

TRANSMISSION COMPANY OF NIGERIA

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

DAILY OPERATIONAL REPORT OF WEDNESDAY 04/07/2018

FOR: EVENTS OF TUESDAY 03/07/2018

1.0 EXECUTIVE OPERATIONS SUMMARY:

1.1 GENERATION PROFILE: NATIONAL STATISTICS

DETAILS	MW	HRS	DATE
PEAK DEMAND FORECAST (CONNECTED + SUPPRESSED LOAD)	22,330	21:15	03/07/2018
GENERATION CAPABILITY	7311.3	-00-	-00-
UNITS ON BARK CAPABILITY AT PEAK	4901.8	-00-	-00-
PEAK GENERATION	4684.0	-00-	-00-
LOWEST GENERATION	3058.0	04:00	03/07/2018
8-HOURLY DURATION PEAK	3438.4	0100-0800	-00-
	3731.3	0900-1600	-00-
	4684	1700-2400	-00-
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	336	Omotosho T/S	09:00
LOWEST VOLTAGE FOR THE DAY	300	Gombe, Yola & Kumbotso T/S	01:00, 05:00 & 11:00

1.3 FREQUENCY RANGE

DETAILS	HZ	HRS
NOMINAL FREQUENCY	50	
STATUTORY LIMITS	49.75 - 50.25	
HIGHEST FREQUENCY	50.04	00:03
LOWEST FREQUENCY	49.55	19:39

1.4 SYSTEM COLLAPSE UP DATE

Year	No. of days since last total collapse: 25												Total
	Jan	Feb.	Mar.	Apr	May	Jun	Jul	Aug	Sep.	Oct	Nov	Dec	
2010	---	3	1	--	3	3	3	--	2	2	1	4	22
2011	---	--	--	1	1	3	4	4	3	2	--	1	20
2012	---	--	--	--	4	3	1	1	1	2	1	--	13
2013	---	1	1	--	--	--	--	--	1	2	2	--	6
2014	---	2	2	3	--	--	--	--	1	--	1	1	8
2015	---	1	2	2	3	4	1	1	1	1	4	2	22
2016	---	--	--	--	--	--	--	--	2	--	--	--	2
2017	2			2	0	3	1	0	0	1	0	0	9
2018			0	1	0	1	0	0	0	0	2	1	4
2015	1	0	1	0	2	0	1	0	0	0	1	0	6
2016	--	--	1	0	2	0	0	0	0	1	0	0	4
2017	--	--	2	3	6	5	0	0	1	1	2	2	22
2018	--	--	1	0	1	3	1	0	0	0	0	0	6
2017	5	3	0	3	1	1	0	0	1	1	1	1	15
2018	1	0	1	0	0	0	1	0	3	3			9
2018	5	1	0	0	0	1							7
2018	0	0	0	1	0								1

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

STATION	TURBINE	PEAK GEN. (MW)	OFF-PEAK GEN.(MW)
1 KAINJI	HYDRO	205	102
2 JEBBA	HYDRO	251	141
3 SHIRORO	HYDRO	381	187
4 EGBIN ST2 - 5	STEAM	452	499
5 SAPELE	STEAM	45	35
6 DELTA	GAS	577	366
7 AFAM IV-V	GAS	0	0
8 GEREGU GAS	GAS	290	120
9 OMOTOSHO GAS	GAS	173.2	174.9
10 OLORUNSOGO GAS	GAS	165	165.4
11 GEREGU NIPP	GAS	110	107
12 SAPELE NIPP	GAS	207.4	146.5
13 ALAOJI NIPP	GAS	0	0
14 OLORUNSOGO NIPP	GAS	0	0
15 OMOTOSHO NIPP	GAS	219.5	87.3
16 ODUKPAI NIPP	GAS	0	0
17 IHOVBOR NIPP	GAS	110.3	85.6
18 OKPAI	GAS	274	196
19 AFAM VI	GAS	287	111
20 IBOM POWER	GAS	111.4	71.1
21 ASCO	GAS	0	0
22 A.E.S	GAS	0	0
23 OMOKU	GAS	51.8	75.1
24 TRANS AMADI	GAS	50.2	53.1
25 RIVERS IPP	(GAS)	0	0
26 AZURA - EDO IPP	(GAS)	462	225
27 EGBIN ST6	(GAS)	111	110
28 PARAS ENERGY	(GAS)	71.8	0
29 GBARAIN NIPP	GAS	78.4	0
TOTAL		4684	3058

