

TRANSMISSION COMPANY OF NIGERIA

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

DAILY OPERATIONAL REPORT OF TUESDAY 10/07/2018

FOR: EVENTS OF MONDAY 09/07/2018

1.0 EXECUTIVE OPERATIONS SUMMARY:

1.1 GENERATION PROFILE: NATIONAL STATISTICS

DETAILS	MW	HRS	DATE
PEAK DEMAND FORECAST (CONNECTED + SUPPRESSED LOAD)	22,330	20:00	09/07/2018
GENERATION CAPABILITY	7500.7	-do-	-do-
UNITS ON BAR CAPABILITY AT PEAK	5108.6	-do-	-do-
PEAK GENERATION	4651.8	-do-	-do-
LOWEST GENERATION	3197.7	03:00	09/07/2018
8-HOURLY DURATION PEAK	3848.1	0100-0800	-do-
	4033.8	0900-1600	-do-
	4651.8	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	359	Omotosho T/S	01:00
LOWEST VOLTAGE FOR THE DAY	300	Kumbotso T/S	12:00

1.3 FREQUENCY RANGE

DETAILS	HZ	HRS
NOMINAL FREQUENCY	50	
STATUTORY LIMITS	49.75 - 50.25	
HIGHEST FREQUENCY	50.63	23:59
LOWEST FREQUENCY	48.75	05:14

1.4 SYSTEM COLLAPSE UP DATE

Date of last total collapse: 8th July, 2018		No. of days since last total collapse: 02												
Date of last partial collapse: 12 th April, 2018		No. of days since last partial collapse: 84												
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
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	0	3	1	0	0	1	0	0	9
	Partial			0	0	1	0	0	0	0	0	2	1	4
2015	Total	1	0	1	0	2	0	1	0	0	0	1	0	6
	Partial	--	--	1	0	2	0	0	0	0	1	0	0	4
2016	Total	--	--	2	3	6	5	0	0	1	1	2	2	22
	Partial	--	--	1	0	1	3	1	0	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						8
	Partial	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	179	109		
2 JEBBA	HYDRO	323	143		
3 SHIRORO	HYDRO	402	392		
4 EGBIN ST2 - 5	STEAM	545	71		
5 SAPELE	STEAM	0	0		
6 DELTA	GAS	533	514		
7 AFAM IV-V	GAS	73	0		
8 GEREGU GAS	GAS	139	126		
9 OMOTOSHO GAS	GAS	170.6	175.8		
10 OLORUNSOGO GAS	GAS	161.9	169.5		
11 GEREGU NIPP	GAS	129	115		
12 SAPELE NIPP	GAS	181.9	168.6		
13 ALAOJI NIPP	GAS	0	0		
14 OLORUNSOGO NIPP	GAS	224.4	112.7		
15 OMOTOSHO NIPP	GAS	210.2	192.6		
16 ODUKPANI NIPP	GAS	0	0		
17 IHOVBOR NIPP	GAS	104.7	81.1		
18 OKPAI	GAS	178	113		
19 AFAM VI	GAS	135	117		
20 IBOM POWER	GAS	103.4	80.6		
21 ASCO	GAS	0	0		
22 A.E.S	GAS	0	0		
23 OMOKU	GAS	77.6	70.6		
24 TRANS AMADI	GAS	43.7	42.4		
25 RIVERS IPP	(GAS)	0	0		
26 AZURA - EDO IPP	(GAS)	409	125		
27 EGBIN ST6	(GAS)	162	110		
28 PARAS ENERGY	(GAS)	70.2	69.4		
29 GBARAIN NIPP	GAS	96.2	99.4		
TOTAL		4651.8	3197.7		
1.6 ENERGY GENERATED/ENERGY SENT OUT:					
STATION	TURBINE	ENERGY GENERATED		ENERGY SENT OUT	
		MWH	MWH/H	MWH	MWH/H
1 KAINJI	HYDRO	3116.00	129.83	3099.70	129.15
2 JEBBA	HYDRO	3824.00	159.33	3802.80	158.45
3 SHIRORO	HYDRO	7728.00	322.00	7698.30	320.76
4 EGBIN ST2 - 5	STEAM	10078.00	419.92	9447.50	393.65
5 SAPELE	STEAM	0.00	0.00	0.00	0.00
6 DELTA	GAS	12248.64	510.36	11922.20	496.76
7 AFAM IV-V	GAS	938.00	39.08	933.69	38.90
8 GEREGU GAS	GAS	3630.50	151.27	3605.67	150.24
9 OMOTOSHO GAS	GAS	4096.00	170.67	4064.90	169.37
10 OLORUNSOGO GAS	GAS	3924.67	163.53	3895.79	162.32
11 GEREGU NIPP	GAS	2793.75	116.41	2780.52	115.86
12 SAPELE NIPP	GAS	4339.94	180.83	4315.01	179.79
13 ALAOJI NIPP	GAS	0.00	0.00	0.00	0.00
14 OLORUNSOGO NIPP	GAS	3930.40	163.77	3886.80	161.95
15 OMOTOSHO NIPP	GAS	4638.60	193.28	4604.70	191.86
16 ODUKPANI NIPP	GAS	0.00	0.00	0.00	0.00
17 IHOVBOR NIPP	GAS	2150.00	89.58	2126.37	88.60
18 OKPAI	GAS	3199.00	133.29	3123.90	130.16
19 AFAM VI	GAS	3128.88	130.37	3066.42	127.77
20 IBOM	GAS	1924.93	80.21	1916.00	79.83
21 ASCO	GAS	0.00	0.00	0.00	0.00
22 AZURA - EDO IPP	GAS	6683.70	278.49	6667.00	277.79
23 A.E.S	GAS	0.00	0.00	0.00	0.00
24 OMOKU	GAS	1864.00	77.67	1825.81	76.08
25 TRANS AMADI	GAS	991.80	41.33	969.80	40.41
26 RIVERS IPP	GAS	0.00	0.00	0.00	0.00
27 EGBIN ST6	STEAM	3415.00	142.29	3226.90	134.45
28 PARAS ENERGY	STEAM	1686.30	70.26	1680.70	70.03
29 GBARAIN NIPP	GAS	2105.60	87.73	2089.90	87.08
TOTAL		92,435.71	3,851.49	90,750.38	3,781.27

