

TRANSMISSION COMPANY OF NIGERIA

To: Head (ISO), TCN - Abuja

From: General Manager, NCC, Osogbo

DAILY OPERATIONAL REPORT OF TUESDAY 05/12/2017

FOR: EVENTS OF MONDAY 04/12/2017

1.0 EXECUTIVE OPERATIONS SUMMARY:

1.1 GENERATION PROFILE: NATIONAL STATISTICS

DETAILS	MW	HRS	DATE
PEAK DEMAND FORECAST (CONNECTED + SUPPRESSED LOAD)	17,720	21:45	04/12/2017
GENERATION CAPABILITY	7509.1	-do-	-do-
UNITS ON BAR CAPABILITY AT PEAK	5585.8	-do-	-do-
PEAK GENERATION	4823.0	-do-	-do-
LOWEST GENERATION	3574.4	08:00	04/12/2017
8-HOURLY DURATION PEAK	3958.9	0000-0800	-do-
	4119.6	0900-1600	-do-
	4823	1700-2400	-do-
PEAK GENERATION TO DATE	5074.7	21:30	02/02/2016
MAXIMUM AVAILABLE CAPACITY TO DATE	7492.6	06:00	14/04/2014
MAXIMUM ENERGY GENERATED (MWH) TO DATE	109,372.01	0000-2400	02/02/2016

1.2 CRITICAL VOLTAGE

DETAILS	KV	STATION	HRS
NOMINAL VOLTAGE	330		
STATUTORY LIMITS	280.5 - 346.6		
HIGHEST VOLTAGE FOR THE DAY	351	Omotosho T/S	01:00
LOWEST VOLTAGE FOR THE DAY	300	Gombe T/S	06:00

1.3 FREQUENCY RANGE

DETAILS	HZ	HRS
NOMINAL FREQUENCY	50	
STATUTORY LIMITS	49.75-50.25	
HIGHEST FREQUENCY	50.508	02:29
LOWEST FREQUENCY	50.107	20:20

1.4 SYSTEM COLLAPSE UP DATE

Date of last total collapse: 30th Oct, 2017		No. of days since last total collapse: 37												
Date of last partial collapse: 17 th Oct., 2017		No. of days since last partial collapse: 49												
Highest No of days ever attained in-between total collapses: 134		Highest No of days ever attained in-between partial collapses: 240												
	Jan	Feb.	Mar.	Apr	May	Jun	Jul	Aug	Sep.	Oct	Nov	Dec	Total	
2009	Total	1	--	--	--	2	5	5	4	1	--	--	1	19
	Partial	--	5	4	3	3	--	--	1	--	2	1	1	20
2010	Total	--	3	1	--	3	3	3	--	2	2	1	4	22
	Partial	1	--	--	1	1	3	4	4	3	2	--	1	20
2011	Total	--	--	--	--	4	3	1	1	1	2	1	--	13
	Partial	--	1	1	--	--	--	1	--	1	2	2	--	6
2012	Total	--	--	2	1	5	2	1	--	--	2	2	1	16
	Partial	--	--	2	3	--	--	--	1	--	1	1	1	8
2013	Total	--	1	2	2	3	4	1	1	1	4	2	2	22
	Partial	--	--	--	--	--	--	--	2	--	--	--	--	2
2014	Total	2	--	0	2	0	3	1	0	0	1	0	0	9
	Partial	--	--	0	0	1	0	0	0	0	2	1	1	4
2015	Total	1	0	1	0	2	0	1	0	0	1	0	0	6
	Partial	--	--	1	0	2	0	0	0	1	0	0	0	4
2016	Total	--	--	2	3	6	5	0	0	1	1	2	2	22
	Partial	--	--	1	0	1	3	1	0	0	0	0	0	6
2017	Total	5	3	0	3	1	1	0	0	1	1			15
	Partial	1	0	1	0	0	0	1	0	3	3			9

