

# TRANSMISSION COMPANY OF NIGERIA

To: Head (ISO), TCN - Abuja

From: General Manager, NCC, Osogbo

## DAILY OPERATIONAL REPORT OF THURSDAY 11/01/2018

### FOR: EVENTS OF WEDNESDAY 10/01/2018

#### 1.0 EXECUTIVE OPERATIONS SUMMARY:

##### 1.1 GENERATION PROFILE: NATIONAL STATISTICS

DETAILS	MW	HRS	DATE
PEAK DEMAND FORECAST (CONNECTED + SUPPRESSED LOAD)	20,550	21:30	10/01/18
GENERATION CAPABILITY	7340.4	-do-	-do-
UNITS ON BAR CAPABILITY AT PEAK	5379.4	-do-	-do-
PEAK GENERATION	4623.2	-do-	-do-
LOWEST GENERATION	3666.8	08:00	10/01/2018
8-HOURLY DURATION PEAK	4102.3	0000-0800	-do-
	4124.4	0900-1600	-do-
	4623.2	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	348	Omotosho T/S	08:00
LOWEST VOLTAGE FOR THE DAY	300	Yola, Gombe & Kumbotso T/S	12:00, 19:00 & 21:00

#### 1.3 FREQUENCY RANGE

DETAILS	HZ	HRS
NOMINAL FREQUENCY	50	
STATUTORY LIMITS	49.75-50.25	
HIGHEST FREQUENCY	50.57	07:38
LOWEST FREQUENCY	49.96	21:14

#### 1.4 SYSTEM COLLAPSE UP DATE

Date of last total collapse: 8 <sup>th</sup> Jan, 2018		No. of days since last total collapse: 03											
Date of last partial collapse: 17 <sup>th</sup> Oct, 2017		No. of days since last partial collapse: 83											
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	3	4	4	3	2	--	1	20
2011	Total	--	--	--	--	4	3	1	1	2	1	--	13
	Partial	--	1	1	--	--	--	1	--	1	2	--	8
2012	Total	--	--	2	1	5	2	1	--	--	2	2	16
	Partial	--	--	2	3	--	--	--	1	--	1	1	8
2013	Total	--	1	2	2	3	4	1	1	1	4	2	22
	Partial	--	--	--	--	--	--	--	2	--	--	--	2
2014	Total	2	--	--	2	0	3	1	0	0	1	0	9
	Partial	--	0	0	0	1	0	0	0	0	2	1	4
2015	Total	1	0	1	0	2	0	1	0	0	0	1	6
	Partial	--	--	1	0	2	0	0	0	1	0	0	4
2016	Total	--	--	2	3	0	5	0	0	1	2	2	22
	Partial	--	--	1	0	1	3	1	0	0	0	0	8
2017	Total	5	3	0	3	1	0	0	1	1	1	0	15
	Partial	1	0	1	0	0	1	0	3	3	--	--	9
2018	Total	2	--	--	--	--	--	--	--	--	--	--	2
	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	424	297
2	JEBBA	HYDRO	194	151
3	SHIRORO	HYDRO	198	190
4	EGBIN ST2 - 5	STEAM	229	230
5	SAPELE	STEAM	0	0
6	DELTA	GAS	462	458
7	AFAM IV-V	GAS	33	35
8	GEREGU GAS	GAS	420	280
9	OMOTOSHO GAS	GAS	138.8	145.8
10	OLORUNSOGO GAS	GAS	183.5	202.3
11	GEREGU NIPP	GAS	215	191
12	SAPELE NIPP	GAS	198.1	125.6
13	ALAOJI NIPP	GAS	0	0
14	OLORUNSOGO NIPP	GAS	0	0
15	OMOTOSHO NIPP	GAS	108	88.7
16	ODUKPANI NIPP	GAS	293.2	173.5
17	IHOVBOR NIPP	GAS	106.9	80.4
18	OKPAI	GAS	302	258
19	AFAM VI	GAS	393	238
20	IBOM POWER	GAS	105.2	16.2
21	ASCO	GAS	0	0
22	A.E.S	GAS	0	0
23	OMOKU	GAS	65.2	61.1
24	TRANS AMADI	GAS	0	0
25	RIVERS IPP	(GAS)	159	120
26	AZURA - EDO IPP		0	0
27	EGBIN ST6	(GAS)	198	188
28	PARAS ENERGY	(GAS)	83.4	67.8
29	GBARAIN NIPP	GAS	107.9	92.6
	<b>TOTAL</b>	<b>4623.2</b>	<b>3686.8</b>	