1.7A GENERATION POSITION AT 06:00HRS OF TUESDAY 10/07/2018

	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	195	140	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	2G5 1	80	73	2G1 - Out on frequency management. 2G2 - 4 - Out on water management. 2G6 - Out due to burnt generator winding and AVR.
	SHIRORO HYDRO	4	411G1 - 3 3	440	375	411G1 - 3 3	375	259	411G2 & 3 - Generation reduced on frequency management. 411G4 - Out on maintenance.
	EGBIN STEAM	5	ST1, 2 & 4 3	660	407	ST1, 2 & 4 3	487	407	ST3 - Out on high vibration since 19th June 2017. ST5 - Out due to boiler tube leakage. Generation reduced on frequency management.
	SAPELE (STEAM)	6	0 0	0	0	0 0	0	0	ST1 - Shut down due to alarm on inlet gas guide control trouble. ST2 - Not yet tied after System collapse of 08/07/2018. 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 - 13, 15, 16 & 18 - 20 11	635	635	GT7, 9 - 13, 15, 18 & 20 9	435	427	GT3 & 5 - Out due to generator winding fault. GT4 - Out on loss of excitation. GT6, 8 & 14 - Out on major overhaul. GT16 & 19 - Out on frequency management. GT17 - Tripped on bearing vibration than maximum.
	AFAM IV & V (GAS)	8	GT18 1	75	75	GT18 1	75	75	GT1 - 12 - De-commissioned and scrapped. GT13 -16 - Out on blade failure. GT17 - Out due to technical issues. GT19 & 20 - Awaiting major overhaul.
	GEREGU GAS	3	GT11 - 13 3	435	435	GT11 & 12 2	290	168	GT11 & 12 - Generation reduced on frequency management. GT13 - Out due to gas constraint.
	OMOTOSHO GAS	8	GT1 - 8 8	336	304	GT1, 2, 5 - 7 5	190	138.5	GT3, 4 & 8 - Out due to gas constraint. Generation reduced on frequency management.
	OLORUNSOGO GAS	8	GT1 - 8 8	336	304	GT1, 4 - 6 & 8 5	190	133.5	GT2, 3 & 7 - Out due to gas constraint. GT1, 4, 6 & 8 - Generation reduced on frequency management.
NIPP	GEREGU NIPP	3	GT21 - 23 3	435	435	GT22 1	145	82	GT21 & 23 - Out due to gas constraint. GT22 - Generation reduced on frequency management.
	SAPELE NIPP	4	GT1 & 3 2	225	225	GT1 & 3 2	225	140.8	GT1 - On frequency response. GT2 - Out due to high air inlet differential pressure. GT3 - Generation reduced due to filter problem. GT4 - Out due to high inlet differential pressure.
	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	GT1 & 3 2	240	120.6	GT1 & 3 - Generation reduced on frequency management. GT2 - 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	191.3	GT1 - Out due to gas constraint. 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	79.1	79.1	GT1 - Out due to gas constraint. 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	80.5	Available unit on bar.
IPP	OKPAI GAS/STEAM	3	GT11 & 12 2	300	300	GT11 & 12 2	300	158	GT11 - Generation reduced on frequency management. ST18 - Out due to water shortage.
	AZURA - EDO	3	GT11 - 13 3	461	461	GT11 - 13 3	461	225	GT11 13 - Generation reduced on frequency management.
	AFAM VI GAS/STEAM	4	GT11 - 13 & ST10 4	650	640	GT12 & 13 2	300	193	GT11 & ST10 - Out due to gas constraint. GT12 - Generation reduced on frequency management.
	IBOM POWER GAS	3	GT3 1	115	115	GT3 1	115	71.8	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	78.4	GT3 - Out due to gas leakage. GT4 - Awaiting major overhaul.
	TRANS-AMADI	4	GT1, 2 & 4 3	75	60	GT1 & 2 2	42.3	42.3	GT3 - Out on fault. GT4 - Out due to gas constraint.
	RIVERS	1	0 0	0	0	0 0	0	0	GT1 - Out on maintenance.
	SUB TOTAL	131	81	7795.5	7093.5	55	4656.9	3283.8	Frequency = 50.44Hz.

