

# TRANSMISSION COMPANY OF NIGERIA

To: Head (ISO), TCN - Abuja

From: General Manager, NCC, Osogbo

DAILY OPERATIONAL REPORT TUESDAY 13/06/2017

FOR: EVENTS OF MONDAY 12/06/2017

1.0 EXECUTIVE OPERATIONS SUMMARY:

1.1 GENERATION PROFILE: NATIONAL STATISTICS

DETAILS	MW	HRS	DATE
PEAK DEMAND FORECAST (CONNECTED + SUPPRESSED LOAD)	17,720	21:15	12/06/2017
GENERATION CAPABILITY	7066.8	-do-	-do-
UNITS ON BAR CAPABILITY AT PEAK	4574.4	-do-	-do-
PEAK GENERATION	4146.8	-do-	-do-
LOWEST GENERATION	2548.9	02:00	12/06/2017
8-HOURLY DURATION PEAK	3014.8	0000-0800	-do-
	3496.1	0900-1600	-do-
	4146.8	1700-2400	-do-
PEAK GENERATION TO DATE	5074.7	21:30	02/02/2016
MAXIMUM AVAILABLE CAPACITY TO DATE	7492.6	06:00	14/04/2014
MAXIMUM PEAK GENERATION CAPABILITY TO DATE	7099	07:00	13/04/2014
MAXIMUM ENERGY GENERATED (MWH) TO DATE	109,372.01	0000-2400	02/02/2016

1.2 CRITICAL VOLTAGE

DETAILS	KV	STATION	HRS
NOMINAL VOLTAGE	330		
STATUTORY LIMITS	280.5 - 346.6		
HIGHEST VOLTAGE FOR THE DAY	361	Omotosho T/S	04:00
LOWEST VOLTAGE FOR THE DAY	298	Akangba T/S	19:00

1.3 FREQUENCY RANGE

DETAILS	HZ	HRS
NOMINAL FREQUENCY	50	
STATUTORY LIMITS	49.75-50.25	
HIGHEST FREQUENCY	50.99	01:36
LOWEST FREQUENCY	49.39	20:00

1.4 SYSTEM COLLAPSE UP DATE

Date of last total collapse: 8th May, 2017							No. of days since last total collapse: 34							
Date of last partial collapse: 16 <sup>th</sup> March, 2017							No. of days since last partial collapse: 87							
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	--	6
2012	Total	--	--	2	1	5	2	1	--	--	2	2	1	16
	Partial	--	--	2	3	--	--	--	--	1	--	1	1	8
2013	Total	--	1	2	2	3	4	1	1	1	1	4	2	22
	Partial	--	--	--	--	--	--	--	--	2	--	--	--	2
2014	Total	2	--	--	2	--	3	1	--	1	--	--	--	9
	Partial	--	--	--	--	1	--	--	--	--	2	1	--	4
2015	Total	1	--	1	--	2	--	1	--	--	2	1	--	6
	Partial	--	--	1	--	2	--	--	--	1	--	--	--	4
2016	Total	--	--	2	3	6	5	--	1	1	2	2	--	22
	Partial	--	--	1	--	1	3	1	--	--	--	--	--	6
2017	Total	5	3	--	3	1	--	--	--	--	--	--	--	12
	Partial	1	--	1	--	--	--	--	--	--	--	--	--	2

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

STATION	TURBINE	PEAK GEN. (MW)	OFF-PEAK GEN(MW)
1 KAINJI	HYDRO	210	169
2 JEBBA	HYDRO	429	93
3 SHIRORO	HYDRO	260	0
4 EGBIN ST2 - 5	STEAM	355	145
5 SAPELE	STEAM	0	56
6 DELTA	GAS	460	240
7 AFAM IV-V	GAS	0	0
8 GEREGU GAS	GAS	286	100
9 OMOTOSHO GAS	GAS	210.6	179.4
10 OLORUNSOGO GAS	GAS	194.2	203
11 GEREGU NIPP	GAS	147	122
12 SAPELE NIPP	GAS	111	108.7
13 ALAQUI NIPP	GAS	114.4	115.2
14 OLORUNSOGO NIPP	GAS	223.8	87.1
15 OMOTOSHO NIPP	GAS	227.2	116.1
16 ODUKPANI NIPP	GAS	0	0
17 IHOVBOR NIPP	GAS	112	98.4
18 OKPAI	GAS	267	159
19 AFAM VI	GAS	142	142
20 IBOM POWER	GAS	30.8	48.4
21 ASCO	GAS	0	0
22 A.E.S	GAS	0	0
23 OMOKU	GAS	90	91.9
24 TRANS AMADI	GAS	0	0
25 RIVERS IPP	(GAS)	0	0
26 EGBIN ST6	(GAS)	211	211
27 PARAS ENERGY	(GAS)	65.8	63.7
28 GBARAIN NIPP	GAS	0	0
<b>TOTAL</b>		<b>4146.8</b>	<b>2548.9</b>