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

STATION	TURBINE	PEAK GEN. (MW)	OFF-PEAK GEN.(MW)
1 KAINJI	HYDRO	390	315
2 JEBBA	HYDRO	424	248
3 SHIRORO	HYDRO	419	117
4 EGBIN ST2 - 5	STEAM	503	465
5 SAPELE	STEAM	0	0
6 DELTA	GAS	467	464
7 AFAM IV-V	GAS	62	63
8 GEREGU GAS	GAS	270	162
9 OMOTOSHO GAS	GAS	138.3	124.9
10 OLORUNSOGO GAS	GAS	135.8	113.5
11 GEREGU NIPP	GAS	128	126
12 SAPELE NIPP	GAS	177.3	154.2
13 ALAQJI NIPP	GAS	0	0
14 OLORUNSOGO NIPP	GAS	212.2	108.7
15 OMOTOSHO NIPP	GAS	104.5	95.1
16 ODUKPANI NIPP	GAS	291.1	156.7
17 IHOVBOR NIPP	GAS	109.5	77.1
18 OKPAI	GAS	309	215
19 AFAM VI	GAS	263	224
20 IBOM POWER	GAS	97	71.6
21 ASCO	GAS	0	0
22 A.E.S	GAS	0	0
23 OMOKU	GAS	22.7	21.5
24 TRANS AMADI	GAS	62.2	20.5
25 RIVERS IPP	(GAS)	0	0
26 EGBIN ST6	(GAS)	168	163
27 PARAS ENERGY	(GAS)	69.4	68.6
28 GBARAIN NIPP	GAS	0	0
TOTAL		4823.0	3574.4

1.6 ENERGY GENERATED/ENERGY SENT OUT:

STATION	TURBINE	ENERGY GENERATED		ENERGY SENT OUT	
		MWH	MWH/H	MWH	MWH/H
1 KAINJI	HYDRO	8669.00	361.21	8652.40	360.52
2 JEBBA	HYDRO	6911.00	287.96	6886.36	286.93
3 SHIRORO	HYDRO	4830.00	201.25	4798.29	199.93
4 EGBIN ST2 - 5	STEAM	11513.00	479.71	10924.40	455.18
5 SAPELE	STEAM	0.00	0.00	0.00	0.00
6 DELTA	GAS	9818.25	409.09	9651.10	402.13
7 AFAM IV-V	GAS	1473.00	61.38	1468.64	61.19
8 GEREGU GAS	GAS	5630.40	234.60	5604.22	233.51
9 OMOTOSHO GAS	GAS	3266.00	136.08	3237.60	134.90
10 OLORUNSOGO GAS	GAS	2992.79	124.70	2965.27	123.55
11 GEREGU NIPP	GAS	2997.75	124.91	2983.35	124.31
12 SAPELE NIPP	GAS	4094.36	170.60	4073.72	169.74
13 ALAQJI NIPP	GAS	0.00	0.00	0.00	0.00
14 OLORUNSOGO NIPP	GAS	3283.20	136.80	3243.60	135.15
15 OMOTOSHO NIPP	GAS	2492.20	103.84	2478.60	103.28
16 ODUKPANI NIPP	GAS	5165.00	215.21	5134.36	213.93
17 IHOVBOR NIPP	GAS	2130.00	88.75	2111.70	87.99
18 OKPAI	GAS	6470.00	269.58	6310.60	262.94
19 AFAM VI	GAS	5730.00	238.75	5635.00	234.79
20 IBOM	GAS	2147.57	89.48	2138.00	89.08
21 ASCO	GAS	0.00	0.00	0.00	0.00
22 A.E.S	GAS	0.00	0.00	0.00	0.00
23 OMOKU	GAS	470.10	19.59	452.25	18.84
24 TRANS AMADI	GAS	861.40	35.89	840.30	35.01
25 RIVERS IPP	GAS	0.00	0.00	0.00	0.00
26 EGBIN ST6	STEAM	3944.00	164.33	3748.60	156.19
27 PARAS ENERGY	GAS	1511.60	62.98	1505.80	62.74
28 GBARAIN NIPP	GAS	219.20	9.13	206.10	8.59
TOTAL		96,619.82	4,025.83	95,050.26	3,960.43

GENERATION POSITION AT 06:00HRS OF TUESDAY 05/12/2017.

