

TRANSMISSION COMPANY OF NIGERIA

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

DAILY OPERATIONAL REPORT OF FRIDAY 09/02/2018

FOR: EVENTS OF THURSDAY 08/02/2018

1.0 EXECUTIVE OPERATIONS SUMMARY:

1.1 GENERATION PROFILE: NATIONAL STATISTICS

DETAILS	MW	HRS	DATE
PEAK DEMAND FORECAST (CONNECTED + SUPPRESSED LOAD)	21,390	23:00	08/02/2018
GENERATION CAPABILITY	7850.2	-do-	-do-
UNITS ON BAR CAPABILITY AT PEAK	5708.2	-do-	-do-
PEAK GENERATION	4897.4	-do-	-do-
LOWEST GENERATION	3779.8	16:00	08/02/2018
8-HOURLY DURATION PEAK	4454.3	0000-0800	-do-
	3926.3	0900-1600	-do-
	4887.4	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	354	Birnin-Kebbi T/S	14:00
LOWEST VOLTAGE FOR THE DAY	300	Gombe, Kumbotso & Yola T/S	20:00, 22:00 & 20:00

1.3 FREQUENCY RANGE

DETAILS	HZ	HRS
NOMINAL FREQUENCY	50	
STATUTORY LIMITS	49.75-50.25	
HIGHEST FREQUENCY	50.514	08:09
LOWEST FREQUENCY	50.045	22:27

1.4 SYSTEM COLLAPSE UP DATE

Date of last total collapse: 1st Feb., 2018		No. of days since last total collapse: 08												
Date of last partial collapse: 17th Oct., 2017		No. of days since last partial collapse: 111												
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	1	8
2013	Total	--	1	2	2	3	4	1	1	1	4	2	22	
	Partial	--	--	--	--	--	--	--	2	--	--	--	2	
2014	Total	2	--	0	2	0	3	1	0	0	1	0	9	
	Partial	--	0	0	1	0	0	0	0	0	2	1	4	
2015	Total	1	0	1	0	2	0	1	0	0	1	0	6	
	Partial	--	--	1	0	2	0	0	0	1	0	0	4	
2016	Total	--	--	2	3	6	5	0	0	1	1	2	22	
	Partial	--	--	1	0	1	3	1	0	0	0	0	6	
2017	Total	5	3	0	3	1	1	0	0	1	1	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	420	317
2 JEBBA	HYDRO	363	232
3 SHIRORO	HYDRO	208	112
4 EGBIN ST2 - 5	STEAM	488	412
5 SAPELE	STEAM	0	0
6 DELTA	GAS	562	414
7 AFAM IV-V	GAS	0	0
8 GEREGU GAS	GAS	423	287
9 OMOTOSHO GAS	GAS	101.7	116.5
10 OLORUNSOGO GAS	GAS	159.6	159.6
11 GEREGU NIPP	GAS	136	83
12 SAPELE NIPP	GAS	201.7	160
13 ALAQJI NIPP	GAS	0	0
14 OLORUNSOGO NIPP	GAS	207.5	165.3
15 OMOTOSHO NIPP	GAS	110.3	95.9
16 ODUK PANI NIPP	GAS	305.9	264.9
17 IHVOBOR NIPP	GAS	0	0
18 OKPAI	GAS	294	212
19 AFAM VI	GAS	419	361
20 IBOM POWER	GAS	76.5	75.4
21 ASCO	GAS	0	0
22 A.E.S	GAS	0	0
23 OMOKU	GAS	59	57.8
24 TRANS AMADI	GAS	62	40.4
25 RIVERS IPP	(GAS)	30	40
26 AZURA - EDO IPP	(GAS)	0	0
27 EGBIN ST6	(GAS)	190	145
28 PARAS ENERGY	(GAS)	70.2	69.4
29 GBARAIN NIPP	GAS	0	0
TOTAL		4887.4	3779.8

