

# TRANSMISSION COMPANY OF NIGERIA

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

**DAILY OPERATIONAL REPORT OF FRIDAY 08/02/2019**

**FOR: EVENTS OF THURSDAY 07/02/2019**

**1.0 EXECUTIVE OPERATIONS SUMMARY:**

**1.1 GENERATION PROFILE: NATIONAL STATISTICS**

DETAILS	MW	HRS	DATE
PEAK DEMAND FORECAST (CONNECTED + SUPPRESSED LOAD)	23,960	21:30	07/02/2019
GENERATION CAPABILITY	6125.3	-do-	-do-
UNITS ON BAR CAPABILITY AT PEAK	5810.5	-do-	-do-
PEAK GENERATION	5375.0	-do-	-do-
LOWEST GENERATION	3856.1	08:00	07/02/2019
8-HOURLY DURATION PEAK	4355.4	0100-0800	-do-
	4209.8	0900-1600	-do-
	5375	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	New Haven T/S	17:00
LOWEST VOLTAGE FOR THE DAY	300	Gombe T/S	05:00

**1.3 FREQUENCY RANGE**

DETAILS	HZ	HRS
NOMINAL FREQUENCY	50	
STATUTORY LIMITS	49.75-50.25	
HIGHEST FREQUENCY	50.64	20:02
LOWEST FREQUENCY	50.16	19:14

**1.4 SYSTEM COLLAPSE UP DATE**

Date of last total collapse: 25th Jan., 2019		No. of days since last total collapse: 14												
Date of last partial collapse: 12th April, 2018		No. of days since last partial collapse: 301												
Highest No of days ever attained in-between total collapses: 134		Highest No of days ever attained in-between partial collapses: 243												
	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	3	--	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	1	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	2	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		15	
	Partial	1	0	1	0	0	0	1	0	3	3		9	
2018	Total	5	1	0	0	0	1	1				1	11	
	Partial	0	0	0	1	0	0	0					1	
2019	Total	4											4	
	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	328	258
2 JEBBA	HYDRO	328	250
3 SHIRORO	HYDRO	530	113
4 EGBIN ST2 - 5	STEAM	463	387
5 SAPELE	STEAM	0	0
6 DELTA	GAS	296	287
7 AFAM IV-V	GAS	48	50
8 GEREGU GAS	GAS	433	228
9 OMOTOSHO GAS	GAS	162.5	151.7
10 OLORUNSOGO GAS	GAS	228.7	170.8
11 GEREGU NIPP	GAS	228	227
12 SAPELE NIPP	GAS	79.2	80.4
13 ALAOJI NIPP	GAS	73.1	74.9
14 OLORUNSOGO NIPP	GAS	95.6	109.2
15 OMOTOSHO NIPP	GAS	98	91.9
16 ODUKPANI NIPP	GAS	430.4	244
17 IHOVBOR NIPP	GAS	97.8	91.5
18 OKPAI	GAS	157	158
19 AFAM VI	GAS	283	114
20 IBOM POWER	GAS	91.4	83.9
21 ASCO	GAS	0	0
22 A.E.S	GAS	0	0
23 OMOKU	GAS	57.6	57.5
24 TRANS AMADI	GAS	41.7	0
25 RIVERS IPP	(GAS)	105	128
26 AZURA - EDO IPP	(GAS)	451	225
27 EGBIN ST6	(GAS)	126	141
28 PARAS ENERGY	(GAS)	64.9	60.8
29 GBARAIN NIPP	GAS	78.1	73.5
<b>TOTAL</b>		<b>5375</b>	<b>3856.1</b>