	STATIONS	NO OF INSTALLED UNITS	AVAILABLE UNITS	INSTALLED CAPACITY OF AVAILABLE UNITS(MW)	GENERATION CAPABILITY OF AVAILABLE UNITS(MW)	UNITS ON BAR	CAPABILITY OF UNITS ON BAR (MW)	GENERATION AT 06:00HRS (MW)	REMARKS
PRIVATISED COMPANIES	KAINJI HYDRO	8	1G5, 6, 11 & 12 4	440	440	1G5, 6, 11 & 12 4	440	385	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 & 12 Generation reduced on frequency management.
	JEBBA HYDRO	6	2G1 - 5 5	475	475	2G1 - 4 4	380	344	2G5 - Out on frequency management. 2G6 - Out due to burnt generator winding and AVR.
	SHIRORO HYDRO	4	411G1, 2 & 4 3	450	450	411G2 & 4 2	300	300	411G1 - Out on water management. 411G3 - Out on maintenance.
	EGBIN STEAM	5	ST2, 4 & 5 3	660	660	ST2, 4 & 5 3	660	462	ST1 - Tripped on generator CB trouble. ST3 - Tripped on high vibration.
	SAPELE (STEAM)	6	0 0	0	0	0 0	0	0	ST1 - Tripped on low drum level. ST2 - Out on maintenance. ST3 - Out on stator winding problem. ST4 & 5 - Awaiting major overhaul. ST6 - Tripped on gas control valve not following reference point.
	DELTA (GAS)	18	GT4, 7, 9 -13, 15, 16, 18 & 19 11	555	555	GT4, 7, 9 -13, 15, 16, 18 & 19 11	555	508	GT3 & 5 - Out due to generator winding fault. GT6 & 14 - Out on major overhaul. GT8 - Out on maintenance. GT17 - Out on excitation trouble. GT20 - Tripped on high exhaust temperature
	AFAM IV & V (GAS)	8	GT18 1	75	62	GT18 1	62	62	GT1 - 12 - De-commissioned and scrapped. GT13 -16 - Out on blade failure. GT17 - Tripped on loss of excitation. GT19 & 20 - Awaiting major overhaul.
	GEREGU GAS	3	GT11 - 13 3	435	435	GT12 & 13 2	290	212	GT11 - Shut down due to gas constraint. Generation reduced on frequency management.
	OMOTOSHO GAS	8	GT1 - 8 8	336	304	GT1, 4, 5 & 7 4	152	142.2	GT2, 3, 6 & 8 - Out on frequency management.
	OLORUNSOGO GAS	8	GT1 - 8 8	336	304	GT2, 4, 6 & 8 4	152	139.2	GT1, 3, 5 & 7 - Out on frequency management.
NIPP	GEREGU NIPP	3	GT22 & 23 2	290	290	GT22 1	145	127	GT21 - Out on maintenance. GT23 - Out due to gas constraints.
	SAPELE NIPP	4	GT1 & 2 2	225	225	GT1 & 2 2	225	163.5	GT3 - Out on undisclosed fault. GT4 - Tripped on fire protection alarm. Generation reduced due to high gas temperature.
	ALAOJI NIPP GAS	4	GT1 & 2 2	250	240	0 0	0	0	GT1 & 2 - Tripped due to low gas pressure. GT3 - Shut down due to generator air inlet filter trouble. GT4 - Out on maintenance.
	OLORUNSOGO NIPP GAS	6	GT1 - 3 3	375	360	GT1 & 2 2	240	190.3	GT3 - Out on frequency management. GT4 - Out of production since 25/10/2016. ST13 & ST23 - Out on maintenance.
	OMOTOSHO NIPP GAS	4	GT1, 2 & 4 3	375	360	GT2 1	120	102.8	GT1 & 4 - Out on frequency management. GT3 - Shut down due to oil leakage on the unit.
	ODUKPANI NIPP	5	GT2, 3, 4 & 5 4	480	468	GT2, 4 & 5 3	351	255.2	GT1 - Out due to air inlet differential pressure. GT3 - Out due to line constraint.
	IHOVBOR NIPP	4	GT1 - 3 3	337.5	337.5	GT1 1	112.5	92.4	GT2 & 3 - Out due to gas constraint. GT4 - Out on maintenance.
	GBARAIN NIPP GAS	1	0 0	0	0	0 0	0	0	GT2 - Out due to heater problem.
IPP	OKPAI GAS/STEAM	3	GT11, 12 & ST18 3	375	375	GT11, 12 & ST18 3	375	298	GT11 & 12 - Generation reduced on frequency management. Generation limited to 375MW due to unavailability of one boiler as a result of water shortage.
	AFAM VI GAS/STEAM	4	GT11 - 13 & ST10 4	650	650	GT11 & 13 2	300	245	GT12 & ST10 - Out on frequency management.
	IBOM POWER GAS	3	GT3 1	115	85.5	GT3 1	85.5	85.5	GT1 & 2 - Out on fault.
	AES		0 0	0	0	0 0	0	0	Out of production since 27/09/2014.
	ASCO		0 0	0	0	0 0	0	0	GT1 - Shut down due to leakage in the furnace.
	OMOKU GAS	6	GT1, 2 & 5 3	75	60	GT1 & 5 2	21.9	21.9	GT6 - Out on fault. GT2 - Out due to gas constraint. GT3 - Out due to gas leakage. GT4 - Awaiting major overhaul. Generation reduced due to gas constraint.
	TRANS-AMADI	4	GT1 & 2 2	50	41.3	GT1 & 2 2	41.3	41.3	GT3 - Out on fault. GT4 - Tripped and shut down on status differential..
	RIVERS		0 0	0	0	0 0	0	0	Out of production since 16/09/2016.
	SUB TOTAL	125	78	7359.5	7136	55	5008.2	4177.3	Frequency = 50.30Hz.