1.6 ENERGY GENERATED/ENERGY SENT OUT:

STATION	TURBINE	ENERGY GENERATED		ENERGY SENT OUT	
		MWH	MWH/H	MWH	MWH/H
1 KAINJI	HYDRO	4,978.00	207.42	4,959.00	206.63
2 JEBBA	HYDRO	3,095.00	128.96	3,069.28	127.89
3 SHIRORO	HYDRO	2,222.00	92.58	2,190.50	91.27
4 EGBIN ST2 - 5	STEAM	6,883.00	286.79	6,520.70	271.70
5 SAPELE	STEAM	902.70	37.61	850.50	35.44
6 DELTA	GAS	8,989.85	374.58	8,892.50	370.52
7 AFAM IV-V	GAS	-	0.00	-	0.00
8 GEREGU GAS	GAS	4,930.50	205.44	4,905.07	204.38
9 OMOTOSHO GAS	GAS	4,425.00	184.38	4,392.30	183.01
10 OLORUNSOGO GAS	GAS	4,726.88	196.95	4,696.57	195.69
11 GEREGU NIPP	GAS	3,395.00	141.46	3,381.97	140.92
12 SAPELE NIPP	GAS	2,588.21	107.84	2,577.21	107.38
13 ALAQUI NIPP	GAS	2,671.37	111.31	2,655.57	110.65
14 OLORUNSOGO NIPP	GAS	2,905.70	121.07	2,870.80	119.62
15 OMOTOSHO NIPP	GAS	3,102.30	129.26	3,080.90	128.37
16 ODUKPANI NIPP	GAS	-	0.00	-	0.00
17 IHOVBOR NIPP	GAS	2,612.50	108.85	2,589.55	107.90
18 OKPAI	GAS	5,445.00	226.88	5,409.90	225.41
19 AFAM VI	GAS	3,385.84	141.08	3,299.56	137.48
20 IBOM	GAS	1,751.41	72.98	1,742.00	72.58
21 ASCO	GAS	-	0.00	-	0.00
22 A.E.S	GAS	-	0.00	-	0.00
23 OMOKU	GAS	2,191.00	91.29	2,154.87	89.79
24 TRANS AMADI	GAS	-	0.00	-	0.00
25 RIVERS IPP	GAS	-	0.00	-	0.00
26 EGBIN ST6	STEAM	5,047.00	210.29	4,822.50	200.94
27 PARAS ENERGY	GAS	1,548.10	64.50	1,542.40	64.27
28 GBARAIN NIPP	GAS	-	0.00	-	0.00
<b>TOTAL</b>		<b>77,796.36</b>	<b>3,241.52</b>	<b>76,603.65</b>	<b>3,191.82</b>