**1.6 ENERGY GENERATED/ENERGY SENT OUT:**

STATION	TURBINE	ENERGY GENERATED		ENERGY SENT OUT	
		MWH	MWH/H	MWH	MWH/H
1 KAINJI	HYDRO	8182.00	340.92	8165.00	340.21
2 JEBBA	HYDRO	7007.00	291.96	6987.92	291.16
3 SHIRORO	HYDRO	5106.00	212.75	5077.25	211.55
4 EGBIN ST2 - 5	STEAM	10505.00	437.71	9947.10	414.46
5 SAPELE	STEAM	4.60	0.19	0.00	0.00
6 DELTA	GAS	6394.95	266.46	6274.20	261.43
7 AFAM IV-V	GAS	1157.45	48.23	1151.96	48.00
8 GEREGU GAS	GAS	6026.90	251.12	5998.41	249.93
9 OMOTOSHO GAS	GAS	3688.00	153.67	3655.90	152.33
10 OLORUNSOGO GAS	GAS	4714.06	196.42	4683.21	195.13
11 GEREGU NIPP	GAS	5055.63	210.65	5037.14	209.88
12 SAPELE NIPP	GAS	2315.28	96.47	2293.47	95.56
13 ALAOJI NIPP	GAS	1722.69	71.78	1721.38	71.72
14 OLORUNSOGO NIPP	GAS	2497.20	104.05	2460.40	102.52
15 OMOTOSHO NIPP	GAS	2329.30	97.05	2312.10	96.34
16 ODUKPANI NIPP	GAS	6907.24	287.80	6865.64	286.07
17 IHOVBOR NIPP	GAS	2328.12	97.01	2309.48	96.23
18 OKPAI	GAS	3902.00	162.58	3772.70	157.20
19 AFAM VI	GAS	3974.13	165.59	3864.33	161.01
20 IBOM	GAS	2081.77	86.74	2073.00	86.38
21 ASCO	GAS	0.00	0.00	0.00	0.00
22 AZURA - EDO IPP	GAS	7667.90	319.50	7642.20	318.43
23 A.E.S	GAS	0.00	0.00	0.00	0.00
24 OMOKU	GAS	1398.70	58.28	1359.65	56.65
25 TRANS AMADI	GAS	467.40	19.48	458.20	19.09
26 RIVERS IPP	GAS	2700.30	112.51	2684.20	111.84
27 EGBIN ST6	STEAM	3271.00	136.29	3094.70	128.95
28 PARAS ENERGY	GAS	1519.50	63.31	1513.00	63.04
29 GBARAIN NIPP	GAS	1888.80	78.70	1876.70	78.20
<b>TOTAL</b>		<b>104,812.92</b>	<b>4,367.21</b>	<b>103,279.24</b>	<b>4,303.30</b>