STATION	TURBINE	ENERGY GENERATED		ENERGY SENT OUT	
		MWH	MWH/H	MWH	MWH/H
1 KAINJI	HYDRO	3693.00	153.88	3676.40	153.18
2 JEBBA	HYDRO	4039.00	168.29	4021.68	167.57
3 SHIRORO	HYDRO	6163.00	256.79	6136.76	255.70
4 EGBIN ST2 - 5	STEAM	11593.00	483.04	10993.10	458.05
5 SAPELE	STEAM	856.30	35.68	810.50	33.77
6 DELTA	GAS	11179.31	465.80	11040.70	460.03
7 AFAM IV-V	GAS	0.00	0.00	0.00	0.00
8 GEREGU GAS	GAS	5418.00	225.75	5391.84	224.66
9 OMOTOSHO GAS	GAS	4142.00	172.58	4110.00	171.25
10 OLORUNSOGO GAS	GAS	3919.40	163.31	3891.12	162.13
11 GEREGU NIPP	GAS	2801.63	116.73	2788.75	116.20
12 SAPELE NIPP	GAS	3420.59	142.52	3402.05	141.75
13 ALAOJI NIPP	GAS	0.00	0.00	0.00	0.00
14 OLORUNSOGO NIPP	GAS	0.00	0.00	0.00	0.00
15 OMOTOSHO NIPP	GAS	3225.60	134.40	3183.00	132.63
16 ODUKPAI NIPP	GAS	0.00	0.00	0.00	0.00
17 IHOVBOR NIPP	GAS	2370.00	98.75	2352.74	98.03
18 OKPAI	GAS	5633.00	234.71	5563.90	231.83
19 AFAM VI	GAS	4405.58	183.57	4346.76	181.12
20 IBOM	GAS	1422.47	59.27	1414.00	58.92
21 ASCO	GAS	0.00	0.00	0.00	0.00
22 AZURA - EDO IPP	GAS	7786.80	324.45	7764.43	323.52
23 A.E.S	GAS	0.00	0.00	0.00	0.00
24 OMOKU	GAS	1534.20	63.93	1496.99	62.37
25 TRANS AMADI	GAS	1056.20	44.01	1034.30	43.10
26 RIVERS IPP	GAS	0.00	0.00	0.00	0.00
27 EGBIN ST6	STEAM	2608.00	108.67	2491.70	103.82
28 PARAS ENERGY	GAS	637.40	26.56	631.80	26.33
29 GBARAIN NIPP	GAS	640.80	26.70	629.10	26.21
TOTAL		88,545.28	3,689.39	87,171.62	3,632.15

