
LOWEST FREQUENCY	50.04	20:00

1.4 SYSTEM COLLAPSE UP DATE

Date of last total collapse: 27th June, 2017		No. of days since last total collapse: 14												
Date of last partial collapse: 16 th March, 2017		No. of days since last partial collapse: 116												
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	--	2	2	1	4	22	
	Partial	1	--	--	1	1	3	4	4	3	2	--	1	20
2011	Total	--	--	--	--	4	3	1	1	1	2	--	13	
	Partial	--	1	1	--	--	--	--	1	--	1	2	6	
2012	Total	--	--	2	1	5	2	1	--	--	2	1	16	
	Partial	--	--	2	3	--	--	--	--	1	--	1	8	
2013	Total	--	1	2	2	3	4	1	1	1	4	2	22	
	Partial	--	--	--	--	--	--	--	--	2	--	--	2	
2014	Total	2	--	--	2	--	--	--	--	1	--	--	9	
	Partial	--	--	--	--	1	--	--	--	--	--	--	4	
2015	Total	1	--	1	--	2	--	--	--	--	1	1	6	
	Partial	--	--	1	1	2	--	--	--	1	--	--	4	
2016	Total	--	--	2	3	6	5	--	1	1	2	2	22	
	Partial	--	--	1	3	1	3	1	--	--	--	--	6	
2017	Total	5	3	--	3	1	1	--	--	--	--	--	13	
	Partial	1	--	1	--	--	--	--	--	--	--	--	2	

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

STATION	TURBINE	PEAK GEN. (MW)	OFF-PEAK GEN.(MW)
1 KAINJI	HYDRO	211	190
2 JEBBA	HYDRO	372	326
3 SHIRORO	HYDRO	386	268
4 EGBIN ST2 - 5	STEAM	289	216
5 SAPELE	STEAM	63	0
6 DELTA	GAS	474	424
7 AFAM IV-V	GAS	0	0
8 GEREGU GAS	GAS	273	200
9 OMOTOSHO GAS	GAS	151.7	120.7
10 OLORUNSOGO GAS	GAS	172.5	156
11 GEREGU NIPP	GAS	140	97
12 SAPELE NIPP	GAS	110.4	87.4
13 ALAQJI NIPP	GAS	75.7	75.2
14 OLORUNSOGO NIPP	GAS	209.9	136.1
15 OMOTOSHO NIPP	GAS	216.4	132.4
16 ODUKPANI NIPP	GAS	232	172.2
17 IHOVBOR NIPP	GAS	101	70.6
18 OKPAI	GAS	324	174
19 AFAM VI	GAS	129	115
20 IBOM POWER	GAS	70.6	68.2
21 ASCO	GAS	0	0
22 A.E.S	GAS	0	0
23 OMOKU	GAS	91	78.5
24 TRANS AMADI	GAS	19.1	19.5
25 RIVERS IPP	(GAS)	0	0
26 EGBIN ST6	(GAS)	216	216
27 PARAS ENERGY	(GAS)	65.8	66.5
28 GBARAIN NIPP	GAS	110.7	0
TOTAL		4503.8	3409.3