1.7A GENERATION POSITION AT 06:00HRS OF FRIDAY 08/02/2019

	STATIONS	NO OF UNITS INSTALLED	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) AT 50.30Hz.	REMARKS
PRIVATISED COMPANIES	KAINJI HYDRO	8	1G5, 6, 11 & 12 4	440	440	1G5, 6, 11 & 12 4	440	391	1G5 & 11 - Generation reduced due to low load demand by the Discos. 1G7 - Out on stator winding failure. 1G8 - Out due to oil leakage on governor runner head. 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 - 4 4	380	375	2G1, 3 & 4 3	263	263	2G2 - Out due to low load demand by the Discos. 2G5 - Out for annual maintenance. 2G6 - Out due to burnt generator winding and AVR.
	SHIRORO HYDRO	4	411G1 - 4 4	600	600	411G1, 2 & 3 3	450	345	411G2 - Generation reduced due to low load demand by the Discos. 411G1 & 3 - On frequency response. 411G4 - Out for water management.
	EGBIN STEAM	6	ST2 - 6 5	1000	581	ST2 - 6 5	581	581	ST1 - Out due to the unit transformer problem. ST3 - Tripped on excitation trip alarm.
	SAPELE (STEAM)	6	0 0	0	0	0 0	0	0	ST1 & 2 - Tripped on high vibration. ST3 - Tripped on low water drum level. ST4 - Out on fault. ST5 - Awaiting major overhaul.
	DELTA (GAS)	18	GT6, 7, 10 - 13, 15 & 19 8	340	325	GT6, 7, 10 - 13, 15 & 19 8	325	313	GT2 - Tripped on transformer differential lockout. GT3 & 5 - Out on generator winding fault. GT4 - Out on loss of excitation. GT8 & 14 - Out on major overhaul. GT9, 16 & 20 - Out due to gas constraint. GT17 - Tripped on bearing vibration more than maximum. GT18 - Out due to generator lockout problem.
	AFAM IV & V (GAS)	8	GT17 1	125	51	GT17 1	51	51	GT11 - 12 - De-commissioned and scrapped. GT13, 14 & 16 - Out on blade failure. GT18 - Out due to gas constraint. GT19 & 20 - Awaiting major overhaul.
	GEREGU GAS	3	GT11 - 13 3	435	435	GT12 & 13 2	290	207	GT11 - Out due to line limitation. GT12 - Generation reduced due line constraints.
	OMOTOSHO GAS	8	GT1, 2, 6, 7 & 8 5	190	165.6	GT1, 2, 6, 7 & 8 5	165.6	165.6	GT3, 4 & 5 - Out due to gas constraint.
	OLORUNSOGO GAS	8	GT1 - 8 8	336	304	GT1 - 7 7	266	200.2	GT8 - Out due to gas constraint.
NIPP	GEREGU NIPP	3	GT21 & 23 2	290	290	GT21 & 23 2	290	221	GT22 - Out on maintenance. GT21 - Generation reduced due to line limitation.
	SAPELE NIPP	4	GT2 1	112.5	112.5	GT2 1	112.5	84.6	GT1 - Out due to gas constraint. GT3 & 4 - Out due to high air filter differential pressure.
	ALAOJI NIPP GAS	4	GT2 1	120	74.3	GT2 1	74.3	74.3	GT1 - Out due to high air inlet differential pressure. GT3 - Shut down due to lack of spare part. GT4 - Tripped on over voltage lockout relay trip.
	OLORUNSOGO NIPP	6	GT1 1	126	93.3	GT1 1	93.3	93.3	GT2 & 3 - Shut down due to low gas pressure. GT4 - Out due to ignition failure and control relay failure alarm. ST13 & ST23 - Out on maintenance.
	OMOTOSHO NIPP GAS	4	GT2 1	125	115	GT3 1	115	102.9	GT1 & 2 - Out due to gas constraint.
	ODUKPANI NIPP	5	GT1 - 5 5	575	575	GT2, 3 & 5 3	345	308.4	GT1 & 4 - Out due to low load demand by the Discos. GT2 & 3 - On manual adjustment to frequency.
	IHOVBOR NIPP	4	GT2 1	112.5	112.5	GT2 1	112.5	102.2	GT1 & 4 - Out due to gas constraint. GT2 - On manual adjustment to frequency. GT3 - Tripped on high vibration.
	GBARAIN NIPP GAS	1	GT2 1	112.5	112.5	GT2 1	112.5	86.2	Available unit on bar.
IPP	OKPAI GAS/STEAM	3	GT12 & ST18 2	300	220	GT12 & ST18 2	220	172	GT11 - out on maintenance. ST18 - Generation limited due to boiler problem.
	AZURA - EDO	3	GT11 - 13 3	461	461	GT11 - 13 3	461	281	GT12 & 13 - Generation reduced due to low load demand by the Discos.
	AFAM VI GAS/STEAM	4	GT12 & 13 2	300	300	GT13 1	150	132	GT11 - Out on maintenance. GT12 - Out on low load demand by the Discos. ST10 - Out on gas constraint.
	IBOM POWER GAS	3	GT3 1	120	115	GT3 1	115	93.9	GT1 & 2 - Out due to fire outbreak on the control panel. GT3 - On manual adjustment to frequency.
	AES	9	0 0	0	0	0 0	0	0	Out of production since 27/09/2014.
	ASCO	2	0 0	0	0	0 0	0	0	ST1 - Shut down due to leakage in the furnace.
	OMOKU GAS	6	GT1, 3 & 5 3	75	59.5	GT1, 3 & 5 3	59.5	59.5	GT2 - Tripped on high vibration. GT4 - Out on major overhaul. GT6 - Out on maintenance.
	TRANS-AMADI	4	GT1 & 2 2	50	41.4	GT1 & 2 2	41.4	41.4	GT3 - Out on fault. GT4 - out on maintenance.
	RIVERS	1	GT1 1	180	160	GT1 1	160	145	Available unit on bar.
	SUB TOTAL	141	69	6905.5	6118.6	62	5293.6	4514.5	Frequency = 50.30Hz.