## GENERATION POSITION AT 06:00HRS OF TUESDAY 13/06/2017

	STATIONS	AVAILABLE UNITS	INSTALLED CAPACITY OF AVAILABLE UNITS(MW)	GENERATION CAPABILITY OF AVAILABLE UNITS(MW)	UNITS ON BAR (MW)	CAPABILITY OF UNITS ON BAR (MW)	GENERATION AT 06:00HRS(MW)	REMARKS
PRIVATISED COMPANIES	KAINJI HYDRO	1G5, 11 & 12	320	320	1G5, 11 & 12	320	209	1G6 - Out on annual preventive maintenance. 1G7 - Out on stator winding failure. 1G8 - Out due to loss of supply to the auxiliary. 1G9 - Out due to burnt 7.5MVA 33/0.415kV & 183.6MVA 16/330kV station service transformer and generator transformer. 1G10 - Shut down due to thrust bearing temperature problem.
		3			3			
	JEBBA HYDRO	2G1 - 5	482	450	2G3	95	95	2G1, 2, 4 & 5 - Shut down for frequency management. 2G6 - Out due to burnt generator winding and AVR.
		5			1			
	SHIRORO HYDRO	411G1 & 2	300	260	0	0	0	411G1 & 2 - Shut down due to high frequency. 411G3 & 4 - Out on maintenance.
		2			0			
	EGBIN STEAM	ST2, 3 & 5	660	660	ST2 & 3	300	295	ST1 - Tripped on generator CB trouble. ST2 & 3 - Generation capacity reduced due to gas constraints. ST4 - Out of production since 17/11/2016. ST5 - Out due to gas constraints.
		3			2			
	SAPELE (STEAM)	ST2	120	60	ST2	60	60	ST1 - Tripped on low control oil pressure. ST4 & 5 - Awaiting major overhaul. ST6 - Tripped on gas control valve not following reference point.
		1			1			
DELTA (GAS)	GT4, 8- 11,13, 15, 16, 18 & 19	550	520	GT 8, 10, 15, 16, 18 & 19	440	405	GT3 & 5 - Out due to generator winding fault. GT4, 9, 11&13 - Out due to frequency management. GT6 - Out on maintenance. GT7 - Tripped due to loss of flame. GT12 - Shut down due to gas leakage from the combustion chamber. GT14 - Out on major overhaul. GT17 - Out on excitation trouble. GT20 - Out on major inspection.	
	10			6				
AFAM IV & V (GAS)	0	0	0	0	0	0	GT1 - 12 - De-commissioned and scrapped. GT13 -16 - Out on blade failure. GT17 & 18 - Out due to burnt generator transformer. GT19 & 20 - Awaiting major overhaul.	
	0			0				
GEREGU GAS	GT12 & 13	290	290	GT12 & 13	290	262	GT11 - Shut down for maintenance work.	
OMOTOSHO GAS	GT1 - 8	336	304	GT2, 3, 5-8	228	215.3	GT1 & 4 - Out due to gas constraints.	
	8			6				
OLORUNSOGO GAS	GT1 - 5, 7 & 8	294	266	GT1 - 4, 7 & 8	228	204.1	GT5 - Out due to gas constraints. GT6 - Out on vibration trouble.	
	7			6				
GEREGU NIPP	GT21 - 23	435	435	GT23	148	148	GT21 & 22 - Out due to gas constraints.	
	3			1				
SAPELE NIPP	GT2	112.5	112.5	GT2	112.5	91.4	GT1 - Out on undisclosed fault. GT3 - Out on bearing lift pump trouble. GT4 - Tripped on loss of auxiliary. Generation reduced due to frequency management	
	1			1				
ALAOJI NIPP GAS	GT1, 2 & 4	375	360	GT1	120	95.3	GT2 & 4 - Out due to gas constraints. GT3 - Shut down due to generator air inlet filter trouble.	
OLORUNSOGO NIPP GAS	GT1, 2 & 3	375	360	GT1 & 2	222.4	222.4	GT3 - Out due to gas constraints. GT4 & ST2 - Out of production since 25/10/2016.	
	3			2				
OMOTOSHO NIPP GAS	GT1, 2 & 4	375	360	GT1	130	130	GT3 - Out of production since 02/08/2016. GT4 - Out due to gas constraints.	
	3			1				
ODUKPANI NIPP	GT2 & 5	250	240	0	0	0	GT1 - Shut down due to oil leakage on lube oil return line of the unit. GT3 - Out on fault. GT4 - Out on unit transformer problem. GT2 & 5 - Out due to tripping of Odukpani/kot-Ekpene 330kV line.	
	2			0				
IHOVBOR NIPP	GT2	112.5	112.5	GT2	112.5	112.1	GT1 - Out on defective generator RTD. GT3 - Out on fault. GT4 - On maintenance.	
	1			1				
OKPAI GAS/STEAM	GT11 & 12	300	300	GT11 & 12	300	224	ST18 - Out on maintenance.	
	2			2				
AFAM VI GAS/STEAM	GT11- 13 & ST10	650	650	GT11	142	142	GT12, 13 & ST10 - Out due to condensate along the gas pipeline.	
	4			1				
IBOM POWER GAS	GT2 & 3	150	150	GT3	115.3	66	GT2 - Shut down due to cut jumper conductor on Uyo/Eket 132kV line at Eket T/S.	
	2			1				
AES	0	0	0	0	0	0	Out of production since 27/09/2014.	
	0			0				
ASCO	0	0	0	0	0	0	GT1 - Shut down due to leakage in the furnace.	
	0			0				
OMOKU GAS	GT1 - 3, 5 & 6	125	100	GT1 - 3, 5 & 6	100	92.6	GT4 - Out for overhaul.	
	5			5				
TRANS-AMADI	0	0	0	0	0	0	Out of production since 20/11/2016.	
RIVERS	0	0	0	0	0	0	Out of production since 16/09/2016.	
	0			0				
GBARAIN NIPP GAS	GT2	112.5	112.5	0	0	0	GT2 - Out due to fault on Owerri/Ahoada 132kV line 2.	
	1			0				
	<b>SUB TOTAL</b>	<b>71</b>	<b>6724.5</b>	<b>6422.5</b>	<b>43</b>	<b>3463.7</b>	<b>3069.2</b>	Frequency = 50.33Hz.