1.6 ENERGY GENERATED/ENERGY SENT OUT:

STATION	TURBINE	ENERGY GENERATED		ENERGY SENT OUT	
		MWH	MWH/H	MWH	MWH/H
1 KAINJI	HYDRO	8743.00	364.29	8725.80	363.58
2 JEBBA	HYDRO	6467.00	269.46	6441.64	268.40
3 SHIRORO	HYDRO	3896.00	162.42	3869.87	161.24
4 EGBIN ST2 - 5	STEAM	10186.00	424.42	9634.40	401.43
5 SAPELE	STEAM	0.00	0.00	0.00	0.00
6 DELTA	GAS	11327.30	471.97	11135.20	463.97
7 AFAM IV-V	GAS	0.00	0.00	0.00	0.00
8 GEREGU GAS	GAS	7650.50	318.77	7619.99	317.50
9 OMOTOSHO GAS	GAS	3109.00	129.54	3083.10	128.46
10 OLORUNSOGO GAS	GAS	3881.63	161.73	3851.59	160.48
11 GEREGU NIPP	GAS	2460.63	102.53	2446.68	101.95
12 SAPELE NIPP	GAS	4079.60	169.98	4058.95	169.12
13 AZURA - EDO IPP	GAS	0.00	0.00	0.00	0.00
14 ALAQJI NIPP	GAS	0.00	0.00	0.00	0.00
15 OLORUNSOGO NIPP	GAS	4592.40	191.35	4544.30	189.35
16 OMOTOSHO NIPP	GAS	2391.80	99.66	2373.80	98.91
17 ODUK PANI NIPP	GAS	6868.64	286.19	6827.44	284.48
18 IHVOBOR NIPP	GAS	0.00	0.00	0.00	0.00
19 OKPAI	GAS	5597.00	233.21	5441.90	226.75
20 AFAM VI	GAS	9560.73	398.36	9509.72	396.24
21 IBOM	GAS	1836.08	76.50	1827.00	76.13
22 ASCO	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	1388.10	57.84	1358.22	56.59
25 TRANS AMADI	GAS	749.30	31.22	730.40	30.43
26 RIVERS IPP	GAS	1150.10	47.92	1144.60	47.69
27 EGBIN ST6	STEAM	3807.00	158.63	3612.10	150.50
28 PARAS ENERGY	GAS	1652.40	69.27	1653.90	68.91
29 GBARAIN NIPP	GAS	0.00	0.00	0.00	0.00
TOTAL		101,406.21	4,225.26	99,890.60	4,162.11