1.7A GENERATION POSITION AT 06:00HRS OF WEDNESDAY 04/07/2018

	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, 11 & 12 3	340	195	1G5, 11 & 12 3	167	167	1G6 - Out on maintenance. 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. Generation reduced due to low gross operating head.
	JEBBA HYDRO	6	2G1 - 5 5	475	400	2G1, 2 & 5 3	253	253	2G3 & 4 - Out on water management. 2G6 - Out due to burnt generator winding and AVR. Generation reduced due to low gross operating head.
	SHIRORO HYDRO	4	411G 2 - 4 3	440	375	411G2 - 4 3	375	321	411G1 - Out due to synchronization problem. 411G4 - Generation reduced on frequency management.
	EGBIN STEAM	5	ST2 & 4 2	440	440	ST2 & 4 2	395	395	ST1 - Tripped on low pressure air differential. ST3 - Out on high vibration since 19th June 2017. ST5 - Out due to boiler tube leakage.
	SAPELE (STEAM)	6	ST2 1	120	48	ST2 1	48	48	ST1 - Shut down due to alarm on inlet gas guide control trouble. ST3 - Out on stator winding problem. ST4 & 5 - Awaiting major overhaul. ST6 - Out on gas control valve not following reference point.
	DELTA (GAS)	18	GT7, 9, 11 -13, 15, 16 & 18 - 20 10	615	615	GT7, 9, 11 - 13, 15 & 18 - 20 10	615	595	GT3 & 5 - Out due to generator winding fault. GT4 - Out on loss of excitation. GT10 - Out due to oil leakage on the unit. GT6, 8 & 14 - Out on major overhaul. GT17 - Tripped on bearing vibration than maximum.
	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. GT17 - Out due to technical issues. GT18 - Out on air blow valve not closing. GT19 & 20 - Awaiting major overhaul.
	GEREGU GAS	3	GT11 - 13 3	435	435	GT12 & 13 2	290	186	GT19 - Out due to gas constraint. GT12 & 13 - Generation reduced on frequency management.
	OMOTOSHO GAS	8	GT1 - 8 8	336	304	GT1, 2, 5 - 7 5	190	126.8	GT3, 4 & 8 - Out due to gas constraint. Generation reduced on frequency management.
	OLORUNSOGO GAS	8	GT1 - 8 8	336	304	GT1 - 4 & 6 5	190	127.8	GT5, 7 & 8 - Out due to gas constraint. Generation reduced on frequency management.
	GEREGU NIPP	3	GT21 - 23 3	435	435	GT22 3	145	129	GT21 & 23 - Out due to gas constraint.
	NIPP	SAPELE NIPP	4	GT1 & 3 2	225	225	GT1 & 3 2	225	152
ALAOJI NIPP GAS		4	GT1, 2 & 4 3	375	360	0 0	0	0	GT1, 2 & 4 - Out due to gas constraint. GT3 - Shut down due to lack of spare parts.
OLORUNSOGO NIPP		6	GT1 - 3 3	375	360	0 0	0	0	GT1 - 3 - Out due to gas constraint. GT4 - Out due to ignition failure and control relay failure alarm. ST13 & ST23 - Out on maintenance.
OMOTOSHO NIPP GAS		4	GT1, 2 & 4 3	375	360	GT2 & 4 2	240	209.9	GT1 - Out on frequency management. GT3 - Out due to oil leakage on the unit.
ODUKPANI NIPP		5	GT4 & 5 2	240	230	0 0	0	0	GT1 - Out on fault. GT2 - Out due to malfunctioning gas regulating valve. GT3 - Out on high air inlet differential pressure. GT4 & 5 - Shut down due to work on gas pipe line equipment.
IHOVBOR NIPP		4	GT1 & 3 2	225	225	GT3 1	106.8	106.8	GT1 - Out on frequency management. GT2 - Out on fault. GT3 - Manual adjustment to frequency. GT4 - Out on maintenance.
GBARAIN NIPP GAS		1	GT2 1	112.5	112.5	GT2 1	112.5	84.2	Available unit on bar.
OKPAI GAS/STEAM		3	GT11 & 12 2	300	300	GT11 & 12 2	300	250	ST18 - Out due to water shortage.
AZURA - EDO		3	GT11 - 13 3	461	461	GT11 - 13 3	461	343	GT13 - Generation reduced on frequency management.
AFAM VI GAS/STEAM		4	GT11 - 13 & ST10 4	650	640	GT12 & 13 2	300	237	GT11 & ST10 - Out due to gas constraint.
IPP	IBOM POWER GAS	3	GT3 1	115	115	GT3 1	115	76.1	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	2	0 0	0	0	0 0	0	0	ST1 - Shut down due to leakage in the furnace.
	OMOKU GAS	6	GT1, 2, 5 & 6 4	100	80	GT1, 2, 5 & 6 4	80	49.7	GT3 - Out due to gas leakage. GT4 - Awaiting major overhaul. Generation reduced due to load flow on Alaoji/Afam 132kV line 2.
	TRANS-AMADI	4	GT1, 2 & 4 3	75	60	GT1, 2 & 4 3	50.7	50.7	GT3 - Out on fault. Generation reduced due to load flow on Alaoji/Afam 132kV line 2.
	RIVERS	1	0 0	0	0	0 0	0	0	GT1 - Out on maintenance.
	SUB TOTAL	131	79	7600.5	7079.5	56	4659	3908	Frequency = 50.26Hz.

1.7B GENERATION POSITION AT 06:00HRS OF WEDNESDAY 04/07/2018 FOR UNITS ON BILATERAL AGREEMENT

		ST6				ST6		
		1	220			1	160	
EGBIN	1	1	220	160	1	160	160	Available unit on bar.
PARAS ENERGY	8	GT2 - 9 8	71	71	GT2 - 9 8	71	71	Available units on bar.
SUB TOTAL	9	9	291	231	9	231	231	
GRAND TOTAL	140	88	7891.5	7310.5	65	4,890.00	4,139.00	Frequency = 50.26Hz.