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

FEEDERS NAME	ST6	MAX. LOAD (MW)	TIME (HRS)	HOURS IN SERVICE	REMARK		
EGBIN	1	220	220	211	211	Available unit on bar.	
	1						
PARAS ENERGY	GT3-9	65.5	65.5	66.5	66.5	GT2 - Shut down due to high exhaust gas.	
	7						
<b>SUB TOTAL</b>	8	285.5	285.5	277.5	277.5		
<b>GRAND TOTAL</b>	79	7010	6708	51	3,741.20	3,346.70	Frequency = 50.33Hz.

1.7C BILATERAL AGREEMENT UNITS DISPATCH - MONDAY 12/06/2017

FEEDERS NAME	MAX. LOAD (MW)	TIME (HRS)	HOURS IN SERVICE	REMARK	
Egbin ST6 120MW GENERATION TO IKEJA ELECTRICITY DISTRIBUTION COMPANY					
OGBA	U-STEEL	On	1:00	8	Tripped on O/C & E/F
	PTCEXPRESS	8	6:00	8	Tripped on O/C & E/F
	SANKYO	on	1:00	23	132Kv line opened
	FEEDER 8	12	9:00	23	132Kv line opened
IKORODU	PULK IT	out	out	out	latched
	INDUSTRIAL	18	16:00	13	Tripped on E/F
	SPINTEX	6	11:00	24	NIL
	DANGOTE	out	out	out	Latched
ALAUUSA	LAND CRAFT	20	3:00	24	NIL
	TR4 15MVA	6	11:00	24	NIL
	TR5 -15MVA	4.1	13:00	24	NIL
MLAND	ALAUUSA	11.5	20:00	23	planned
	PTC (MARYLAND)	14	19:00	22	loss of phase
<b>TOTAL LOAD</b>	99.6				
<b>GRAND TOTAL</b>	248.6				

BILATERAL AGREEMENT LOAD DISPATCH  
60MW PARAS ENERGY GENERATION TO CEB

FEEDER	MAX	TIME	HOURS IN SERVICE	REMARK
SAKATE/IKEJA WEST 330KV LINE	66.5	23:00	24	NIL

**1.8 HYDROLOGICAL DATA: TUESDAY 13/06/2017**

	KAINJI	JEBBA	SHIRORO
HEAD WATER ELEVATION (METERS)	132.92	100.77	361.45
TAIL WATER ELEVATION (METERS)	102.85	74.00	270.00
GROSS OPERATING HEAD (METERS)	<b>30.07</b>	<b>26.77</b>	<b>91.45</b>
AVERAGE TURBINE DISCHARGE (M3/SEC)	740	721	121
AVERAGE SPILLAGE (M3/SEC)	82	0	0
AVERAGE TOTAL STATION DISCHARGE (M3/SEC)	<b>822</b>	<b>721</b>	<b>121</b>
COMPUTED INFLOW (M3/SEC)	0	999	312
STORAGE DIFFERENTIAL	<b>-822</b>	<b>278</b>	<b>191</b>
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 12/06/2017**