1.6 ENERGY GENERATED/ENERGY SENT OUT:

STATION	TURBINE	ENERGY GENERATED		ENERGY SENT OUT	
		MWH	MWH/H	MWH	MWH/H
1 KAINJI	HYDRO	4,501.00	187.54	4,484.50	186.85
2 JEBBA	HYDRO	8,000.00	333.33	7,974.12	332.26
3 SHIRORO	HYDRO	8,370.00	348.75	8,340.51	347.52
4 EGBIN ST2 - 5	STEAM	5,729.00	238.71	5,528.30	230.35
5 SAPELE	STEAM	458.60	19.11	405.10	16.88
6 DELTA	GAS	10,854.70	452.28	10,644.70	443.53
7 AFAM IV-V	GAS	--	0.00	--	0.00
8 GEREGU GAS	GAS	5,361.70	223.40	5,338.32	222.43
9 OMOTOSHO GAS	GAS	3,430.00	142.92	3,400.10	141.67
10 OLORUNSOGO GAS	GAS	3,962.34	165.10	3,933.70	163.90
11 GEREGU NIPP	GAS	2,622.49	109.27	2,609.53	108.73
12 SAPELE NIPP	GAS	2,254.05	93.92	2,239.58	93.32
13 ALAQJI NIPP	GAS	1,887.38	78.64	1,865.27	77.72
14 OLORUNSOGO NIPP	GAS	4,341.50	180.90	4,305.10	179.38
15 OMOTOSHO NIPP	GAS	3,634.60	151.44	3,614.40	150.60
16 ODUKPANI NIPP	GAS	4,440.82	185.03	4,409.72	183.74
17 IHOVBOR NIPP	GAS	1,970.00	82.08	1,947.17	81.13
18 OKPAI	GAS	4,860.00	202.50	4,702.90	195.95
19 AFAM VI	GAS	2,895.10	120.63	2,852.30	118.85
20 IBOM	GAS	1,828.45	76.19	1,818.00	75.75
21 ASCO	GAS	--	0.00	--	0.00
22 A.E.S	GAS	--	0.00	--	0.00
23 OMOKU	GAS	1,680.60	70.03	1,630.16	67.92
24 TRANS AMADI	GAS	389.40	16.23	379.00	15.79
25 RIVERS IPP	GAS	--	0.00	--	0.00
26 EGBIN ST6	STEAM	5,167.00	215.29	4,939.10	205.80
27 PARAS ENERGY	GAS	1,563.10	65.13	1,557.70	64.90
28 GBARAIN NIPP	GAS	440.91	18.37	429.01	17.88
TOTAL		90,642.74	3,776.78	89,348.29	3,722.85