1.7B GENERATION POSITION AT 06:00HRS OF TUESDAY 10/07/2018 FOR UNITS ON BILATERAL AGREEMENT

EGBIN	1	ST6 1	220	151	ST6 1	151	151	Available unit on bar.
PARAS ENERGY	8	GT2 - 9 8	70.2	70.2	GT2 - 9 8	70.2	70.2	Available units on bar.
SUB TOTAL	9	9	290.2	221.2	9	221.2	221.2	
GRAND TOTAL	140	90	8085.7	7314.7	64	4,878.10	3,505.00	Frequency = 50.44Hz.

1.7C BILATERAL AGREEMENT UNITS DISPATCH - MONDAY 09/07/2018.

EGBIN ST6 120MW GENERATION TO IKEJA ELECTRICITY DISTRIBUTION COMPANY

FEDERS NAME	MAX. LOAD (MW)	TIME (HRS)	MIN LOAD (MW)	TIME (HRS)	HRS IN SERVICE	TOTAL (MWH)	REMARK
OGBA	U-STEEL	2	0900hrs		24		NIL
	PTCEXPRESS	9	1700hrs		24		NIL
	SANKYO	OUT	OUT		OUT		OUT ON FAULT
	FEEDER 8	16	1400hrs		24		NIL
IKORODU	PULK IT	3	0200hrs		24		NIL
	INDUSTRIAL	26	200hrs		17		additional apparatus FOR SAFE WORKING SPACE
	SPINTEX	3	1700hrs		9		Out DUE TO BROKEN H.T POLE ON THE LINE
	DANGOTE	ON	0100hrs		24		NIL
	LAND CRAFT	14	2000hrs		24		NIL
ALAUSA	TR4 15MVA	6.4	1700hrs		24		NIL
	TR5 -15MVA	3.7	0100hrs		24		NIL
	ALAUSA	13.3	0900hrs		24		NIL
M/LAND	PTC (MARYLAND)	16 MW	1200HRS		23		NIL
	TOTAL LOAD	96.4					

BILATERAL AGREEMENT LOAD DISPATCH
60MW PARAS ENERGY GENERATION TO CEB OF MONDAY 09/07/018

FEEDER	MAX LOAD (MW)	TIME (HRS)	MIN LOAD (MW)	TIME (HRS)	HOURS IN SERVICE	TOTAL (MWH)	REMARK
Ikeja West/Sakete 330kV line	71.8	10:00	68.6	22:00	24	895	NIL

BILATERAL AGREEMENT MAIN STREAM ENERGY KAINJI LOAD DISPATCH TO THE FOLLOWING
COMPANIES OF: MONDAY 09/07/2018

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	21:00	2.0	19:00	24	428	SUPPLY NOT INTERRUPTED
KAM STEEL		15.0							NOT COMMISSIONED
ASAKA CEMENT		0	9.1	20:00	4.0	08:00	24	156.4	SUPPLY NOT INTERRUPTED
KAM INTEGRATED	33kV feeder	15.0	4.3	14:00	1.5	04:00	24	61.7	SUPPLY NOT INTERRUPTED
OLAM FLOUR MILLS		3.0	2.3	16:00	0.9	04:00	24	26.8	SUPPLY NOT INTERRUPTED
LORDSMITH		3	0.1	01:00	0.1	08:00	14	1.4	E/F