1.7B GENERATION POSITION AT 06:00HRS OF TUESDAY 05/12/2017 FOR UNITS ON BILATERAL AGREEMENT

FEEDERS NAME	MAX. LOAD (MW)	TIME (HRS)	HOURS IN SERVICE	REMARK	ST6			
					ST6	ST6	ST6	
EGBIN	1		220	220	ST6	220	164	ST6 - On frequency response.
					1			
PARAS ENERGY	8	GT2 - 9	67.8	67.8	0	0	0	Out due to tripping of Ikorodu/Shagamu 132kV line.
					8			
SUB TOTAL	9	9	287.8	287.8	1	220	164	
GRAND TOTAL	134	87	7647.3	7423.8	56	5,228.20	4,341.30	Frequency = 50.30Hz.

1.7C BILATERAL AGREEMENT UNITS DISPATCH - MONDAY 04/12/2017

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	24HRS	NIL
	PTCEXPRESS	8MW	0900HRS	23HRS	planned outage
	SANKYO	ON	2000hrs	9	tripped on E/F
	FEEDER 8	12	1800hrs	24HRS	NIL
IKORODU	PULK IT	2	2200	24	NIL
	INDUSTRIAL	24	2100	24	NIL
	SPINTEX	3	1000	24	NIL
	DANGOTE	2	1600	24	NIL
	LAND CRAFT	36	2000	24	NIL
ALAUSA	TR4 15MVA	7.4	13:00	24	NIL
	TR5 -15MVA	6	9:00	24	NIL
	ALAUSA	18.4	13:00	24	NIL
M/LAND	PTC (MARYLAND)	16	14:00	2400HRS	NIL
	TOTAL LOAD	126.8			

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

FEEDER	MAX	TIME	HOURS IN SERVICE	REMARK
Ikeja West/Sakete 330kV line	69.4	03:00	22	Out due to tripping of Ikorodu/Shagamu 132kV line.

1.8 HYDROLOGICAL DATA: TUESDAY 05/12/2017

	KAINJI	JEBBA	SHIRORO
HEAD WATER ELEVATION (METERS)	141.62	102.26	377.32
TAIL WATER ELEVATION (METERS)	104.30	74.30	270.2
GROSS OPERATING HEAD (METERS)	37.32	27.96	107.12
AVERAGE TURBINE DISCHARGE (M3/SEC)	1074	1125	220
AVERAGE SPILLAGE (M3/SEC)	61	0	0
AVERAGE TOTAL STATION DISCHARGE (M3/SEC)	1135	1125	220
COMPUTED INFLOW (M3/SEC)	1135	1160	67
STORAGE DIFFERENTIAL	0	35	-153
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 04/12/2017