GENERATION POSITION AT 06:00HRS OF THURSDAY 13/07/2017

	STATIONS	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	1G6,11 & 12	320	320	1G6,11 & 12	320	167	1G5 - On planned outage. 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.
		3			3			
	JEBBA HYDRO	2G2 - 5	386	380	2G2 - 5	345	345	2G1 - Out on maintenance. 2G6 - Out due to burnt generator winding and AVR.
		4			4			
	SHIRORO HYDRO	411G1 - 3	450	450	411G1 - 3	435	283	411G2 - Generation reduced to 50MW due to frequency management. 411G4 - Out on maintenance.
		3			3			
	EGBIN STEAM	ST2 & 5	440	440	ST2 & 5	440	232	ST2 - On frequency response. ST3 - Tripped on high vibration. ST4 - Out of production since 17/11/2016. ST5 - Limited to 71MW due to frequency management.
		2			2			
	SAPELE (STEAM)	ST2	120	58	ST2	58	58	ST1 - Shut down due to generator breaker problem. ST4 & 5 - Awaiting major overhaul. ST6 - Tripped on gas control valve not following reference point.
		1			1			
DELTA (GAS)	GT4, 7, 8, 10 - 13, 15, 16, 18 & 19	590	370	GT4, 7, 10 - 13, 15, 16, 18 & 19	513	513	GT3 & 5 - Out due to generator winding fault. GT6 - Out on maintenance. GT8 - Out for frequency management. GT9 - Out due to sparking within the crushing jaws. GT14 - Out on major overhaul. GT17 - Out on excitation trouble. GT20 - Out on major inspection.	
	11			10				
AFAM IV & V (GAS)	0	0	0	0	0	0	GT1 - 12 - De-commissioned and scrapped. GT13 - 16 - Out on blade failure. GT17 & 18 - Out due to burnt generator transformer. GT19 & 20 - Awaiting major overhaul.	
	0			0				
GEREGU GAS	GT11 - 13	435	435	GT12 & 13	290	248	GT11 - Out for frequency management.	
OMOTOSHO GAS	GT1 - 8	336	304	GT1, 2, 5-7	190	152.3	GT3 & 4 - Out for frequency management. GT8 - Out due to gas constraints.	
OLORUNSOGO GAS	GT1 - 8	336	304	GT1, 2, 6-8	190	144.5	GT3 & 4 - Out for frequency management. GT5 - Out due to gas constraints.	
	8			5				
GEREGU NIPP	GT21 - 23	435	435	GT23	145	108	GT21 & 22 - Out due to gas constraints.	
	3			1				
SAPELE NIPP	GT2	112.5	112.5	GT2	112.5	87.2	GT1 - Out on undisclosed fault. GT3 - Out on bearing lift pump trouble. GT4 - Tripped on loss of auxiliary.	
	1			1				
ALAOJI NIPP GAS	GT1, 2 & 4	375	360	GT1	120	74.8	GT1 - Generation reduced due to frequency management. GT2 & 4 - Out due to gas constraints. GT3 - Shut down due to generator air inlet filter trouble.	
	3			1				
OLORUNSOGO NIPP GAS	GT1 - 3	375	360	GT1 & 3	240	229.8	GT2 - Out for frequency management. GT4 & ST2 - Out of production since 25/10/2016.	
	3			2				
OMOTOSHO NIPP GAS	GT1, 2 & 4	375	360	GT1 & 2	240	137.1	GT3 - Out of production since 02/08/2016. GT4 - Out due to gas constraints.	
	3			2				
ODUKPANI NIPP	GT1 - 3	375	360	GT1	120	100.7	GT2 & 3 - Out for frequency management. GT4 - Out on unit transformer problem. GT5 - Tripped on hazardous gas detection.	
	3			1				
IHOVBOR NIPP	GT1 - 3	337.5	337.5	GT2	112.5	101.7	GT1 & 3 - Shut down for frequency management. GT4 - On maintenance.	
	3			1				
GBARAIN NIPP GAS	GT2	112.5	112.5	GT2	112.5	85.8	Available unit on bar.	
	1			1				
OKPAI GAS/STEAM	GT11, 12 & ST18	340	367	GT11, 12 & ST18	367	289	Generation limited to 367MW due to unavailability of one boiler.	
	3			3				
AFAM VI GAS/STEAM	GT11- 13 & ST10	650	650	GT13	150	117	GT11, 12 & ST10 - Out for frequency management.	
	4			1				
IBOM POWER GAS	GT2 & 3	150	150	GT2 & 3	80	80	GT2 & 3 - Limited to 80MW due to air inlet differential pressure problem.	
	2			2				
AES	0	0	0	0	0	0	Out of production since 27/09/2014.	
	0			0				
ASCO	0	0	0	0	0	0	GT1 - Shut down due to leakage in the furnace.	
	0			0				
OMOKU GAS	GT1 - 3, 5 & 6	125	100	GT1-3, 5 & 6	100	92.6	GT4 - Out for overhaul.	
	5			5				
TRANS-AMADI	GT4	25	20	GT4	20	20	Available unit on bar.	
	1			1				
RIVERS	0	0	0	0	0	0	Out of production since 16/09/2016.	
	0			0				
	SUB TOTAL	78	7200.5	6785.5	57	4700.5	3666.5	Frequency = 50.33Hz.

1.7B **GENERATION POSITION AT 06:00HRS OF THURSDAY 13/07/2017 FOR UNITS ON BILATERAL AGREEMENT**

EGBIN	ST6	220	220	ST6	215	215	Available unit on bar.
	1			1			
PARAS ENERGY	GT2 - 9	72	72	GT3 - 9	66.1	66.1	GT2 - On standby.
	8			7			
SUB TOTAL	9	292	292	8	281.1	281.1	
GRAND TOTAL	87	7492.5	7077.5	65	4,981.60	3,947.60	Frequency = 50.33Hz.