1.7B GENERATION POSITION AT 06:00HRS OF FRIDAY 08/02/2019 FOR UNITS ON BILATERAL AGREEMENT								
PARAS ENERGY	8	GT3 -10		70	64	GT3 -10		Available units on bar.
		8				8	64	
SUB TOTAL		8	8	70	64	8	64	64
GRAND TOTAL		149	77	6975.5	6182.6	70	5,357.60	4,578.50

1.7C BILATERAL AGREEMENT UNITS DISPATCH - THURSDAY 07/02/2019								
EGBIN ST6 5MW GENERATION TO IKEJA ELECTRICITY DISTRIBUTION COMPANY								
FEEDERS NAME	MAX. LOAD (MW)	TIME (HRS)	MIN LOAD (MW)	TIME (HRS)	HRS IN SERVICE	TOTAL (MWH)	REMARK	
OGBA	U-STEEL	ON	0100HRS			21		PLANNED OUTAGE BY DISTRIBUTION
	PTC EXPRESS	ON	0100HRS			21		PLANNED OUTAGE BY DISTRIBUTION
	SANKYO	2	0200HRS			24		NIL
	FEEDER 8	14.5	1600HRS			24		NIL
IKORODU	PULK IT		0200HRS					NIL
		5				24		
	INDUSTRIAL	8	0800HRS			24		NIL
	SPINTEX	15	0400HRS			24		NIL
	DANGOTE	3	0300HRS			24		NIL
LAND CRAFT	23	0300HRS			24		NIL	
ALAUSA	TR4 15MVA	8.7	1600HRS			23		PD: OIL TOPPED ON TRANSFORMER
	TR5 -15MVA	5.9	0900HRS			23		PD: OIL TOPPED ON TRANSFORMER
	ALAUSA	18.4	1000HRS			24		NIL
M/LAND	PTC (MARYLAND)	20	1800HRS			15		OUT DUE TO TRIPPING ON E/F
<b>TOTAL LOAD</b>		<b>123.5</b>						

BILATERAL AGREEMENT LOAD DISPATCH 60MW PARAS ENERGY GENERATION TO CEB OF THURSDAY 07/02/2019							
FEEDER	MAX LOAD (MW)	TIME (HRS)	MIN LOAD (MW)	TIME (HRS)	HOURS IN SERVICE	TOTAL (MWH)	REMARK
Ikeja West/Sakete 330kV line	66.4	22:00	58.4	14:00	24	1514	NIL

BILATERAL AGREEMENT MAIN STREAM ENERGY KAINJI THURSDAY 07/02/2019									
COMPANY NAME	VOL-TAGE LEVEL	CON-TRACTUAL LOAD (MW)	MAX LOAD (MW)	TIME	MIN LOAD (MW)	TIME	HOURS IN SERVICE	TOTAL (MWH)	REMARK
INNER GALAXY	132kV line 2	0	50	04:00	0.1	07:00	24	740.4	SUPPLY NOT INTERRUPTED
KAM STEEL		25.0	14	18:00	0.3	24:00	24	94	SUPPLY NOT INTERRUPTED
ASHAKA CEMENT		0	10.2	20:00	2.4	01:00	24	141.6	SUPPLY NOT INTERRUPTED
XING 1	33kV feeder	0							SUPPLY NOT INTERRUPTED
XING 2		0							SUPPLY NOT INTERRUPTED
KAM INTEGRATED		15	4.5	01:00	2.0	06:00	24	81.3	SUPPLY NOT INTERRUPTED
OLAM FLOUR MILLS		3	2.5	03:00	0.7	07:00	24	43	SUPPLY NOT INTERRUPTED
LORDSMITH		3	0.6	18:00	0.1	01:00	24	6.8	OUT OF SERVICE ON E/F&O/C

1.8 HYDROLOGICAL DATA: FRIDAY 08/02/2019

	KAINJI	JEBBA	SHIRORO
HEAD WATER ELEVATION (METERS)	141.72	103.01	373.94
TAIL WATER ELEVATION (METERS)	105.15	74.2	270.4
GROSS OPERATING HEAD (METERS)	36.57	28.81	103.54
AVERAGE TURBINE DISCHARGE (M3/SEC)	1026.00	1114.00	246.00
AVERAGE SPILLAGE (M3/SEC)	471.00	480.00	0.00
AVERAGE TOTAL STATION DISCHARGE (M3/SEC)	1497.00	1594.00	246.00
COMPUTED INFLOW (M3/SEC)	1497.00	1386.00	0.00
STORAGE DIFFERENTIAL	0.00	-208.00	-246
MAXIMUM LEVEL FOR SPILLAGE COMMENCEMENT	141.73	103	382.50
MINIMUM LEVEL BELOW WHICH NO GENERATION	130	99	355.00