#### 1.6 ENERGY GENERATED/ENERGY SENT OUT:

STATION	TURBINE	ENERGY GENERATED		ENERGY SENT OUT		
		MWH	MWH/H	MWH	MWH/H	
1	KAINJI	HYDRO	9022.00	375.92	9005.80	375.24
2	JEBBA	HYDRO	4108.00	171.17	4085.60	170.23
3	SHIRORO	HYDRO	5442.00	226.75	5413.30	225.55
4	EGBIN ST2 - 5	STEAM	4346.00	181.08	4088.60	170.36
5	SAPELE	STEAM	0.00	0.00	0.00	0.00
6	DELTA	GAS	10122.50	421.77	9958.50	414.94
7	AFAM IV-V	GAS	1335.00	55.63	1330.83	55.45
8	GEREGU GAS	GAS	8821.00	367.54	8789.90	366.25
9	OMOTOSHO GAS	GAS	2158.00	89.92	2142.20	89.26
10	OLORUNSOGO GAS	GAS	4711.44	196.31	4681.20	195.05
11	GEREGU NIPP	GAS	4748.37	197.85	4730.28	197.10
12	SAPELE NIPP	GAS	4091.92	170.50	4067.86	169.49
13	AZURA - EDO IPP	GAS	785.50	32.73	778.25	32.43
14	ALAOJI NIPP	GAS	0.00	0.00	0.00	0.00
15	OLORUNSOGO NIPP	GAS	0.00	0.00	0.00	0.00
16	OMOTOSHO NIPP	GAS	1827.30	76.14	1812.60	75.53
17	ODUKPANI NIPP	GAS	6001.30	250.05	5968.03	248.67
18	IHOVBOR NIPP	GAS	1285.63	53.57	1259.93	52.50
19	OKPAI	GAS	6737.00	280.71	6576.10	274.00
20	AFAM VI	GAS	8243.64	343.49	8120.74	338.36
21	IBOM	GAS	1359.96	56.67	1351.00	56.29
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	1492.90	62.20	1459.53	60.81
25	TRANS AMADI	GAS	0.00	0.00	0.00	0.00
26	RIVERS IPP	GAS	2895.80	120.66	2890.20	120.43
27	EGBIN ST6	STEAM	4233.00	176.38	4030.60	167.94
28	PARAS ENERGY	GAS	1669.10	69.55	1600.30	69.18
29	GBARAIN NIPP	GAS	2237.70	93.24	2221.80	92.58
	<b>TOTAL</b>		<b>97,675.06</b>	<b>4,069.79</b>	<b>96,423.15</b>	<b>4,017.63</b>