1.7C **BILATERAL AGREEMENT UNITS DISPATCH - WEDNESDAY 12/07/2017**

FEEDERS NAME	MAX. LOAD (MW)	TIME (HRS)	HOURS IN SERVICE	REMARK	
Egbin ST6 120MW GENERATION TO IKEJA ELECTRICITY DISTRIBUTION COMPANY					
OGBA	U-STEEL	ON	0100hrs	24	Nil
	PTCEXPRESS	10	1000hrs	24	Nil
	SANKYO	ON	2000hrs	20	For sate work on lju 33kV fdr
	FEEDER 8	11	2100hrs	24	Nil
IKORODU	PULK IT	3	0800hrs	24	Nil
	INDUSTRIAL	17	2000hrs	24	Nil
	SPINTEX	6	0800hrs	24	Nil
	DANGOTE	3	0100hrs	24	Nil
	LAND CRAFT	8	0200hrs	24	Nil
ALAUUSA	TR4 -15MVA	5.5	1300hrs	24	Nil
	TR5 -15MVA	4.8	1600hrs	24	Nil
	ALAUUSA	13	1500hrs	24	Nil
MLAND	PTC (MARYLAND)	14	1300hrs	24	Nil
TOTAL LOAD		95.3			
GRAND TOTAL					

**BILATERAL AGREEMENT LOAD DISPATCH
60MW PARAS ENERGY GENERATION TO CEB**

FEEDER	MAX	TIME	HOURS IN SERVICE	REMARK
SAKATE/IKEJA WEST 330KV LINE	66.5	12:00	24	NIL

1.8 HYDROLOGICAL DATA: THURSDAY 13/07/2017

	KAINJI	JEBBA	SHIRORO
HEAD WATER ELEVATION (METERS)	133.97	102.70	364.42
TAIL WATER ELEVATION (METERS)	104.68	74.20	271.00
GROSS OPERATING HEAD (METERS)	29.29	28.5	93.42
AVERAGE TURBINE DISCHARGE (M3/SEC)	670	1284	422
AVERAGE SPILLAGE (M3/SEC)	0	0	0
AVERAGE TOTAL STATION DISCHARGE (M3/SEC)	670	1284	422
COMPUTED INFLOW (M3/SEC)	1220	1145	526
STORAGE DIFFERENTIAL	550	-139	104
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 12/07/2017

DISCO	MAXIMUM LOAD(MW)	TIME(HRS)	ALLOCATED LOAD (MW)	MINIMUM LOAD(MW)	TIME(HRS)
ABUJA	415.2	23:00	592.65	141.4	22:00
EKO	406.1	22:00	571.23	277.1	17:00
IKEJA	514	22:00	542.59	314.5	16:00

2.0 GAS POSITION: THURSDAY 13/07/2017

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	232		1100		440	660
DELTA (GAS)	513		765		519	246
OMOTOSHO GAS	152.3		336.8		190	146.8
OMOTOSHO NIPP	137.1		500		240	260
OLORUNSOGO (GAS)	144.5		336		190	146
OLORUNSOGO NIPP	229.8		750		240	510
SAPELE NIPP	87.2		500		112.5	387.5
SAPELE STEAM	58		720		58	662
AFAM IV-V	0		300		0	300
AFAM VI	117		650		150	500
GEREGU GAS	248		435		290	145
GEREGU NIPP	108		435		145	290
OKPAI (GAS/STEAM)	289		480		367	113
ALAOJI NIPP	74.8		504		120	384
IHOVBOR NIPP	101.7		450		112.5	337.5
IBOM	80		198		80	118
ODUKPANI NIPP	100.7		625		120	505
TOTAL	2673.1		9084.8		3374	5710.8

1 MMSCF IS EQUIVALENT TO 3.75MW

SYSTEM BLACK START CAPABILITY

Delta, Shiroro & Egbin - Available.

SPINNING RESERVE FOR : WEDNESDAY 12/07/2017

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

3.0 SYSTEM SPINNING RESERVE AS AT 0600HRS OF THURSDAY 13/07/2017 = 0MW, FREQUENCY 50.33Hz.

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	
3	Delta	GT16	40	0	0
		GT17	40	0	
4	Olorunsogo NIPP	GT1	40	0	0
		GT2		0	
		GT3		0	
		GT4		0	
5	Geregu NIPP	GT22	35	0	0
6	Omotosho NIPP	GT1	40	0	0
		GT2		0	
		GT3		0	
TOTAL (MW)			295	0	0

4.0 UNUTILIZED GENERATION CAPABILITY

The unutilized generation capability for Thursday 13/07/2017 as at 0600Hrs was = 2417.2MW.