DISCO	MAXIMUM LOAD(MW)	TIME(HRS)	ALLOCATED LOAD (MW)	MINIMUM LOAD(MW)	TIME(HRS)
ABUJA	496.7	22:00	646.1	308.5	01:00
EKO	474.2	20:00	719.01	398.7	03:00
IKEJA	523.9	21:00	842.74	358.8	03:00

2.0 GAS POSITION: TUESDAY 05/12/2017

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	462		1100		880	220
DELTA (GAS)	508		765		555	210
OMOTOSHO GAS	142.2		336.8		152	184.8
OMOTOSHO NIPP	102.8		500		120	380
OLORUNSOGO (GAS)	139.2		336		152	184
OLORUNSOGO NIPP	190.3		750		240	510
SAPELE NIPP	163.5		500		225	275
SAPELE STEAM	0		720		0	720
AFAM IV-V	62		300		62	238
AFAM VI	245		650		280	370
GEREGU GAS	212		435		290	145
GEREGU NIPP	127		435		145	290
OKPAI (GAS/STEAM)	298		480		375	105
ALAOJI NIPP	0		504		0	504
IHOVBOR NIPP	92.4		450		112.5	337.5
IBOM	85.5		198		85.5	112.5
ODUKPANI NIPP	255.2		625		351	274
TOTAL	3085.1		9084.80		4025	5059.8

1 MMSCF IS EQUIVALENT TO 3.75MW

3.0 SPINNING RESERVE FOR : MONDAY 04/12/2017

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

3.1 SYSTEM SPINNING RESERVE AS AT 0600HRS OF TUESDAY 05/12/2017 = 0MW. FREQUENCY 50.30Hz.

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
5	Omotosho NIPP	GT1	40	0	0
		GT2		0	
		GT3		0	
		GT4		0	
TOTAL (MW)			295	0	0

4.0 UNUTILIZED GENERATION CAPABILITY

The unutilized generation capability for Tuesday 05/12/2017 as at 0600Hrs was = 2357.1MW.

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 GT23	145	0	145	793.1
2	Ihovbor GT2 & 3	225	0	225	
3	Alaoji NIPP GT1 & 2	240	0	240	
4	Geregu Gas GT11	145	0	145	
5	Omoku GT1, 2 & 5	60	21.9	38.1	
				0	
				0	
				0	
				0	
				0	
				0	
				0	
				0	
				0	
IT IS ENVISAGED WITH IMPROVED PLANT AVAILABILITY AND RELIEF FROM EXISTING POWER SYSTEM NETWORK RELATED CONSTRAINTS, ADDITIONAL 1349.28MMSCF OF GAS (EQUIVALENT TO 5059.8MW WILL BE REQUIRED WHEN ALL THERMAL UNITS ARE ON BAR.					
4.2 DUE TO LINE CONSTRAINTS					
1	Odukpani NIPP GT3	117	0	117	117
				0	
				0	
4.3 DUE TO FREQUENCY MANAGEMENT OCCASIONED BY DISCOS' LOAD DEMAND					
1	Olorunsogo Gas GT1, 3, 5 & 7	152	0	152	1297
2	Omotosho NIPP GT1 & 4	240	0	240	
3	Jebba 2G5	95	0	95	
4	Afam VI ST10 & GT12	350	0	350	
5	Omotosho Gas GT2, 3, 6 & 8	152	0	152	
6	Olorunsogo NIPP GT3	120	0	120	
7	Okpai GT11 & 12	300	237	63	
8	Geregu Gas GT12 & 13	290	212	78	
9	Kainji 1GT11 & 12	200	153	47	
				0	
				0	
4.4 DUE TO WATER MANAGEMENT					
1	Shiroro 41G1	150	0	150	150
Total					2357.1

5.0 OUTAGES:

5 (A) FORCED OUTAGES (GENERATION):-

- 1 05:15 - 13:59Hrs, Trans-Amadi GT2 tripped on turbine compartment high temperature. LHR = 18.2MW
- 2 13:43 - 15:39Hrs, Gbarain NIPP GT2 tripped due to loss of back feed. LHR = 70MW
- 3 17:53 through 24:00Hrs, Gbarain NIPP GT2 tripped on electrical trouble alarm. LHR = 104MW.
- 4 18:12Hrs, Paras Energy GTs, 2 - 9 tripped due to tripping of Ikorodu/Shagamu 132kV line. LHR = 67.8MW.
20:18Hrs – GT2 was tied, 20:20Hrs – GT3 was tied, 20:22Hrs – GT4 was tied, 20:25Hrs – GT5 was tied, 20:27Hrs – GT6 was tied, 20:30Hrs – GT7 was tied, 20:31Hrs – GT8 was tied & 20:33Hrs – GT9 was tied.