1.9 MAXIMUM/ALLOCATED LOAD/MINIMUM LOADS FOR ABUJA AND LAGOS AS AT THURSDAY 07/02/2019

	MAXIMUM LOAD (MW)	TIME (HRS)	ALLOCATED LOAD (MW)	MINIMUM LOAD (MW)	TIME (HRS)
ABUJA	585.2	22:00	542.53	410.5	08:00
EKO	536.0	21:00	618.94	377.5	14:00
IKEJA	640.0	22:00	259.47	477.5	14:00

2.0 GAS POSITION: FRIDAY 08/02/2019

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	581	1100	581	519	519
DELTA (GAS)	313	915	320	595	595
OMOTOSHO GAS	165.8	336.8	165.6	171.2	171.2
OMOTOSHO NIPP	102.9	500	120	380	380
OLORUNSOGO (GAS)	200.2	336	256	70	70
OLORUNSOGO NIPP	0	750	93.3	656.7	656.7
SAPELE NIPP	84.6	500	112.5	387.5	387.5
SAPELE STEAM	0	720	0	720	720
AFAM IV-V	51	300	51	249	249
AFAM VI	132	650	150	500	500
GEREGU GAS	207	435	290	145	145
GEREGU NIPP	221	435	290	145	145
OKPAI (GAS/STEAM)	172	480	220	260	260
ALAOJI NIPP	74.3	504	74.3	429.7	429.7
IHOV/BOR NIPP	102.2	337.5	112.5	225	225
IBOM	93.9	198	115	83	83
ODUKPANI NIPP	308.4	625	345	280	280
<b>TOTAL</b>	<b>2809.1</b>	<b>9122.30</b>		<b>3306.2</b>	<b>5816.1</b>

1 MMSCF IS EQUIVALENT TO 3.75MW

3.0 SPINNING RESERVE FOR : THURSDAY 07/02/2019

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

3.1 SYSTEM SPINNING RESERVE AS AT 0600HRS OF FRIDAY 08/02/2019 = 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	
<b>TOTAL (MW)</b>			<b>295</b>	<b>0</b>	<b>0</b>

4.0 UNAVAILABLE GENERATION CAPABILITY

The unavailable generation capability for Thursday 07/02/2019 as at 0600Hrs was = 1193MW.

S/N	STATION	ACTUAL GENERATION CAPABILITY (MW)	GENERATION AT 0600HRS (MW)	UNAVAILABLE GENERATION CAPABILITY (MW)	SUB-TOTAL
<b>4.1 DUE TO LINE CONSTRAINTS</b>					
1	Geregu NIPP GT21	145	90	55	120
2	Geregu Gas GT12	145	80	65	
				0	
				0	
<b>4.2 DUE TO LOW LOAD DEMAND BY THE DISCOS</b>					
1	Shiroro 411G2	150	60	90	923
2	Alam VI GT12	150	0	150	
3	Olorunsogo Gas GT8	38	0	38	
4	Azura-Edo GT11 - 13	461	281	180	
5	Odukpani GT1 & 4		0	230	
6	Geregu GT11	145	0	145	
7	Jebba 2G2	90	0	90	
				0	
				0	
				0	
<b>4.3 DUE TO WATER MANAGEMENT:</b>					
1	Shiroro 411G4	150	0	150	150
<b>Grand Total</b>					<b>1193</b>

**5.0 OUTAGES:**

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

- 1 23:32 through 24:00Hrs, Egbin ST3 tripped on drum level extremely low. LHR = 30MW.