S/NO	STATION	ACTUAL GENERATION CAPABILITY (MW)	GENERATION AT 0600HRS (MW)	UNUTILIZED GENERATION CAPABILITY (MW)	SUB-TOTAL
4.1 DUE TO GAS CONSTRAINTS:					
1	Geregu NIPP GT21 & 22	290	0	290	726
2	Omotosho Gas GT8	38	0	38	
3	Alaoji NIPP GT2 & 4	240	0	240	
4	Omotosho NIPP GT4	120	0	120	
5	Olorunsogo Gas GT5	38	0	38	
				0	
				0	
				0	
				0	
				0	
IT IS ENVISAGED WITH IMPROVED PLANT AVAILABILITY AND RELIEF FROM EXISTING POWER SYSTEM NETWORK RELATED CONSTRAINTS, ADDITIONAL 1522.88MW/SCF OF GAS (EQUIVALENT TO 5710.8MW) WILL BE REQUIRED WHEN ALL THERMAL UNITS ARE ON BAR.					
4.2 DUE TO LINE CONSTRAINTS					
			0	0	
4.3 DUE TO FREQUENCY MANAGEMENT OCCASIONED BY DISCOS' LOAD DEMAND					
1	Egbin ST5	220	71	149	1691.2
1	Afam VI GT11, 12 & ST10	500	0	500	
2	Delta GT8	20	0	20	
3	Ihovbor GT1 & 3	225	0	225	
4	Odukpani GT2 & 3	240	0	240	
5	Olorunsogo NIPP GT2	120	0	120	
6	Omotosho Gas GT3 & 4	76	0	76	
7	Geregu Gas GT11	145	0	145	
8	Shiroro 411G2	145	50	95	
9	Olorunsogo Gas GT3 & 4	76	0	76	
10	Alaoji NIPP GT1	120	74.8	45.2	
4.4 DUE TO WATER MANAGEMENT					
				0	
Total					2417.2

5.0 OUTAGES:

5 (A) FORCED OUTAGES (GENERATION):-

- 00:15 - 20:07Hrs, Gbarain P/S GT2 tripped on reverse power due to tripping of Alaoji/Owerri 132kV lines 1 & 2 at Alaoji T/S. LHR = 110.9MW.
- 15:06Hrs, Omoku P/S GTs 1 – 3, 5 & 6 – went on full speed no load due to switching operation at Port Harcourt Main T/S. 18:40Hrs - GT2 was tied, 18:41Hrs - GT3 was tied, 18:44Hrs - GT1 was tied, 18:46Hrs - GT6 was tied & 18:49Hrs - GT5 was tied.
- 22:44 through 24:00Hrs, Odukpani NIPP GT5 tripped on hazardous gas detection. LHR = 115.9MW.