DISCO	MAXIMUM LOAD(MW)	TIME(HRS)	ALLOCATED LOAD (MW)	MINIMUM LOAD(MW)	TIME(HRS)
ABUJA	468.6	22:00	0	274.1	01:00
EKO	430.2	20:00	0	141.4	02:00
IKEJA	529.9	23:00	0	222.3	03:00

**2.0 GAS POSITION: TUESDAY 13/06/2017**

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	159		1100		300	800
DELTA (GAS)	432		765		440	325
OMOTOSHO GAS	180		336.8		228	108.8
OMOTOSHO NIPP	110		500		240	260
OLORUNSOGO (GAS)	203.5		336		228	108
OLORUNSOGO NIPP	114.7		750		222.4	527.6
SAPELE NIPP	110.1		500		112.5	387.5
SAPELE STEAM	55		720		60	660
AFAM IV-V	0		300		142	158
AFAM VI	142		650		290	360
GEREGU GAS	256		435		148	287
GEREGU NIPP	145		435		145	290
OKPAI (GAS/STEAM)	217		480		300	180
ALAOJI NIPP	113.4		504		120	384
IHOVBOR NIPP	112.6		450		112.5	337.5
IBOM	94.9		198		115.3	82.7
ODUKPANI NIPP	0		625		0	625
<b>TOTAL</b>	<b>2445.2</b>		<b>9085.758333</b>		<b>3203.7</b>	<b>5881.1</b>

1 MMSCF IS EQUIVALENT TO 3.75MW

**2.1 SYSTEM BLACK START CAPABILITY**

Delta, Shiroro & Egbin - Available.

**SPINNING RESERVE FOR : MONDAY 12/06/2017**

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

**3.0 SYSTEM SPINNING RESERVE AS AT 0600HRS OF TUESDAY 13/06/2017 = 0MW. FREQUENCY 50.33Hz.**

S/N	POWER STATION	UNIT ON SPINNING RESERVE	CONTRACTED RESERVE	ACTUAL RESERVE (MW)	TOTAL (MW)
1	Egbin	ST2	100	0	0
		ST4		0	
		ST5		0	
		ST6		0	
3	Delta	GT16	40	0	0
		GT17	40	0	
4	Olorunsogo NIPP	GT1	40	0	0
		GT2		0	
		GT3		0	
		GT4		0	
5	Geregu NIPP	GT22	35	0	0
6	Omotosho NIPP	GT1	40	0	0
		GT2		0	
		GT3		0	
<b>TOTAL (MW)</b>			<b>295</b>	<b>0</b>	<b>0</b>

**4.0 UNUTILIZED GENERATION CAPABILITY**

The unutilized generation capability for Tuesday 13/06/2017 as at 0600Hrs was = 2772.6MW.

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	Geregu NIPP GT21 & 22	290	0	290	1744
2	Olorunsogo NIPP GT3	120	0	120	
3	Egbin ST2, 3 & 5	660	300	360	
4	Omotosho Gas GT1 & 4	76	0	76	
5	Alaoji NIPP GT2 & 4	240	0	240	
6	Omotosho NIPP GT4	120	0	120	
7	Olorunsogo Gas GT5	38	0	38	
8	Afam VI GT12, 13 & ST10	500	0	500	
				0	
				0	
				0	
				0	
				0	
IT IS ENVISAGED WITH IMPROVED PLANT AVAILABILITY AND RELIEF FROM EXISTING POWER SYSTEM NETWORK RELATED CONSTRAINTS, ADDITIONAL 1568.29MMSCF OF GAS (EQUIVALENT TO 5881.1MW) WILL BE REQUIRED WHEN ALL THERMAL UNITS ARE ON BAR.					
<b>4.2 DUE TO LINE CONSTRAINTS</b>					
1	Ibom GT2	35	0	35	387.5
2	Gbarain NIPP GT2	112.5	0	112.5	
3	Odukpani GT2 & 5	240	0	240	
<b>4.3 DUE TO FREQUENCY MANAGEMENT OCCASIONED BY LOSS OF DISCOS' FEEDERS</b>					
1	Shiroro 411G1 & 2	260	0	260	641.1
2	Jebba 2G1, 2, 4 & 5	360	0	360	
3	Sapelel NIPP GT2	112.5	91.4	21.1	
				0	
				0	
<b>4.4 DUE TO WATER MANAGEMENT</b>					
				0	0
				0	0
<b>Total</b>					<b>2772.6</b>