1.7A

## GENERATION POSITION AT 06:00HRS OF THURSDAY 11/01/2018

	STATIONS	NO OF INSTALLED UNITS	AVAILABLE UNITS	INSTALLED CAPACITY OF AVAILABLE UNITS(MW)	GENERATION CAPABILITY OF AVAILABLE UNITS(MW)	UNITS ON BAR	CAPABILITY OF UNITS ON BAR (MW)	GENERATION AT 06:00HRS (MW)	REMARKS
PRIVATISED COMPANIES	KAINJI HYDRO	8	1G5, 6, 11 & 12	440	440	1G5, 6, 11 & 12	440	397	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.
	JEBBA HYDRO	6	2G1 - 5	475	475	2G1 & 5	190	174	2G2 - 4 - Out on frequency management. 2G6 - Out due to burnt generator winding and AVR.
	SHIRORO HYDRO	4	411G1, 2 & 4	435	435	411G1 & 2	290	198	411G2 - Generation reduced on frequency management. 411G3 - Out on maintenance 411G4 - Out on water management.
	EGBIN STEAM	5	ST4 & 5	440	440	ST4 & 5	440	236	ST1 - Tripped on generator CB trouble. ST2 - Out on undisclosed fault. ST3 - Tripped on high vibration.
	SAPELE (STEAM)	6	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, 10, 11, 13, 15, 16, 18, 19 & 20	615	615	GT4, 7, 9, 10, 13, 15, 16, 18, 19 & 20	615	587	GT3 & 5 - Out due to generator winding fault. GT6 & 14 - Out on major overhaul. GT11 - Out on frequent management. GT17 - Out on excitation trouble.
	AFAM IV & V (GAS)	8	GT18	75	63	GT18	63	63	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	435	435	GT11 - 13	435	403	Available units on bar.
	OMOTOSHO GAS	8	GT1 - 8	336	304	GT1, 2, 5 & 6	152	144	GT3, 4, 7 & 8 - Out due to gas constraint.
	OLORUNSOGO GAS	8	GT1 - 8	336	304	GT1, 2, 4, 5, 6 & 8	228	205.3	GT3 & 7 - Out due to gas constraint.
NIPP	GEREGU NIPP	3	GT22 & 23	290	290	GT22 & 23	290	198	GT21 - Out on maintenance. GT22 - Generation reduced due to gas constraint.
	SAPELE NIPP	4	GT1 & 2	225	225	GT1 & 2	225	165	GT2 - Generation reduced on frequency management. GT3 - Out on undisclosed fault. GT4 - Tripped on fire protection alarm.
	ALAOJI NIPP GAS	4	GT1 & 2	250	240	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	360	360	0	0	0	GT1 - 3 - Out due to unavailability of diesel to power the standby diesel generator. GT4 - Out of production since 25/10/2016. ST13 & ST23 - Out on maintenance.
	OMOTOSHO NIPP GAS	4	GT1, 2 & 4	375	360	GT1	120	104.2	GT2 & 4 - Out due to gas constraint. GT3 - Shut down due to oil leakage on the unit.
	ODUKPANI NIPP	5	GT1, 4 & 5	360	345	GT1, 4 & 5	345	284.8	GT2 - Out due to control system problem. GT3 - Out due to unit transformer problem.
	IHOVBOR NIPP	4	GT1 - 3	337.5	337.5	GT2	112.5	96.5	GT1 & 3 - Out due to gas constraint. GT4 - Out on maintenance.
	GBARAIN NIPP GAS	1	GT2	112.5	112.5	0	0	0	GT2 - Out due to loss of supply from the grid.
IPP	OKPAI GAS/STEAM	3	GT11, 12 & ST18	375	375	GT11, 12 & ST18	375	296	GT12 - Generation reduced due to air inlet differential pressure.
	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	300	251	GT12 & ST10 - Out on frequency management.
	IBOM POWER GAS	3	GT3	115	115	GT3	115	107.8	GT1 & 2 - Out on fault.
	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	63.2	GT3 - Out due to gas leakage. GT4 - Awaiting major overhaul. Generation reduced due to gas constraint.
	TRANS-AMADI	4	0	0	0	0	0	0	GT1 & 4 - Station shut down due to fatal accident on 1st January 2018.
	RIVERS	1	GT1	180	160	GT1	160	154	Available unit on bar.
	<b>SUB TOTAL</b>	<b>126</b>	<b>76</b>	<b>7317</b>	<b>7161</b>	<b>54</b>	<b>4975.5</b>	<b>4127.8</b>	Frequency = 50.27Hz.