1.7A GENERATION POSITION AT 06:00HRS OF FRIDAY 09/02/2018

	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 4	440	440	1G5, 6, 11 & 12 4	440	367	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 18/330kV station service transformer and generator transformer. 1G10 - Shut down due to thrust bearing temperature problem.
	JEBBA HYDRO	6	2G1, 2, 4 & 5 4	380	380	2G1, 2, 4 & 5 4	380	353	2G3 - Out on maintenance. 2G6 - Out due to burnt generator winding and AVR.
	SHIRORO HYDRO	4	411G1 - 4 4	580	580	411G3 & 4 2	290	202	411G1 - Out on water management. 411G2 - Out due to fallen object on the unit transformer. 411G4 - Generation reduced on frequency management.
	EGBIN STEAM	5	ST1, 2, 4 & 5 4	880	880	ST1, 2 & 4 3	660	427	ST1 - Under observation after maintenance work on the unit transformer. ST2 & 4 - Generation reduced on frequency management. ST3 - Tripped on high vibration. ST5 - Out due to low gas pressure.
	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 - 20 12	655	655	GT4, 7, 9 - 13, 15, 16, 18 - 20 12	655	561	GT3 & 5 - Out due to generator winding fault. GT6 & 14 - Out on major overhaul. GT17 - Out on excitation trouble.
	AFAM IV & V (GAS)	8	0 0	0	0	0 0	0	0	GT1 - 12 - De-commissioned and scrapped. GT13 - 16 - Out on blade failure. GT19 & 20 - Awaiting major overhaul. GT17 - Out due to technical issue with generator auxiliary. GT18 - Tripped on load angle limitation.
	GEREGU GAS	3	GT11 - 13 3	435	435	GT11 - 13 3	435	399	GT11 - 13 - Generation reduced due to gas constraint.
	OMOTOSHO GAS	8	GT1 - 8 8	336	304	GT1, 2, 4 & 6 4	152	101.8	GT3, 5, 7 & 8 - Out due to gas constraint.
	OLORUNSOGO GAS	8	GT1 - 8 8	336	304	GT2, 4, 5, 6 & 8 5	190	147.4	GT1, 3 & 7 - Out due to gas constraint.
NIPP	GEREGU NIPP	3	GT22 & 23 2	290	290	GT23 1	145	126	GT21 - Out on maintenance. GT22 - Out due to gas constraint.
	SAPELE NIPP	4	GT1 & 3 2	230	230	GT1 & 3 2	230	173	GT2 - Out due to high air inlet differential pressure. GT4 - Tripped on fire protection alarm.
	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	360	360	GT1 & 2 2	240	214.5	GT1 & 2 - Generation reduced due to low gas pressure. GT3 - Out due to gas constraint. GT4 - Out of production since 25/10/2016. ST13 & ST23 - Out on maintenance.
	OMOTOSHO NIPP GAS	4	GT1, 2 & 4 3	250	240	GT2 1	120	103.1	GT1 & 4 - Out due to gas constraint. GT3 - Shut down due to oil leakage on the unit.
	ODUKPANI NIPP	5	GT2 - 4 3	360	345	GT3 & 4 2	230	187.8	GT1 - Out due to high air inlet differential pressure. GT2 - Out on frequency management. GT5 - Tripped on hazardous gas fault.
	IHOVBOR NIPP	4	GT1 & 2 2	225	225	0 0	0	0	GT1 & 2 - Out due to gas constraint. GT3 - Out due to gas inlet valve problem. GT4 - Out on maintenance.
	GBARAIN NIPP GAS	1	0 0	0	0	0 0	0	0	GT2 - Out on maintenance.
IPP	OKPAI GAS/STEAM	3	GT11,12 & ST18 3	375	375	GT11,12 & ST18 3	275	275	GT11 - On frequency response. GT12 - Generation reduced due to ambient temperature. ST18 - Boiler #12: Out due to broken spray water valve.
	AZURA - EDO	0	0 0	0	0	0 0	0	0	GT11 - Undergoing commissioning tests. GT12 & 13 - Awaiting commissioning.
	AFAM VI GAS/STEAM	4	GT11 - 13 & ST10 4	650	650	GT11 - 13 3	450	384	ST10 - Out due to gas constraint.
	IBOM POWER GAS	3	GT3 1	115	115	GT3 1	115	78.1	GT1 & 2 - Out on fault. GT3 - Generation reduced due to line constraint.
	AES	0	0 0	0	0	0 0	0	0	Out of production since 27/09/2014.
	ASCO	0	0 0	0	0	0 0	0	0	GT1 - Shut down due to leakage in the furnace.
	OMOKU GAS	6	GT2, 5 & 6 3	75	60	GT2, 5 & 6 3	60	57.6	GT1 - Out due to excitation problem. GT3 - Out due to gas leakage. GT4 - Awaiting major overhaul.
	TRANS-AMADI	4	GT1 & 2 2	50	40.9	GT1 & 2 2	40.9	40.9	GT3 - Out on fault. GT4 - Out due to repeated tripping of the generator breaker.
	RIVERS	1	GT1 1	180	160	0 0	0	0	GT1 - Shut down due to low gas pressure.
	SUB TOTAL	125	79	7577	7428.9	57	5107.9	4198.2	Frequency = 50.30Hz.