**5.0 OUTAGES:**

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

- 01:46 - 06:19Hrs, Egbin P/S ST2 tripped on high voltage of 360kV. LHR = 145MW.
- 02:02 - 20:42Hrs, Delta P/S GT4 tripped on excitation major trouble. LHR = 10MW.
- 04:55 - 09:44Hrs, Delta GT13 tripped on combustion trouble. LHR = 10MW.
- 09:47 - 22:38Hrs, Delta GT13 tripped on high exhaust temperature. LHR = 15MW.
- 17:00 – 23:03Hrs, Sapele ST2 tripped on low gas pressure. LHR = 53MW.

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

- 16:31- 19:24Hrs, Sapele/Benin 330kV line 3 (cct S5B) CBs tripped at both ends:  
**At Sapele T/S:** SEL relay – Yellow Phase – ground, location 4.14km zone 1.  
**At Benin T/S:** SEL relay- trip, instantaneous zone 1, Phase B –G, location = 39.5km, carrier signal received. No load loss as ccts S3B & S4B were in service.
- 10:45 -11:18Hrs, Potiskum T/S 30/40MVA 132/33kV transformer T2 primary & secondary breakers tripped as follows: On the primary, Buchholz relay  
On the secondary – No relay indication but trip relay flagged. LHR = 10.1MW.
- 10:24 -13:33Hrs, Akangba T/S 90MVA330/132kV transformer 5T2A primary breaker tripped on low air pressure. No load loss as transformers 5T1A, 5T1B & 5T2B were in service.
- 18:10 -19:15Hrs, Mando/Kumbotso 330kV line (cct M6N) CB (#Q07) tripped at Kumbotso T/S without relay indication. LHR = 235MW. It was observed that the breaker has Yellow Phase pole discordance. The breaker has been isolated while the station is fed via CB #Q05.
- 18:10 – 19:15Hrs, Kumbotso/Dakata 132kV line CB tripped on distance protection relay JT, JM on T & M Phases, FCT = 0.2sec.LHR = 65MW. Weather – fine.
- 19:59 - 21:38Hrs, Itu/Uyo132kV line CB tripped at Itu T/S on instantaneous O/C Red Phase. LHR = 38MW.
- 20:00 through 24:00Hrs, Itu/Adiabor 132kV line CB tripped on instantaneous O/C during restoration. The has been isolated for LMD crew patrol. No load loss as the line tripped on trial restoration.
- 21:46 – 22:18Hrs, Ayede T/S 40MVA 132/33kV transformer T1 primary breaker tripped on O/C while the secondary breakers failed to trip. LHR = 16.8MW.

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

**5(D) URGENT OUTAGES:**

- 08:38 - 19:46Hrs, Osogbo/Ayede 330kV line (cct H2A) was taken out as additional apparatus for safe working space for the outage on Osogbo/Akure 132kV line. No load loss as ccts H1W, R1W and R2A were in service
- 08:42 - 19:49Hrs, Osogbo/hovbor 330kV line (cct H7V) was taken out as additional apparatus for safe working space for the outage on Osogbo/Akure 132kV line. No load loss as cct V7B was in service.
- 09:25 through 24:00Hrs, Delta GT12 was shut down due to gas leakage from the combustion chamber. LHR = 15MW.
- 12:08 – 14:47Hrs, Jebba/Shiroro 330kV line 1(cctJ3R) was taken out to enable maintenance crew top up the low oil level in the Blue Phase CT of the line to normal level. No load loss as cct J7R was in service.

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

GROUP 1 - ALL UNITS OFFERING FREE GOVERNOR FREQUENCY RESPONSE.