1.7B GENERATION POSITION AT 06:00HRS OF THURSDAY 11/01/2018 FOR UNITS ON BILATERAL AGREEMENT

FEEDER	UNIT	ST6		ST6		220	174	Available unit on bar.
		1	220	220	1			
EGBIN	1	1	220	220	1	220	174	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			
<b>SUB TOTAL</b>		<b>9</b>	<b>290.2</b>	<b>290.2</b>	<b>9</b>	<b>290.2</b>	<b>244.2</b>	
<b>GRAND TOTAL</b>		<b>135</b>	<b>85</b>	<b>7607.2</b>	<b>7451.2</b>	<b>63</b>	<b>5,265.70</b>	<b>4,372.00</b> Frequency = 50.27Hz.

1.7C BILATERAL AGREEMENT UNITS DISPATCH - WEDNESDAY 10/01/2018

FEEDERS NAME	MAX. LOAD (MW)	TIME (HRS)		REMARK	
Egbin ST6 120MW GENERATION TO IKEJA ELECTRICITY DISTRIBUTION COMPANY					
OGBA	U-STEEL	1	0800HRS	24HRS	NIL
	PTCEXPRESS	7	0900HRS	22HRS	PLANNED OUTAGE
	SANKYO	ON	0100HRS	24HRS	NIL
	FEEDER 8	14	0900HRS	24HRS	NIL
IKORODU	PULK IT	2	1400	24	NIL
	INDUSTRIAL	17	1100	24	NIL
	SPINTEX	3	1200	24	NIL
	DANGOTE	5	2200	18	Tripped on E/F.
	LAND CRAFT	39	0700	24	NIL
ALUSA	TR4 15MVA	7.4MW	1600HRS	2400HRS	NIL
	TR5 -15MVA	6.0MW	0900HRS	2400HRS	NIL
	ALUSA	13.3MW	1800HRS	2400HRS	NIL
MILAND	PTC (MARYLAND)	16	12hr	24HRS	NIL
<b>TOTAL LOAD</b>		<b>104</b>			

BILATERAL AGREEMENT LOAD DISPATCH  
60MW PARAS ENERGY GENERATION TO CEB

FEEDER	MAX	TIME	HOURS IN SERVICE	REMARK
Ikeja West/Sakete 330kV line	71	19:00	24Hours	NIL

1.8 HYDROLOGICAL DATA: THURSDAY 11/01/2018

	KAINJI	JEBBA	SHRORO
HEAD WATER ELEVATION (METERS)	141.59	103.00	374.28
TAIL WATER ELEVATION (METERS)	104.90	72.90	270.50
GROSS OPERATING HEAD (METERS)	36.69	30.10	103.78
AVERAGE TURBINE DISCHARGE (M3/SEC)	1124.00	605.00	242.00
AVERAGE SPILLAGE (M3/SEC)	0.00	0.00	0.00
AVERAGE TOTAL STATION DISCHARGE (M3/SEC)	1124	605	242
COMPUTED INFLOW (M3/SEC)	1124.00	987.00	12.00
STORAGE DIFFERENTIAL	0.00	382	-230
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 10/01/2018

DISCO	MAXIMUM LOAD(MW)	TIME(HRS)	ALLOCATED LOAD (MW)	MINIMUM LOAD(MW)	TIME(HRS)
ABUJA	459.70	21:00	605.04	305.8	08:00
EKO	460.5	06:00	707.43	497.2	11:00
IKEJA	497.2	11:00	828.31	425.2	23:00

2.0 GAS POSITION: THURSDAY 11/01/2018

STATION	SIGNED ACO Annual Contracted Quantity MMSCFD	INSTALLED CAPACITY OF THERMAL STATIONS (MW)	PREVIOUS DAY OFF-TAKE (MMSCFD)	CAPABILITY OF UNITS ON BAR OF THERMAL STATIONS (MW)	DIFFERENCE (MW)
EOBIN P/S	231	1100		660	440
DELTA (GAS)	514	915		615	300
OMOTOSHO GAS	145.1	336.8		152	184.8
OMOTOSHO NIPP	101.2	500		120	380
OLORUNSOGO (GAS)	201.9	336		228	108
OLORUNSOGO NIPP	0	750		0	750
SAPLE NIPP	155.1	500		225	275
SAPLE STEAM	0	720		0	720
AFAM IV-V	53	300		63	237
AFAM VI	280	550		300	350
GEREGU GAS	331	435		435	0
GEREGU NIPP	195	435		290	145
ORPAI (GAS/STEAM)	276	480		375	105
ALAQJI NIPP	0	504		0	504
IHOVBOR NIPP	90.7	450		112.5	337.5
IBOM	28.8	198		115	83
ODUKPANI NIPP	206.2	625		345	280
TOTAL	2869	9235.26		4035.5	5199.3