1.7B GENERATION POSITION AT 06:00HRS OF FRIDAY 09/02/2018 FOR UNITS ON BILATERAL AGREEMENT

FEEDER	UNIT	ST6		220	220	ST6		220	153	Available unit on bar.
		1	1			1	1			
EGBIN	1	1	1	220	220	1	1	220	153	Available unit on bar.
PARAS ENERGY	8	GT2 - 9		70.2	70.2	GT2 - 9		70.2	70.2	Available units on bar.
		8	8			8	8			
SUB TOTAL	9	9	9	290.2	290.2	9	9	290.2	223.2	
GRAND TOTAL	134	88	88	7867.2	7719.1	66	66	5,398.10	4,421.40	Frequency = 50.30Hz.

1.7C BILATERAL AGREEMENT UNITS DISPATCH - THURSDAY 08/02/2018

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

OGBA	U-STEEL	ON	1600HRS	9	O/C B-PHASE
		PTCEXPRESS	13	1000HRS	22
	SANKYO	ON	0100HRS	24	NIL
	FEEDER 8	12	1200HRS	24	NIL
IKORODU	PULK IT	5	1600HRS	24	NIL
	INDUSTRIAL	23	0800HRS	24	NIL
	SPINTEX	3	0800HRS	24	NIL
	DANGOTE	3	1000HRS	24	NIL
	LAND CRAFT	52	2200HRS	24	NIL
ALAJUSA	TR4 15MVA	8.2	1600HRS	24	NIL
	TR5 -15MVA	7.4	1600HRS	24	NIL
	ALAJUSA	15	1700HRS	24	NIL
MLAND	PTC (MARYLAND)	18	1000HRS	20	OUTAGE DUE TO CUT JUMPER OM T2 60MVA SEC.
	TOTAL LOAD	159.6			

BILATERAL AGREEMENT LOAD DISPATCH
60MW PARAS ENERGY GENERATION TO CEB

FEEDER	MAX	TIME	HOURS IN SERVICE	REMARK
Ikeja West/Sakete 330kV line	70.2	06:00	24	Nil

1.8 HYDROLOGICAL DATA: FRIDAY 09/02/2018

	KAINJI	JEBBA	SHIRORO
HEAD WATER ELEVATION (METERS)	141.00	102.10	371.82
TAIL WATER ELEVATION (METERS)	104.06	74.00	270.40
GROSS OPERATING HEAD (METERS)	36.94	28.10	101.42
AVERAGE TURBINE DISCHARGE (M3/SEC)	1090.00	1056.00	196.00
AVERAGE SPILLAGE (M3/SEC)	0.00	0.00	0.00
AVERAGE TOTAL STATION DISCHARGE (M3/SEC)	1090	1056	196
COMPUTED INFLOW (M3/SEC)	837.00	1056.00	30.00
STORAGE DIFFERENTIAL	-253.00	0	-166
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 THURSDAY 08/02/2018

DISCO	MAXIMUM LOAD(MW)	TIME(HRS)	ALLOCATED LOAD (MW)	MINIMUM LOAD(MW)	TIME(HRS)
ABUJA	474.50	07:00	585.72	396.2	17:00
EKO	511.2	23:00	660.25	381.3	12:00
IKEJA	581.9	24:00	763.98	383.9	15:00

2.0 GAS POSITION: THURSDAY 08/02/2018

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	427	1100		880	220
DELTA (GAS)	561	915		665	260
OMOTOSHO GAS	101.8	336.8		162	184.8
OMOTOSHO NIPP	103.1	500		120	380
OLORUNSOGO (GAS)	147.4	336		190	146
OLORUNSOGO NIPP	214.5	750		240	510
SAPELE NIPP	173	500		230	270
SAPELE STEAM	0	720		0	720
AFAM IV-V	0	300		0	300
AFAM VI	384	650		450	200
GEREGU GAS	299	435		435	0
GEREGU NIPP	126	435		145	290
IKPAL (GAS/STEAM)	275	480		275	205
ALAOJI NIPP	0	504		0	504
IHOVBOR NIPP	0	450		0	450
IBOM	78.1	198		115	83
ODUKPANI NIPP	187.8	625		230	395
TOTAL	3077.7	9234.80		4117	5117.8