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

- 1 00:27 – 13:08Hrs, Aba T/S 60MVA 132/33kV transformer T1B primary CB tripped on differential, punctured cable amended. LHR=7.3MW.
- 2 07:10 - 07:29Hrs, Osogbo/Ihovbor 330kV line (cct H7V) CBs tripped at both ends on the following relay indications:  
**At Osogbo T/S:** ABB Relay: Trip, start, start PE, zone 1 trip VTSL, ZCOM-CS, Ready start trip 86ABC/1  
Ohmega Relay: Zone 1, Phase A, E/F, DEF forward, Distance =23.55km 86A/2.  
**At Ihovbor T/S:** Micom Relay: Trip zones 2 & 3, fault record, started Phase AN, trip Phase AN, Distance start zone 2 & 3, distance trip zone 2, E/F start IN >1, Active group 1 fault location = 218.4km, MVAJ 3Phases. No load loss as ccts V7B, B6N, N6W & H1W were in service.
- 3 08:04 – 08:13Hrs, Jebba/Shiroro 330kV line 2 (cct J7R) CBs tripped at both ends on the following relay indications:  
**At Jebba T/S:** ABB Relay: Trip, PLS-STFWL1, PLSSTFWPE-ZM1 trip, Fuse VTSZ trip, Fuse VTSZ, ZCOM-CR, ZCOM-CS, DEF-CR, DEF-CS, Distance = 66.5km.  
Ohmega Relay: Zone 1 Phase A, E/F com. Receive 1 & 2,  
Auxiliary Relay: 85x 86 ABC.  
**At Shiroro T/S:** ABB Relay: Trip PHS, STFVL3, PHSSTFWPE, ZM1 trip, ZCOM-CR, ZCOM-CS, MVAJ 21, K 86ABC, 85x2.  
No load loss as cct J3R was in service.
- 4 11:05 – 11:14Hrs, Jebba/Shiroro 330kV line 2 (cct J7R) CBs tripped at both ends on the following relay indications:  
**At Jebba T/S:** ABB Relay: Trip, PLS-STFWL1, PLSSTFWPE-ZM1 trip, Fuse VTSZ trip, Fuse VTSZ, ZCOM-CR, ZCOM-CS, DEF-CR, DEF-CS, Distance = 65.3km.  
Ohmega Relay: Zone 1 Phase A, E/F com. Receive 1 & 2,  
Auxiliary Relay: 85x 86 ABC.  
**At Shiroro T/S:** ABB Relay: Trip PHS, STFVL3, PHSSTFWPE, ZM1 trip, ZCOM-CR, ZCOM-CS, MVAJ 21, K 86ABC, 85x2.  
No load loss as cct J3R was in service.
- 5 13:55 – 14:10Hrs, Ikeja West/Sakete 330kV line (cct NW1BS) CB tripped at Ikeja West T/S on Siprotec Relay: General trip, Yellow & Blue Phases fault, back up O/C and STUD operation, PU time = 405ms, trip time = 330ms, distance = 55.9km. LHR = 242MW.
- 6 15:25 - 16:30Hrs, Jebba/Osogbo 330kV line (cct J1H) CBs tripped at both ends on the following relay indications:  
**At Osogbo T/S:** Ohmega Relay: Zone 1 Phase C, Earth, aided trip CR 1 & 2, 86B/1, distance 240.25km,  
Auxiliary Relay: 85x, 86T/2.  
**At Jebba T/S:** ABB Relay: PHF, STFVL3, STFVPE, ZM1 trip, EFC trip, EFC-CS, ZM2 start, ZM3 start, ZCIPTRL3,  
Auxiliary 85x, K86 ABC.  
Micom Relay: Distance protection. No load loss as cct H3G & J3G were in service.
- 7 16:06 – 16:19Hrs, Ayede/lbadan North/Iwo/seyin 132kV line CB tripped at Ayede T/S on Siemens relay E/F. LHR = 73MW.
- 8 20:42 – 21:01Hrs, Kumbotso T/S 40MVA 132/33kV transformer T2 secondary CB tripped on O/C Red & Blue Phases. LHR = 24MW.

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

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

- 1 09:11 – 10:03Hrs, Jebba T/S 80MVA 330/132/13.8kV transformer 2T1 was taken out to top up low oil in the conservator tank to normal level.  
Load loss = 10.5MW.

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

- GROUP 1 - HYDRO UNITS (LEAST COST) ON FREE GOVERNOR CONTROL AND ANCILLARY SERVICE.
- GROUP 2A - UNITS FROM ODUKPAI, AZURA, SHELL AFAM VI, AGIP OKPAI, OLORUNSOGO POWER PLC AND OMOTOSHO POWER PLC.
- GROUP 2B - OTHER GENERATING 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 CONTRACTED FOR THE ANCILLARY SERVICE).
- GROUP 5 - ALL PLANTS DISPATCHED SUBJECT TO TRANSMISSION CONSTRAINT (NOT YET IDENTIFIED).