1 MMSCF IS EQUIVALENT TO 3.75MW

3.0 SPINNING RESERVE FOR : WEDNESDAY 10/01/2018

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

3.1 SYSTEM SPINNING RESERVE AS AT 0600HRS OF THURSDAY 11/01/2018 0MW. FREQUENCY 50.27Hz.

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	Geragu NIPP	GT22	35	0	0
		GT1	0	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 Thursday 11/01/2018 as at 0600Hrs was = 1941.4MW.

S/NO	STATION	ACTUAL GENERATION CAPABILITY (MW)	GENERATION AT 0600HRS (MW)	UNUTILIZED GENERATION CAPABILITY (MW)	SUB-TOTAL
<b>4.1 DUE TO GAS CONSTRAINTS:</b>					
1	Ihobar GT1 & 3	225	0	225	1004.8
2	Alaqji NIPP GT1 & 2	240	0	240	
3	Olorunsogo Gas GT3, 4, 7 & 8	152	0	152	
4	Olorunsogo Gas GT3 & 7	76	0	76	
5	Omotosho GT1, 2, 5 & 6	80	63.2	16.8	
6	Omotosho NIPP GT2 & 4	240	0	240	
7	Geragu NIPP GT22	145	90	55	
<b>4.2 DUE TO LINE CONSTRAINTS</b>					
				0	0
				0	
				0	
<b>4.3 DUE TO FREQUENCY MANAGEMENT OCCASIONED BY DISCOS' LOAD DEMAND</b>					
1	Afam VI ST10 & GT11	350	0	350	791.6
2	Delta GT11	20	0	20	
3	Shiroro 411G2	145	50	95	
4	Jebba 2G2 - 4	285	0	285	
5	Sapele NIPP GT2	112.5	70.9	41.6	
<b>4.4 DUE TO WATER MANAGEMENT</b>					
1	Shiroro 411G4	145	0	145	145
<b>Total</b>					<b>1941.4</b>

5.0 **OUTAGES:**

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

- 1 08:12 - 10:34Hrs, Ihovbor NIPP GT2 tripped on emergency stop. LHR = 80.4MW
- 2 09:39 - 12:40Hrs, Egbin P/S ST4 tripped on unit board 6.6kV incoming relay malfunctioning. LHR = 168MW
- 3 10:38 - 18:14Hrs, Ihovbor NIPP GT2 tripped on high exhaust temperature spread. LHR = 68MW
- 4 22:51 - 23:36Hrs, Gbarain NIPP GT2 tripped on directional REF due to the tripping of Gbarain T/S/ Gbarain G/S 132kv/ST2 line. LHR = 108.2MW