1 MMSCF IS EQUIVALENT TO 3.79MW

3.0 SPINNING RESERVE FOR : THURSDAY 08/02/2018

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

3.1 SYSTEM SPINNING RESERVE AS AT 0600HRS OF FRIDAY 09/02/2018 = 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	
		ST6		0	
		ST6		0	
2	Delta	GT16	40	0	0
		GT17	40	0	
3	Olorunsogo NIPP	GT1	40	0	0
		GT2		0	
		GT3		0	
		GT4		0	
4	Geregu NIPP	GT22	35	0	0
		GT1	0		
5	Omotosho NIPP	GT2	40	0	0
		GT3		0	
		GT4		0	
		GT4		0	
TOTAL (MW)			295	0	0

4.0 UNUTILIZED GENERATION CAPABILITY

The unutilized generation capability for Friday 09/02/2018 as at 0600Hrs was = 2437.4MW.

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 GT1	120	0	120	1877.5
2	IhoVbor GT1 & 2	225	0	225	
3	Alaoji NIPP GT1, 2 & 4	360	0	360	
4	Olorunsogo Gas GT1, 3 & 7	114	0	114	
5	Olorunsogo NIPP GT1 - 3	360	214.5	145.5	
6	Omotosho Gas GT3, 5, 7 & 8	152	0	152	
7	Atam VI ST10	200	0	200	
8	Egbin ST5	220	0	220	
9	Geregu NIPP GT22	145	0	145	
10	Geregu Gas GT11 - 13	435	399	36	
11	Rivers IPP GT1	160	0	160	
				0	
				0	
IT IS ENVISAGED WITH IMPROVED PLANT AVAILABILITY AND RELIEF FROM EXISTING POWER SYSTEM NETWORK RELATED CONSTRAINTS, ADDITIONAL 1364.7MMSCF OF GAS (EQUIVALENT TO 5117.8MW) WILL BE REQUIRED WHEN ALL THERMAL UNITS ARE ON BAR.					
4.2 DUE TO LINE CONSTRAINTS					
1	Ibom Power GT3	115	78.1	36.9	36.9
				0	
				0	
4.3 DUE TO FREQUENCY MANAGEMENT OCCASIONED BY DISCOS' LOAD DEMAND					
1	Shiroro 411G4	145	55	90	378
2	Odukeani NIPP GT2	115	0	115	
3	Egbin ST1, 2 & 4	600	427	173	
				0	
				0	
				0	
				0	
				0	
				0	
				0	
				0	
4.4 DUE TO WATER MANAGEMENT					
1	Shiroro 411G1	145	0	145	145
Total					2437.4

5.0 **OUTAGES:**

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

- 09:27Hrs, Trans-Amadi P/S GT1 & 2 tripped on breaker fault. Load loss = 41.30MW.
16:30Hrs - GT1 was tied & 16:32Hrs - GT2 was tied.

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

- 14:00 – 14:20Hrs, Delta/Benin 330kV line (cct G3B) CBs tripped at both ends on the following relay indications:
At Delta T/S: Siprotec Relay: Trip Blue Phase, Z1, E/F, O/C, P U time L3 = 130ms, distance = 54.41km.
At Benin T/S: ABB Relay: trip-trip, trip – TRL trip, PHS – STF N, distance = 85.1km, ZM1 – trip, EFC-CS, Auto reclosure in progress.
No load loss as ccts S3B, S4B & S4G were in service.
- 14:19 – 14:31Hrs, Benin/Egbin 330kV line (cct B6N) CBs tripped at both ends on the following relay indications:
At Benin T/S: Micom Relay: started Phase T/M, trip ABC, O/C start and E/F start.
At Egbin T/S: ABB Relay: Trip, TRL3, PHS – STF N L3 PE, ZM1 – trip, EFC-CS, AR in progress, DEF Block, ZM2, ZM3 start, ZCIP – CSL3, fault loop L3N distance = 221km.
Ohmega Relay: ZI Phase C – Earth.
Auxiliary Relay: MVAJ K86 C flag. No load loss as ccts B5M, M5W & N6W were in service.
- 21:31 – 21:58Hrs, Ikorodu/Maryland 132kV line 2 CB tripped at Ikorodu T/S tripped on O/C 3-phases. No load loss as line 1 was in service.