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

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

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

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

**5 (J) 330KV LINES THAT ARE OUT ON PLANNED OUTAGE:- NIL**

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

**9 WEATHER REPORT:** Rainfall was reported in Lagos,Sapele, Kano & Onitsha

**10 INTERNATIONAL LINES:-**

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

Maximum load - 272MW at 20:00Hrs.  
Minimum load - 101MW at 04:00Hrs.

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

Maximum load - 82MW at 02:00Hrs.  
Minimum load - 50MW at 15:00Hrs.

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

Maximum load - 46.5MW at 23:00Hrs.  
Minimum load - 37.9MW at 05:00Hrs.

**11 MISCELLANEOUS:-**

- 01:13Hrs, Jebba P/S 2G1 was shut down on frequency management. LHR = 75MW.
- 01:25 - 21:03Hrs, Omotosho NIPP GT2 was shut down on frequency management. LHR= 112.2MW.
- 02:03 -10:18Hrs, Benin/Ajaokuta 330kV line1 (cct B11J) was taken out on voltage control. Voltage Profile = 350/343kV.
- 02:05Hrs, Jebba P.S/Jebba T.S 330kV line 1 & 2 (ccts B8J & B9J) CBs were opened at Jebba T/S as Jebba P/S refused to shut down one of their units on NCC's instruction when the frequency was high. Load loss = 69MW and 73MW respectively. 05:31Hrs, cct B9J was restored, 05:31Hrs cct B8J was restored.
- 05:54Hrs, Ikeja West T/S 330kV 75MX Reactor R1 was place in service for voltage control, Voltage profile = 350/345kV.
- 09:09 - 15:09Hrs, Geregu Gas GT13 was shut down on frequency management. LHR = 145MW.

GROUP 2 - ALL UNITS OFFERING REGULATING RESERVE.

GROUP 3 - ALL UNITS OFFERING SPINNING RESERVE.

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

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

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

GROUP 7 - ALL UNITS IN LOCATION TO DIMINISH LOSSES

GROUP 8 - ALL UNITS NOT OFFERING ANY SERVICES.

**8 (A) COMMUNICATION MEDIA**

STATIONS	NO. INSTALLED	NO. WORKING
PLC/PAX	37	22
OPTIC FIBRE	13	9
PLS	14	6

**8 (B) SCADA RTU STATUS**

STATIONS	TOTAL NO OF STATIONS	NO OF RTU INSTALLED	NO OF RTU WORKING
POWER STATIONS	23	8	2
330kV	41	17	9
132kV	119	103	14

**12.0 UNAVAILABLE EQUIPMENTS**

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

**SHIRORO REGION:**

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

**KADUNA REGION:**

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

**ENUGU REGION:**

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

**12 (B) UNAVAILABLE BREAKERS/ISOLATORS**

**LAGOS REGION:**

- 1 Akangba T.S. 132kV Bus Coupler CB - Serious Air leakage.(Undergoing repair)
- 2 Egbin/Aja 330kV line 2 (cct N4J) - faulty breaker at Aja T/S.

- 7 09:36 - 19:32Hrs, Osogbo/Akure 132kV line was released to maintenance crew to reconnect snapped Yellow Phase conductor and also replace broken cross arm at tower #182 and 183 along the line at Ijebu - Ijesha area. The job was suspended to be continued on 13/06/2017.
- 8 11:35Hrs, Shiroro P/S 411G2 was tied. The unit has been out due to frequency management.
- 9 11:44Hrs, Shiroro P/S 411G1 was tied. The unit has been out due to frequency management.
- 10 16:48Hrs, Jebba 2G2 was tied. The unit has been out on frequency management.
- 11 16:49Hrs, Jebba 2G3 was shut down on frequency management. Load of 92MW was transferred to 2G2.
- 12 17:48Hrs, Jebba 2G3 was tied. The unit has been out on frequency management.
- 13 19:21Hrs, Jebba G/S 2G5 was tied. The unit has been on frequency management.
- 14 20:12Hrs, Omotosho P/S GT3 was tied. The unit has been out due to gas constraints.
- 15 20:05Hrs, Omotosho GT2 was tied. The unit has been out due to gas constraints.
- 16 21:03Hrs, Olorunsogo NIPP GT2 was tied. The unit has been out due to gas constraints
- 17 23:13 through 24:00Hrs, Jebba G/S 2G5 was shut down on frequency management. LHR = 82MW.
- 18 23:45Hrs, Jebba P/S 2G2 was shut down on frequency management. LHR = 83MW.