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

- 1 07:09 - 07:36Hrs, Egbin/Ikeja-West 330kV line (cct N6W) CB tripped at Ikeja-West T/S on the following relay indications:  
Siprotec Relay: General trip, Red phase fault, zone 1 trip 5x - B PU IP phase A, P. U. time = 75ms, distance = 46km.  
Micom Relay: General trip Red phase fault, zone 1 trip - O/C start I>24, E/F start INI, distance trip zone 1, fault duration = 92.7ms, relay trip time = 79.41ms, fault location = 43.19km. LHR = 66MW
- 2 07:09 - 07:36Hrs, Omotosho/Ikeja-West 330kV line (cct M5W) tie CB tripped at Ikeja-West T/S on  
Siprotec Relay: VT fuse fail. LHR = 355MW
- 3 07:29 - 07:55Hrs, Kaduna/Zaria 132kV line CB tripped at Mando T/S on Optimho relay: zone 3, BC-N, location = 215km  
Siemens relay: O/C Yellow phase and back up trip relay 86TE. LHR = 83MW
- 4 09:50 - 10:18Hrs, Afam/Alaoji 330kV line (cct F1A)/Afam T/S 162MVA 330/132/33kV transformer tie CB (13ACQ02) tripped without relay indications. LHR = 56.7MW
- 5 10:40 - 11:03Hrs, Kumbotso/Tambuwal 132kV line CB tripped at Kumbotso T/S on O/C Red & Yellow phases. LHR = 31MW
- 6 12:40 - 12:56Hrs, Alaoji/Aba 132kV line 2 CB tripped at Aba T/S on O/C Blue phase. LHR = 26MW
- 7 17:29 - 18:22Hrs, Benin/Delta 132kV line tripped at both ends on the following relay indications:  
**At Benin T/S:**  
NARI Relay: distance protection zone 1, O/C Red, Yellow & Blue phases, period = 24ms, fault location = 73.7km  
**At Delta T/S:**  
ABB Relay: Back up protection. LHR = 37.1MW
- 8 22:51 - 23:34Hrs, Gbarain T/S/ Gbarain G/S 132kv/ST2 line tripped at Gbarain T/S due to the tripping of Yenagoa T/S 40MVA 132/33kV transformer T1. LHR = 108.2MW
- 9 22:51 through 24:00Hrs, Yenagoa T/S 40MVA 132/33kV transformer T1 tripped on Buchholz and REF with oil spewing/leaking from the top of the transformer. LHR = 7.3MW

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

- 1 09:37 - 14:21Hrs, Daura T/S 40MVA 132/33kV transformer TR2 was taken out for maintenance crew to carry out checks on the transformer protection. No load interruption as the transformer was on soak.
- 2 11:33 - 16:08Hrs, Egbin/Ikeja-West 330kV line (cct N6W) was taken out at Ikeja-West T/S for maintenance crew to carry out annual preventive maintenance on the line CB and its associated equipment. No load interruption as ccts N7K, N8K, K7W & K8W were in service.
- 3 12:12 - 14:29Hrs, Akangba T/S 60MVA 132/33kV transformer 10T2B was taken out for maintenance crew to seal point of oil leakage on the Yellow phase secondary bushing. Load loss = 17MW
- 4 12:30 - 16:44Hrs, Alaoji/Aba 132kV line 1 was taken out for maintenance crew to repair the tie CB that closes itself whenever the line isolator is closed.

5 (D) **URGENT OUTAGES:**

- 1 00:57 through 24:00Hrs, Egbin P/S ST2 was shut down due to incessant tripping causing/ instability. Load loss = 67MW
- 2 09:19 - 20:12Hrs, Delta P/S GT15 was taken out on emergency due to opened explosion vent. Load loss = 91MW
- 3 09:24 through 24:00Hrs, Shiroro 411G3 was taken out for maintenance 55MW was transferred to 411G1.
- 4 12:30 - 19:52Hrs, Omotosho Gas GT1 was shut down for maintenance crew to work at the gas station. Load loss = 33.6MW
- 5 12:41 - 20:28Hrs, Omotosho Gas GT2 was shut down for maintenance crew to work at the gas station. Load loss = 35MW
- 6 12:42 - 20:13Hrs, Omotosho Gas GT5 was shut down for maintenance crew to work at the gas station. Load loss = 32.9MW
- 7 12:43 - 20:51Hrs, Omotosho Gas GT6 was shut down for maintenance crew to work at the gas station. Load loss = 33.1MW
- 8 12:45 - 16:43Hrs, Egbin ST5 was shut down on maintenance. Load loss = 62MW
- 9 13:00Hrs, Omotosho NIPP GT1 was shut down for maintenance crew to work at the gas station. Load loss = 97MW
- 10 15:01 - 15:14Hrs, Gombe/Ashaka/Potiskum 132kV line was taken out for maintenance crew to top up low SF6 gas pressure to normal level at Gombe T/S. Load loss = 20MW
- 11 17:53 - 20:49Hrs, Egbin P/S ST5 was shut down due to breaker D. C. control supply failure alarm that came up on the breaker. LHR = 10MW
- 12 11:38 - 19:47Hrs, Azura-Edo GT11 was tied on commissioning test.  
NB: The unit was shut down due to low gas pressure. Load loss = 153MW
- 13 19:20 - 20:02Hrs, Gusau T/S 132kV Gusau incoming line was opened to restore 30MVA 132/33kV transformer T1. Load loss = 15.0MW