**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 A1K.

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

**5 (J) 330KV LINES THAT ARE OUT ON LINE FAULT:-** ccts D3T, J2H & K4U

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

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

**7 INTERNATIONAL LINES:-**

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

Maximum load - 257MW at 20:00Hrs.  
Minimum load - 189MW at 15:00Hrs.

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

Maximum load - 100MW at 20:00Hrs.  
Minimum load - 59MW at 08:00Hrs.

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

Maximum load - 22.9MW at 18:00Hrs.  
Minimum load - 14.0MW at 03:00Hrs.

**8 MISCELLANEOUS:-**

- 1 00:24Hrs, Afam VI GT12 was shut down due to low load demand by the Discos.  
Load loss = 135MW.
- 2 00:57Hrs, Shiroro 411G1 was shut down due to low load demand by the Discos.  
Load loss = 50MW.
- 3 00:58 – 10:20Hrs, Jebba 2G2 was shut down due to low load demand by the Discos. Load loss = 75MW.
- 4 01:07Hrs, Odukpai GT3 was shut down due to low load demand by the Discos.  
Load loss = 89.3MW.

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

**10 COMMUNICATION MEDIA**

STATIONS	NO INSTALLED	NO. WORKING
PLC/PAX	38	29
OPTIC FIBRE	13	10
PLS	14	4

**11 SCADA RTU STATUS**

STATIONS	NO. INSTALLED	NO OF RTU DISTURBED	NO OF RTU WORKING
POWER STATIONS	8	4	4
330kV	19	7	12
132kV	102	79	23

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

**SHIRORO REGION:**

- 1 Birnin Kebbi 75MX Reactor R1.

**ABUJA REGION**

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

**KADUNA REGION:**

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

**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 reactor installed.

**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 Omotosho/Ikeja West 330kV line CB at Ikeja West T/S.

**BENIN REGION:**

- 1 Omotosho T/S 330kV, 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
- 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.
- 5 New Haven/Nkalagu 132kV line 2 ground switch - Canibalized Red phase female contact and canibalized Yellow phase male contact.

**SHIRORO REGION**

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

- 5 02:12Hrs, Olorunsogo GT3 was shut down due to low load demand by the Discos. Load loss = 31MW.
- 6 12:21 & 12:24Hrs, Trans-Amadi GT1 & 2 were tied respectively. The units were out due to gas constraint.
- 7 19:04Hrs, Olorunsogo Gas GT3 was tied. The unit was out due to low load demand by the Discos.
- 8 19:08Hrs, Afam VI GT12 was tied. The unit was out due to low load demand by the Discos.
- 9 19:12Hrs, Shiroro 411G1 was tied. The unit was out due to water management.
- 10 19:26Hrs, Shiroro 411G4 was tied. The unit was out due to water management.
- 11 19:42Hrs, Odukpiani GT3 was tied. The unit was out due to low load demand by the Discos.
- 12 19:59Hrs, Geregu Gas GT11 was tied. The unit was out due to line limitation.
- 13 22:28Hrs, Egbin ST3 was tied. The unit was out on high vibration since 19th June 2017.
- 14 23:41Hrs, Sapele ST3 was tied. The unit tripped on low water drum level.

\*\*\*\* THE SCADA COVERAGE OF ONLY LIMITED AREAS IS NOT GOOD FOR THE SMOOTH OPERATION OF THE GRID.

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

**12(D) UNAVAILABLE CAPACITOR BANK:**

- 1 (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(E) UNAVAILABLE SKYWIRES**

**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/tire 132kV lines 1 & 2 - 1 span.
- 8 Ikeja West/Agbara 132kV lines 1 & 2 - 61 spans.
- 9 Ikeja West/Otta 132kV lines 1 & 2- 17 spans.

**SHIRORO REGION**

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

**ABUJA REGION**

- 1 Apo T/S 132kV Keffi line - 36 spans

**12 (F) UNAVAILABLE SYNCHROSCOPES -**

- 1 Ikeja West, Onitsha, Egbin, Ugwuajii, Jos, Gwagwalada & Alaaji 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