1.7C

BILATERAL AGREEMENT UNITS DISPATCH - TUESDAY 03/07/2018.
EGBIN ST6 120MW GENERATION TO IKEJA ELECTRICITY DISTRIBUTION COMPANY

FEEDERS NAME	MAX. LOAD (MW)	TIME (HRS)	MIN LOAD (MW)	TIME (HRS)	HRS IN SERVICE	TOTAL (MWH)	REMARK
U-STEEL	On	01:00			24		Nil
PTCEXPRESS	6	09:00			24		Nil
SANKYO	Out	Out			Out		Tripped on O/C & E/F
FEEDER 8	8	20:00			24		Nil
PULK IT	3	05:00			24		Nil
INDUSTRIAL	3	22:00			24		Nil
SPINTEX	3	22:00			24		Nil
DANGOTE	On	01:00			24		Nil
LAND CRAFT	17	22:00			24		Nil
TR4 15MVA	3.7	11:00			24		Nil
TR5 -15MVA	3.7	11:00			24		Nil
ALAUZA	8.4	08:00			24		Nil
PTC (MARYLAND)	9	18:00			24		Nil
TOTAL LOAD	64.8						

BILATERAL AGREEMENT LOAD DISPATCH
60MW PARAS ENERGY GENERATION TO CEB OF TUESDAY - 03/07/018

FEEDER	MAX LOAD (MW)	TIME (HRS)	MIN LOAD (MW)	TIME (HRS)	HOURS IN SERVICE	TOTAL (MWH)	REMARK
Ikeja West/Sakete 330kV line	71.8	20:00	68.6	16:00	09:00	1684.8	Out due to tripping of Ikorodu/Shagamu 132kV line.

BILATERAL AGREEMENT MAIN STREAM ENERGY KAINJI LOAD DISPATCH TO THE FOLLOWING COMPANIES OF: TUESDAY - 03/07/2018

COMPANY NAME	VOL-TAGE LEVEL	CON-TRAC-TUAL LOAD (MW)	MAX LOAD (MW)	TIME (HRS)	MIN LOAD (MW)	TIME (HRS)	HOURS IN SERVICE	TOTAL (MWH)	REMARK
INNER GALAXY	132kV line	25	36	10:00	16	06:00	24	690	SUPPLY NOT INTERRUPTED
KAM STEEL									
ASAKA CEMENT	33kV feeder	0	4.8	17:00	0.4	05:00	24	62.4	SUPPLY NOT INTERRUPTED
KAM INTEGRATED		15.0	1.2	11:00	0.4	03:00	24	15.0	SUPPLY NOT INTERRUPTED
OLAM FLOUR MILLS		3.0	2.4	15:00	0.8	05:00	24	36.1	SUPPLY NOT INTERRUPTED
LORDSMITH		3	0	0:00	0	0	0:00	0	E/F

1.8 HYDROLOGICAL DATA: WEDNESDAY 04/07/2018

	KAINJI	JEBBA	SHIRORO
HEAD WATER ELEVATION (METERS)	130.00	99.89	362.23
TAIL WATER ELEVATION (METERS)	101.95	73.30	270.50
GROSS OPERATING HEAD (METERS)	28.05	26.59	91.73
AVERAGE TURBINE DISCHARGE (M3/SEC)	552.00	723.00	315.00
AVERAGE SPILLAGE (M3/SEC)	0.00	0.00	0.00
AVERAGE TOTAL STATION DISCHARGE (M3/SEC)	552	723	315
COMPUTED INFLOW (M3/SEC)	59.00	793.00	970.00
STORAGE DIFFERENTIAL	-493.00	69	655
MAXIMUM LEVEL FOR SPILLAGE COMMENCEMENT	141.73	103	382.5
MINIMUM LEVEL BELOW WHICH NO GENERATION	129	99	355

1.9 MAXIMUM/ALLOCATED LOAD/MINIMUM LOADS FOR ABUJA AND LAGOS AS AT TUESDAY 03/07/2018

DISCO	MAXIMUM LOAD(MW)	TIME(HRS)	ALLOCATED LOAD (MW)	MINIMUM LOAD(MW)	TIME(HRS)
ABUJA	510.7	20:00	507.92	329	03:00
EKO	404.2	19:00	499.75	300	11:00
IKEJA	557	22:00	545.12	344.8	15:00