5 (B) FORCED OUTAGES TRANSMISSION:-

- 00:15 – 00:47Hrs, Alaoji/Owerri 132kV lines 1 & 2 CBs tripped at Alaoji T/S on the following relay indications:-
On line 1: Siemens relay – Trip instantaneous trip IE >> Red Phase, 2x3 Phases. Backup protection trip. Optimho relay – Zone 1, B- N, location = 53.17km, period = 68ms. LHR = 20MW.
On line 2: Siemens relay – trip instantaneous trip IE >> Red Phase, back up trip. LHR = 20MW.
Simultaneously, Owerri /Ahoada 132kV line 1 CB tripped at Owerri T/S on directional E/F. LHR = 14.6MW.
- 08:10 – 08:38Hrs, Kumbotso T/S 40MVA 132/33kV transformer T2 primary breaker tripped on O/C Yellow Phase while the secondary breaker tripped without relay indication. LHR = 25.4MW.
- 09:50 – 14:10Hrs, Omotosho/Ikeja West 330kV line (cct M5W) CB tripped at Ikeja West T/S without relay indications but trip relay flagged. No load loss as cct B5M was in service.
10:17Hrs, the line CB was opened at Omotosho T/S on voltage control. V/P = 370/359kV.
13:40Hrs, trial restoration failed at Ikeja West T/S on AGILE relay: General trip, O/C 3-Phases and DEF trip.
- 10:39 - 12:38Hrs, Delta T/S 60MVA 132/33kV transformer T2 primary breaker tripped on O/C 3-Phases while the secondary breaker tripped on O/C Red & Yellow Phases. LHR = 7.4MW. The punctured Red Phase 33kV upriser amound cable was raychemed before restoration.
- 16:06 – 16:24Hrs, Alaoji/Afam 132kV line 2 CB tripped at Alaoji T/S on Micom Relay; I>L 1, 2 & 3, TL>L1, 2 & 3. Load loss = 16MW.
- 18:17 – 20:50Hrs, Osogbo/Omuaran 132kV line tripped at Osogbo T/S on NARI Relay (BFP): O/C 3-Phases ZNI trip, fault location = 36.3km. LHR = 24MW.

5 (C) PLANNED OUTAGES:

- 09:40 – 13:51Hrs, Calabar T/S 60MVA 132/33kV transformer T2 was taken out for annual preventive maintenance on the transformer and its associated equipment. Load loss = 10MW.
- 09:44 through 24:00Hrs, Mando T/S 90MVA 330/132/13.8kV transformer T2A was taken out to enable maintenance crew decommission the existing primary CT and install a new one. No load loss as the transformer was on soak.
15:10Hrs, the job was suspended due to lack of Hiab driver.
- 10:10 - 19:57Hrs, Benin/Oghara 132kV line was taken out to enable LMD crew cut trees along the lines on towers #100 – 101, 110 -114 & 119 – 120. LHR = 12.8MW.
10:11 - 19:55Hrs, Benin/Delta 132kV line was taken out to enable LMD crew cut trees along the lines on towers #100 – 101, 110 -114 & 119 – 120. LHR = 11.9MW
- 11:20 - 17:43Hrs, Port Harcourt main T/S 60MVA 132/33kV transformer T3 was taken out to enable maintenance crew seal oil leakage on the transformer. No load loss as the feeders on the transformer were already out.
- 11:17 – 13:04Hrs, Jalingo T/S 30/40MVA 132/33kV transformer T1A was taken out for annual preventive maintenance on the transformer and its associated equipment. LHR = 13.8MW.

5(D) URGENT OUTAGES:

- 04:23 through 24:00Hrs, Jebba/Osogbo 330kV line 1 (cct J1H) was taken out for maintenance crew to attend to the low SF6 gas alarm that came up on the breaker. V/P at Osogbo = 339/338kV and Jebba = 340/339kV. No load loss as ccts J3G, H3G & J2H were in service. The line is now available but out on voltage control.
- 09:20 - 12:56Hrs, Afam T/S 162MVA 330/132kV transformer T1A was taken out to enable maintenance crew conclude work on the transformer tap changer after wrong wiring was discovered on the Blue Phase. LHR = 62MW. The wiring was corrected before restoration.
- 12:32 – 16:46Hrs, Alagbon T/S 300MVA 330/132kV transformer TR1 was opened by control on emergency due to serious glowing observed on the transformer secondary Red Phase bushing. Maintenance crew replaced the burnt clamp on the secondary Red Phase bushing before restoration. LHR = 120MW.

6 GENERATOR MERIT ORDER BASED ON SYSTEM RESPONSE AND GRID RELIABILITY

GROUP 1 - ALL UNITS OFFERING FREE GOVERNOR FREQUENCY RESPONSE.

GROUP 2 - ALL UNITS OFFERING REGULATING RESERVE.

GROUP 3 - ALL UNITS OFFERING SPINNING RESERVE.

GROUP 4 - HYDRO IN HIGH FLOOD PERIOD SEASON, KAINJI, JEBBA AND SHIRORO.

5 (E) EMERGENCY OUTAGES:- Nil.