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

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

5 (G) **330KV LINES THAT ARE OUT ON VOLTAGE CONTROL:-** ccts A1S, U1A, D2K & 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:-** cct S5B

6 **WEATHER REPORT:-** NIL

7 **INTERNATIONAL LINES:-**

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

Maximum load - 239MW at 22:00Hrs.  
Minimum load - 165MW at 03:00Hrs.

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

Maximum load - 86MW at 20:00Hrs.  
Minimum load - 48.0MW at 05:00Hrs.

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

Maximum load - 28.6MW at 20:00Hrs.  
Minimum load - 12.5MW at 02:00Hrs.

**9 GENERATOR MERIT ORDER BASED ON SYSTEM RESPONSE AND GRID RELIABILITY**

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

GROUP 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.

**8 MISCELLANEOUS:-**

- 1 14:26Hrs, of 08/01/2018 - 18:23Hrs, of 09/01/2018, Awka T/S 30MVA 132/33kV transformer TR3 primary CB tripped on differential protection. LHR = 16MW
- 2 23:33Hrs of 09/01/2018 - 00:33Hrs, Egbin P/S ST5 tripped on forced draft fan malfunctioning. LHR = 110MW
- 3 06:53 - 18:20Hrs, of 09/01/2018, Onitsha/Oji 132kV line CB tripped at Onitsha T/S on O/C 3 phases. LHR = 6.8MW
- 4 00:37 - 10:30Hrs, Odukpani NIPP GT5 was shut down on frequency management. Load loss = 92MW
- 5 01:19Hrs, Afam VI GT11 was shut down on frequency management. Load loss = 110MW
- 6 01:06Hrs, Jebba 2G5 was tied.
- 7 01:07Hrs, Jebba 2G4 was shut down and load of 85MW transferred to 2G5.

10 SYSTEM BLACK START CAPABILITY

Delta, Shiroro & Egbin - Available.

11 (A) COMMUNICATION MEDIA

STATIONS		NO INSTALLED	NO. WORKING
PLC/PAX		37	34
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		83	19

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.

- 8 07:22 - 07:36Hrs, Omotosho/Ikeja-west 330kV line (cct M5W) CB was opened at Omotosho end for voltage control. V/P = 373/363kV
- 9 09:23Hrs, Shiroro 411G1 was tied. The unit was out on water management.
- 10 09:58Hrs, Afam VI GT11 was tied. The unit was out on frequency management
- 11 15:35Hrs, of 09/01/2018 through 24:00Hrs, Gusau T/S 30MVA 132/33kV transformer tripped on primary E/F. Load loss = 3.9MW
- 12 17:45Hrs, Benin T/S 330kV 75MX Shunt Reactor 6R2 was switched off on voltage control. V/P = 332/334kV
- 13 18:40Hrs, Osogbo/Ganmo 330kV line (cct H3G) was restored. The line was out on voltage control.
- 14 18:40Hrs, Jebba T/S 330kV 75MX Shunt Reactor R2 switched off on voltage control. V/P = 330/331kV
- 15 18:53Hrs, Odukpani/Ikot-Ekpene 330kV line 1 (cct D1K) was restored. The line was out on voltage control.
- 16 23:56Hrs, Delta G/S GT18 was tied. The unit was out on frequency management.
- 17 LACK OF REACTOR AND UNRELIABLE STATION SERVICE SUPPLY AT IKOT-EKPENE T/S ARE HINDERING SMOOTH OPERATION.

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