2.0 GAS POSITION: WEDNESDAY 04/07/2018

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)
EBBIN P/S	395	1100		555	545
DELTA (GAS)	595	915		615	390
OMOTOSHO GAS	126.8	336.8	190	146.8	146.8
OMOTOSHO NIPP	209.8	500	240	260	260
OLORUNSOGO (GAS)	127.8	336	190	146	146
OLORUNSOGO NIPP	0	750	0	750	750
SAPELE NIPP	152	500	225	275	275
SAPELE STEAM	48	720	48	672	672
AFAM IV-V	0	300	0	300	300
AFAM VI	237	650	300	350	350
GEREGU GAS	186	435	290	145	145
GEREGU NIPP	129	435	145	290	290
ORPANI (GAS/STEAM)	250	480	300	180	180
ALAOJI NIPP	0	504	0	504	504
IHOVBOR NIPP	106.8	450	106.8	343.2	343.2
IBOM	76.1	198	115	83	83
ODUKPANI NIPP	0	625	0	625	625
TOTAL	2639.3	9234.80		3319.8	5915

1 MMSCF IS EQUIVALENT TO 3.75MW

3.0 SPINNING RESERVE FOR : TUESDAY 03/07/2018

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

3.1 SYSTEM SPINNING RESERVE AS AT 0600HRS OF WEDNESDAY 04/07/2018 = 0MW, FREQUENCY 50.26Hz.

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

4.0 UNAVAILABLE GENERATION CAPABILITY

The unavailable generation capability for Wednesday 04/07/2018 as at 0600Hrs was = 2452.9MW.

S/NO	STATION	ACTUAL GENERATION CAPABILITY (MW)	GENERATION AT 0600HRS (MW)	UNAVAILABLE GENERATION CAPABILITY (MW)	SUB-TOTAL
4.1 DUE TO GAS CONSTRAINTS:					
1	Alaoji NIPP GT1, 2 & 4	360	0	360	1808
2	Olorunsogo Gas GT5, 7 & 8	114	0	114	
3	Geregu NIPP GT21 & 23	290	0	290	
4	Alam VI GT11 & ST10	340	0	340	
5	Olorunsogo NIPP GT1 - 3	360	0	360	
6	Odukpani NIPP GT4 & 5	230	0	230	
7	Omotosho Gas GT3, 4 & 8	114	0	114	
				0	
				0	
				0	
				0	
				0	
				0	
				0	
				0	
				0	
IT IS ENVISAGED WITH IMPROVED PLANT AVAILABILITY AND RELIEF FROM EXISTING POWER SYSTEM NETWORK RELATED CONSTRAINTS, ADDITIONAL 1577.33MMSCF OF GAS (EQUIVALENT TO \$915MW WILL BE REQUIRED WHEN ALL THERMAL UNITS ARE ON BAR.					
4.2 DUE TO LINE CONSTRAINTS					
1	Ibom Power GT3	115	76.1	38.9	38.9
				0	
				0	
				0	
4.3 DUE TO FREQUENCY MANAGEMENT OCCASIONED BY DISCOS' LOAD DEMAND					
1				0	446
2	Omotosho NIPP GT1	120	0	120	
3	Shiroro 411G4	125	55	70	
4	Azura-Ede GT13	152	75	77	
5	Ihovbor NIPP GT1	75	0	75	
6	Geregu Gas GT12 & 13	290	186	104	
				0	
				0	
				0	
				0	
				0	
				0	
				0	
4.4 DUE TO WATER MANAGEMENT					
1	Jebba 2G3 & 4	160	0	160	160
				0	
Grand Total					2452.9

5.0 **OUTAGES:**

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

- 1 06:28Hrs, Trans-Amadi GTs 2 & 4 tripped on reverse power due to tripping of Alaoji/Afam 132kV line 2. Total LHR = 40.5MW
10:38Hrs, GT2 was tied, 10:29Hrs, GT4 was tied.
- 2 06:28 -06:59Hrs, Omoku P/S GT6 tripped on system surge. LHR = 21.2MW
- 3 10:34Hrs, Sapele NIPP GTs 1 & 3 tripped on reverse power while opening Sapele/Delta 330kV line (cct S4G) for planned outage. LHR = 87.7MW & 64.6MW respectively.
11:08Hrs, GT1 was tied & 19:55Hrs GT3 was tied.
- 4 10:56Hrs, Omoku P/S GTs 1, 2, 5 & 6 tripped on reverse power due to tripping of Alaoji/Afam 132kV line 2. Total LHR = 78.8MW. 12:15Hrs, GT2 was tied, 12:18Hrs, GT5 was tied, 12:23Hrs, GT6 was tied, 12:25Hrs, GT1 was tied.
- 5 10:56Hrs, Trans-Amadi GTs 1, 2 & 4 tripped on reverse power due to tripping of Alaoji/Afam 132kV line 2. Total LHR = 60.5MW
12:32Hrs, GT2 was tied, 12:35Hrs, GT4 was tied, 12:42Hrs, GT1 was tied.