5 (B) FORCED OUTAGES TRANSMISSION:-

- 1 11:40 – 11:49Hrs, Kumbotso T/S 150MVA 330/132/33kV transformer T2A secondary CB tripped on distance protection R & T phases. F.C.T. = 0.2s. LHR = 108.2MW
- 2 18:12 – 18:28Hrs, Ikorodu/Shagamu 132kV line CB tripped at Ikorodu T/S on O/C Phase B, Distance = 84km. LHR = 82MW.

5 (C) PLANNED OUTAGES:-

- 1 11:17 – 12:37Hrs, Osogbo T/S 60MVA 132/33kV transformer 4T4 was taken out for maintenance crew to mend cut Red phase secondary conductor between the CT and 33kV bus bar. Load loss = 11.2MW
- 2 11:30 - 18:50Hrs, Alaoji/Ikot-Ekpene 330kV (cct A1K) was taken out for maintenance crew to check and confirm the CTs ratio on the diameter at Alaoji T/S. No load loss as ccts A2K & K3U were in service. Note: 11:30 - 18:47Hrs, cct T4A was taken out for safe working space.

5(D) URGENT OUTAGES:-

- 1 11:46 - 16:11Hrs, Jebba/Shiroro 330kV line (cct J3R) was taken out for maintenance crew to top up low oil level on Red, Yellow & Blue phases CTs to normal at Jebba T/S. No load loss as cct J7R was in service

17:32 – 18:02Hrs, Ikot-Ekpene/Ugwuaji 330kV line 3 (cct K3U) was taken out to enable maintenance crew refill low SF6 gas pressure of line GCB to normal at Ugwuaji T/S. No load interruption as tie CB was in service.

9 GENERATOR MERIT ORDER BASED ON SYSTEM RESPONSE AND GRID RELIABILITY

GROUP 1 - HYDRO UNITS (LEAST COST) ON FREE GOVERNOR CONTROL AND ANCILLARY SERVICE .

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

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

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

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

GROUP 6 - ALL PLANTS PROVIDING VOLTAGE SUPPORT ABOVE STATUTORY LIMIT.

GROUP 7 - ALL OTHER PLANTS.

10 SYSTEM BLACK START CAPABILITY

Delta, Shiroro & Egbin - Available.

5 (E) EMERGENCY OUTAGES:- NIL

5 (F) AUTOMATIC UNDER FREQUENCY OPERATION:- NIL

5 (G) 330KV LINES THAT ARE OUT ON VOLTAGE CONTROL:- ccts A1S & K4U.

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

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

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

5 (K) cct K1J on soak at Jebba T/S due to energy meter problem at Kainji T/S.

6 WEATHER REPORT:- NIL

7 INTERNATIONAL LINES:-

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

Maximum load - 275MW at 19:00Hrs.
Minimum load - 192MW at 07:00Hrs.

B BIRNIN KEBBIN/NIAMEY 132KV LINE

Maximum load - 87MW at 21:00Hrs.
Minimum load - 57MW at 08:00Hrs.

C KATSINA/GAZAOUA/MARADI 132KV LINE

Maximum load - 29.0MW at 20:00Hrs.
Minimum load - 18.0MW at 03:00Hrs.