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

- 09:23 through 24:00Hrs, Shiroro 411G1 was shut down for monthly inspection. 50MW was transferred to 411G3.
- 11:25 - 17:13Hrs, Olorunsogo/Ayede 330kV line (cct R2A) was taken out to replace broken insulator with composite type on tower #439.
No load interruption as cct H2A was in service.
- 11:33 - 18:55Hrs, Jebba 2G4 was shut down for annual preventive maintenance. 50MW was transferred to 2G2.

5(D) **URGENT OUTAGES:-**

- 08:16 - 18:10Hrs, Delta GT13 was shut down for safe working space for on-going work on GT14 exhaust stack. Load loss = 20MW.
- 09:40 through 24:00Hrs, Shiroro 411G2 was shut down due to fallen object on its unit transformer. 50MW was transferred to 411G4.
- 14:41 – 16:41Hrs, Gombe/Yola 330kV line (cct E1Y) was taken out due to arcing on line isolator # 201 at Gombe T/S. Load loss = 55MW.
- 23:16 through 24:00Hrs, Trans-Amadi GT4 was shut down due to incessant tripping of the generator CB. Load loss = 20MW.
- 23:50 through 24:00Hrs, Rivers IPP GT11 was shut down due to low gas pressure. Load loss = 40MW.

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.

11 (A) **COMMUNICATION MEDIA**

STATIONS	NO INSTALLED	NO. WORKING
PLC/PAX	37	28
OPTIC FIBRE	13	8
PLS	14	5

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

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

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

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:-** Nil.

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

6 **WEATHER REPORT:-** NIL

7 **INTERNATIONAL LINES:-**

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

Maximum load - 268MW at 22:00Hrs.
Minimum load - 192MW at 08:00Hrs.

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

Maximum load - 96MW at 15:00Hrs.
Minimum load - 62MW at 08:00Hrs.

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

Maximum load - 31.0MW at 20:00Hrs.
Minimum load - 18.5MW at 03:00Hrs.

8 **MISCELLANEOUS:-**

- 01:33 – 10:17Hrs, Delta GT16 was shut down on frequency management.
Load loss = 70MW.
- 09:22Hrs, Shiroro 411G3 was tied to swap with 411G1. The unit was out on water management.
- 09:38Hrs, Shiroro 411G4 was tied to swap with 411G2. The unit was out on water management.
- 11:31Hrs, Jebba 2G2 was tied to swap with unit 2G4. The unit was out on frequency management.
- 12:54Hrs, Shiroro 411G1 was declared available.
- 15:50Hrs, Omotosho Gas GT2 was tied. The unit was out due to gas constraint.
- 16:08 – 17:30Hrs of 07/02/2018, Akoka T/S 40MVA 132/33kV transformer T3 primary CB was opened to enable EMD crew top up low oil on the transformer to normal.
Load loss = 8.0MW.
- 16:08Hrs, Omotosho Gas GT5 was shut down, 24.4MW on it transferred to GT2.
- 16:41Hrs, Gombe T/S 150MVA 330/132/33kV transformer T2A was restored. The transformer was out on maintenance.
- 19:08Hrs, Trans-Amadi GT4 was tied. The unit was out on fault.
- 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.**

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	86	16

12(A) UNAVAILABLE TRANSFORMERS/REACTORS:

SHIRORO REGION:

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

KADUNA REGION:

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

12(D) LAGOS REGION

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

SHIRORO REGION:- Nil

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.

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

- 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 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