**12(D) LAGOS REGION**

- 1 Egbin/Aja 330kV line 2 (cct N4J) - faulty breaker at Aja T/S.
- 2 132kV Akangba/Itire line 1- Faulty line isolator at Akangba T/S.
- 3 Aja/Alagbon 132kV line 2 - detached conductor on tower 56 and 57.
- 4 Agbara/Ojo line 1 on soak.

**SHIRORO REGION**

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

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

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

**12 (F) LINES WITH MISSING SKY WIRE**

**LAGOS REGION**

- 3 Otta/Ogba 132kV line isolator - defective control shaft.
- 4 Osogbo/Ikeja West and Olorunsogo/Ikeja West tie CB at Ikeja West T/S - defective pole
- 5 Oke-Aro/Ikeja West 330kV lines 1 & 2 tie CB at Ikeja West T/S - Defective pole.
- 6 Jebba G.S/Jebba T.S 330kV line 2 CB at Jebba T/S.
- 7 Omotosho/Ikeja West 330kV line CB at Ikeja West T/S.

**OSOGBO REGION:**

- 1 Omotosho 330kV T/S, 2nd series 330kV CB #3322 out due to control circuit problem.
- 2 Jebba/Osogbo 330kV line 1 (cct J1H) - Defective line isolator mechanism at Osogbo T/S
- 3 Osogbo/Ganmo 330kV line (cct H3G) - Defective breaker at Osogbo T/S

**ENUGU REGION:**

- 1 New Haven/Yendeve 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/Yendeve 132kV By pass isolator - Canibalized to repair the line isolator.

**SHIRORO REGION**

- 1 Kainji/Jebba 330kV line 1 - CB problem at Kainji T/S.
- 2 Jebba T/S 75MX reactor 2R2 CB - exploded.

**PORT HARCOURT REGION**

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

**12 (C) UNAVAILABLE/DEFECTIVE GROUND SWITCHES**

**Benin Region**

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

**ENUGU REGION:**

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

- 1 Omotosho/Ikeja West line (M5W) and Egbin/Ikeja West line 3 (N6W) - 21
- 2 Ikeja West/Olorunsogo line (cct R1W) - 80 spans.
- 3 330kV Ikeja West/Osogbo line. - 95 spans.
- 4 Ikeja West/Alimosho/Ogba 132kV lines 1 & 2 - 15 spans.
- 5 Ikeja West/Akangba 330kV line 2 - 1 span.
- 6 Ikeja West/ Ilupeju 132kV lines 1 & 2 - 8 spans.
- 7 Akangba/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.
- 1 Jebba T/S 330kV Osogbo lines 1 & 2 and Ganmo line - 9 spans
- 2 Minna T/S 132kV Bida line - 32 spans
- 3 Apo T/S 132kV Keffi line - 36 spans
- 4 Shiroro T/S 330kV Jebba line 2 - 28 spans

**12 (G) UNAVAILABLE SYNCHROSCOPES :**

- 1 Benin, Ikeja West, Onitsha, Egbin, Uguwaji, Osogbo, Kaduna, Jos, Gwagwalada & Alaoji T/S.

**FOR MORE INFORMATION: NCC Telephone Lines -**

- a PAX 09/300, 309, 303 & 305.
- b NCC GSM - 08074888524, 08069379367, 08023572651 & 08051401331. CUG Nos. 08129458488, 08129458489, 08129929806; 08036665323.
- c PLS - 622
- d GM (NCC) -08036744641.
- e AGM (S/O) - 08066067487, CUG: 09021765320
- f Coordinator (S/O) - 08037868916, 08054353904, 08028332125, CUG Airtel 08129458481.
- g SYSTEM OPERATIONS WEB SITE: [www.nigeriasystemoperator.org](http://www.nigeriasystemoperator.org)