8 MISCELLANEOUS:-

- 1 00:02 - 17:54Hrs, Jebba 2G4 was shut down on frequency management. Load loss = 80MW
- 2 01:03Hrs, Omosho NIPP GT4 was shut down on frequency management. Load loss = 94.7MW
- 3 02:37 – 05:14Hrs, Jebba 2G1 was shut down on frequency management. Load loss = 75MW
- 4 07:35Hrs, Omosho Gas GT3 was shut down on frequency management. Load loss = 30.3MW
- 5 07:32Hrs, Odukpani NIPP GT4 was shut down on frequency management. Load loss = 91.7MW
- 6 08:19 - 19:31Hrs, Delta GT16 was shut down on frequency management. Load loss = 72MW
- 7 10:07Hrs, Ikeja-West T/S 330kV 75MX Shunt Reactor R2 was switched off on voltage control. V/P = 319/321kV.
- 8 12:20Hrs, Ihovbor NIPP GT1 was tied to swap with GT3. The unit was out on gas constraint.
- 9 12:39Hrs, Ihovbor NIPP GT3 was shut down. No load loss as load of 88.1MW was transferred to GT1.
- 10 13:32Hrs, Gbarain NIPP GT2 was tied. The unit was out due to heater problem.
- 11 17:14Hrs, Olorunsogo NIPP GT2 was tied. The unit was out on frequency management.

11 (A) **COMMUNICATION MEDIA**

STATIONS	NO. INSTALLED	NO. WORKING
PLC/PAX	37	31
OPTIC FIBRE	13	10
PLS	14	5

11 (B) **SCADA RTU STATUS**

STATIONS	NO. INSTALLED	NO OF RTU DISTURBED	NO OF RTU WORKING
POWER STATIONS	8	5	3
330kV	19	6	13
132kV	102	81	19

- 12 17:36Hrs, Delta T/S 60MVA 132/33kV transformer T1 was restored after maintenance crew replaced burnt LV O/C C.T, winding temperature H V, C.T and REF protection cables on the primary of the transformer.
- 13 18:35Hrs, Shiroro P/S increased generation by 100MW. Frequency was 50.11Hz.
- 14 18:35Hrs, Okpai P/S increased generation by 15MW. Frequency was 50.11Hz.
- 15 19:20Hrs, Jebba 2G2 was tied. The unit was out on frequency management.
- 16 21:26Hrs, Shiroro 411G4 was tied. The unit was out on water management.
- 17 **LACK OF REACTOR AT IKOT-EKPENE T/S IS HINDERING SMOOTH OPERATION.**

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

SHIRORO REGION:

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

12(D) **LAGOS REGION**

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

SHIRORO REGION:- Nil

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 available reactor.

12 (B) UNAVAILABLE BREAKERS/SOLATORS

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.

ENUGU REGION:

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

SHIRORO REGION

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

PORT HARCOURT REGION NIL

12 (C) UNAVAILABLE/DEFECTIVE GROUND SWITCHES

Benin Region

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

ENUGU REGION:

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

12(E) UNAVAILABLE CAPACITOR BANK:

- (i) Ogba T.S. (ii) Maiduguri T/S, (iii) Isolo T/S, (iv) Ado-Ekiti T/S, (v) Ilorin T/S, (vi) Akure T/S.

12 (F) LINES WITH MISSING SKY WIRE

LAGOS REGION

- 1 Omotosho/Ikeja West line (M5W) and Egbin/Ikeja West line 3 (N6W) - 21 spans.
- 2 Ikeja West/Olorunsogo line (cct R1W) - 80 spans.
- 3 330kV Ikeja West/Osogbo line. - 95 spans.
- 4 Ikeja West/Alimosho/Ogba 132kV lines 1 & 2 - 15 spans.
- 5 Ikeja West/Akangba 330kV line 2 - 1 span.
- 6 Ikeja West/ Ilupeju 132kV lines 1 & 2 - 8 spans.
- 7 Akangba/Itire 132kV lines 1 & 2 - 1 span.
- 8 Ikeja West/Agbara 132kV lines 1 & 2 - 61 spans.
- 9 Ikeja West/Otta 132kV lines 1 & 2- 17 spans.

SHIRORO REGION

- 1 Jebba T/S 330kV Osogbo lines 1 & 2 and Ganmo line - 9 spans
- 2 Minna T/S 132kV Bida line - 32 spans
- 3 Apo T/S 132kV Keffi line - 36 spans
- 4 Shiroro T/S 330kV Jebba line 2 - 28 spans

12 (G) UNAVAILABLE SYNCHROSCOPES :

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