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

- 1 07:00 - 09:10Hrs, Benin/Irua 132kV line CB tripped at Benin T/S on E/F, FCT-21.2ms phase C, location = 50.2km. LHR = 21MW
- 2 06:28 – 06:45Hrs, Alaoji/Afam 132kV line 2 CB tripped at Alaoji T/S on Micom relay: O/C Red & Blue phases, L1, L2, L1>L2. LHR = 36MW
- 3 10:56 – 11:34Hrs, Alaoji/Afam 132kV line 2 CB tripped at Alaoji T/S on Ohmega relay: zone 1, zone 2, phases A & B. LHR = 24MW

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

- 1 10:34 - 16:38Hrs, Sapele/Delta 330kV line (cct S4G) was taken out to disconnect three phases jumpers at tower #139. No load loss as cct G3B was in service.
- 2 11:50 – 15:40Hrs, Akoka T/S 45MVA 132/33kV transformer TR1 was taken out to enable the maintenance crew carry out annual preventive maintenance on the transformer and its associated equipment. Load loss = 10MW.

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

- 1 07:12 through 24:00Hrs, Delta GT10 was shut down due to oil leakage. Load loss = 10MW

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

10 **COMMUNICATION MEDIA**

STATIONS	NO INSTALLED	NO. WORKING
PLC/PAX	37	21
OPTIC FIBRE	13	6
PLS	14	0

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

- The under mentioned line was opened on frequency control.
- 1 19:23 – 19:26Hrs & 19:28 - 19:42Hrs, Osogbo/Akure/Ado-Ekiti 132kV line. Load loss = 35MW & 34MW respectively. Frequency was 49.70Hz & 49.69Hz respectively.

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

- 5 (G) **330KV LINES THAT ARE OUT ON VOLTAGE CONTROL:-** ccts A1K, U1A & A1S.

5 (H) **330KV LINES THAT ARE OUT ON BREAKER PROBLEM:- NIL.**

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

5 (J) **330KV LINES THAT ARE OUT ON LINE FAULT:-** ccts K4U, J2H & S5B.

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

6 **WEATHER REPORT:-** Rainfall was reported at Port Harcourt.

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

Maximum load - 289MW at 20:00Hrs.
Minimum load - 220MW at 08:00Hrs.

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

Maximum load - 105.0MW at 24:00Hrs.
Minimum load - 75.0MW at 07:00Hrs.

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

Maximum load - 37.9MW at 20:00Hrs.
Minimum load - 21.1MW at 09:00Hrs.

8 **MISCELLANEOUS:-**

- 1 00:11 - 18:53Hrs, Jebba 2G2 was shut down on water management. Load loss = 62MW.
- 2 00:39 - 19:24Hrs, Delta GT16 was shut down on frequency management. Load loss = 67MW.
- 3 01:55 - 15:27Hrs, Afam VI GT12 was shut down on frequency management. Load loss = 110MW.
- 4 08:47 – 10:39Hrs, Jebba 2G5 was shut down on water management. Load loss = 71MW.
- 5 17:05Hrs, Akangba/Ijora 132kV line 1 was restored. The line tripped at 16:32Hrs of 29/06/2018.
- 6 18:31Hrs, Shiroro 411G3 was tied. The unit was out on maintenance.
- 7 19:03Hrs, Ajah T/S 100MVA 132/33kV transformer T7 was restored. The transformer tripped at 06:50Hrs of 01/07/2017
- 8 09:15 – 20:30Hrs, Ibom Power GT3 went on island operation to feed Eket, Itu & Uyo due to ongoing job on ccts K1U & K2U. LHR = 50.3MW.

***** **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 **SCADA RTU STATUS**

STATIONS	NO. INSTALLED	NO OF RTU DISTURBED	NO OF RTU WORKING
POWER STATIONS	8	6	2
330kV	19	11	8
132kV	102	90	12

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 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.

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 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

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

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/Osobgo 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 Benin, Ikeja West, Onitsha, Egbin, Uguwaji, Osogbo, Kaduna, Jos, Gwagwalada & Alaaji T/S.

FOR MORE INFORMATION: NCC Telephone Lines -

- PAX 09/300, 309, 303 & 305.
- NCC GSM - 08074888524, 08069379367, 08023572651 & 08051401331. CUG Nos. 08129458488, 08129458489, 08129429896, 08036865323.
- PLS - 622
- GM (NCC) - 08036744641.
- AGM (S/O) - 08056002757, CUG: 08129458475