5 (F) AUTOMATIC UNDER FREQUENCY OPERATION: NIL

5 (G) 330KV LINES THAT ARE OUT ON VOLTAGE CONTROL:- ccts J2L & U2A.

5 (I) 330KV LINES THAT ARE OUT ON BREAKER PROBLEM:- ccts K1J, A2K & N4J.

5 (J) 330KV LINES THAT ARE OUT ON PLANNED OUTAGE:- cct W4L.

5 (K) 330KV LINES THAT ARE OUT ON LINE FAULT:- cct L7G.

9 WEATHER REPORT: Rainfall in Alaoji.

10 INTERNATIONAL LINES:-

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

Maximum load - 239MW at 21:00Hrs.

Minimum load - 148MW at 07:00Hrs.

B BIRNIN KEBBI/NIAMEY 132KV LINE

Maximum load - 82MW at 15:00Hrs.

Minimum load - 59MW at 10:00Hrs.

C KATSINA/GAZAQUA/MARADI 132KV LINE

Maximum load - 38.0MW at 20:00Hrs.

Minimum load - 27.5MW at 09:00Hrs.

11 MISCELLANEOUS:-

- 04:22 through 24:00Hrs, Jebba/Osogbo 330kV line 2 (cct J2H) was brought in service for voltage control. V/P=339/340kV.
- 15:35Hrs, Sapele ST2 was tied. The unit has been out due to poor cooling water.
- 15:43Hrs, Okpai IPP GT11 was tied. The unit has been out due to auxiliary transformer disturbance alarm.
- 16:58Hrs, Ikeja West T/S 330kV line (cct N6W) was restored okay after maintenance crew replaced bad resistors and trip coil on the line CB.
- 20:30Hrs, Omotosho Gas GT1 was tied. The unit has been out on frequency management.

GROUP 5 - ALL UNITS USED TO AVOID OVERLOADING TRANSMISSION LIMITS.

GROUP 6 - ALL UNITS OFFERING VOLTAGE SUPPORT OUTSIDE NORMAL LEVEL.

GROUP 7 - ALL UNITS IN LOCATION TO DIMINISH LOSSES

GROUP 8 - ALL UNITS NOT OFFERING ANY SERVICES.

8 (A) COMMUNICATION MEDIA

STATIONS	NO. INSTALLED	NO. WORKING
PLC/PAX	37	33
OPTIC FIBRE	13	11
PLS	14	6

8 (B) SCADA RTU STATUS

STATIONS	TOTAL NO OF STATIONS	NO OF RTU INSTALLED	NO OF RTU WORKING
POWER STATIONS	23	8	3
330kV	41	17	13
132kV	119	103	19

12.0 UNAVAILABLE EQUIPMENTS

12(A) UNAVAILABLE TRANSFORMERS/REACTORS:

SHIRORO REGION:

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

KADUNA REGION:

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

ENUGU REGION:

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

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/Yendev 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/Yendev 132kV By pass isolator - Canibalized to repair the line isolator.

SHIRORO REGION

- 1 Kainji/Jebba 330kV line 1 - CB problem at Kainji T/S.

12(D) LAGOS REGION

- 1 Egbin/Aja 330kV line 2 (cct N4J) - faulty breaker at Aja T/S.
- 2 132kV Akangba/Ire line 1- Faulty line isolator at Akangba T/S.
- 3 Agbara/Ojo line 1 on soak.

SHIRORO REGION

- 1 Lokoja/Gwagwalada 330kV line 2 - Cut sky wire between towers 339 & 340.

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
- 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/Ire 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, Uguwaji, Osogbo, Kaduna, Jos, Gwagwalada & Alaoji T/S.

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

PORT HARCOURT REGION

1 Alaoji/Ikot-Ekpene 330KV line 2 (cct A2K) Yellow Phase isolator not latching properly.

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.

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) - 08066067487, CUG: 09021765320
- f Coordinator (S/O) - 08037868916, 08054353904, 08028332125, CUG Airtel
08129458481.
- g SYSTEM OPERATIONS WEB SITE: www.nigeriasystemoperator.org