1.8 HYDROLOGICAL DATA: TUESDAY 10/07/2018

	KAINJI	JEBBA	SHIRORO
HEAD WATER ELEVATION (METERS)	130.44	100.02	363.45
TAIL WATER ELEVATION (METERS)	101.98	72.80	270.40
GROSS OPERATING HEAD (METERS)	28.46	27.22	93.05
AVERAGE TURBINE DISCHARGE (M3/SEC)	466.00	717.00	389.00
AVERAGE SPILLAGE (M3/SEC)	0.00	0.00	0.00
AVERAGE TOTAL STATION DISCHARGE (M3/SEC)	466	717	389
COMPUTED INFLOW (M3/SEC)	1288.00	717.00	1067.00
STORAGE DIFFERENTIAL	822.00	0	678
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 MONDAY 09/07/2018

DISCO	MAXIMUM LOAD(MW)	TIME(HRS)	ALLOCATED LOAD (MW)	MINIMUM LOAD(MW)	TIME(HRS)
ABUJA	475.6	11:00	475.6	197.9	21:00
EKO	447.6	21:00	447.6	264.4	10:00
IKEJA	565.2	22:00	559.52	340.9	10:00

2.0 GAS POSITION: TUESDAY 10/07/2018

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)
EGBIN P/S	376	1100		487	613
DELTA (GAS)	420	915		435	480
OMOTOSHO GAS	143	336.8		190	146.8
OMOTOSHO NIPP	148.9	500		240	260
OLORUNSOGO (GAS)	138.2	336		190	146
OLORUNSOGO NIPP	0	750		240	510
SAPELE NIPP	129.9	500		225	275
SAPELE STEAM	50	720		0	720
AFAM IV-V	75	300		75	225
AFAM VI	104	650		300	350
GEREGU GAS	180	435		290	145
GEREGU NIPP	100	435		145	290
OKPAI(GAS/STEAM)	185	480		300	180
ALAOJI NIPP	0	504		0	504
IHOVBOR NIPP	75.7	450		79.1	370.9
IBOM	77.6	198		115	83
ODUKPANI NIPP	0	625		0	625
TOTAL	2203.3	9234.80		3311.1	5923.7

1 MMSCF IS EQUIVALENT TO 3.75MW

3.0 SPINNING RESERVE FOR : MONDAY 09/07/2018

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

3.1 SYSTEM SPINNING RESERVE AS AT 0600HRS OF TUESDAY 10/07/2018 = 0MW. FREQUENCY 50.44Hz.

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	
TOTAL (MW)			295	0	0

4.0 UNAVAILABLE GENERATION CAPABILITY

The unavailable generation capability for Tuesday 10/07/2018 as at 0600Hrs was = 3580.6MW.

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	1928	
2	Olorunsogo Gas GT2, 3 & 7	114	0	114		
3	Geregu NIPP GT21 & 23	290	0	290		
4	Afam VI GT11 & ST10	340	0	340		
5	Olorunsogo NIPP GT2	120	0	120		
6	Odukpani NIPP GT4 & 5	230	0	230		
7	Omotosho Gas GT3, 4 & 8	114	0	114		
8	Geregu Gas GT13	145	0	145		
9	Trans Amadi GT4	20	0	20		
10	Omotosho NIPP GT1	120	0	120		
11	Ihovbor NIPP GT1	75	0	75		
				0		
				0		
				0		
4.2 DUE TO LINE CONSTRAINTS						
1	Ibom Power GT3	115	71.8	43.2	43.2	
				0		
				0		
4.3 DUE TO FREQUENCY MANAGEMENT OCCASIONED BY DISCOS' LOAD DEMAND						
1	Okpai GT11	150	50	100	1289.4	
2	Geregu Gas GT11 & 12	290	168	122		
3	Jebba 2G1	80	0	80		
4	Afam VI GT12	150	80	70		
5	Azura Edo GT11 - 13	461	225	236		
6	Shiroro 411G2 & 3	250	119	131		
7	Egbin ST1, 2 & 4	487	407	80		
8	Delta GT16 & 19	180	0	180		
9	Omotosho Gas GT1, 2 & 5 - 7	190	138.5	51.5		
10	Olorunsogo Gas GT1, 4 - 6 & 8	190	133.5	56.5		
11	Geregu NIPP GT22	145	82	63		
12	Olorunsogo NIPP GT1 & 3	240	120.6	119.4		
				0		
				0		
4.4 DUE TO WATER MANAGEMENT						
1	Jebba 2G2 - 4	320	0	320	320	
				0		
Grand Total					3580.6	

5.0 OUTAGES:

5 (A) FORCED OUTAGES (GENERATION):-

- 1 02:32 – 05:40Hrs, Egbin ST4 tripped on load limiter set control. LHR = 49MW.
- 2 05:13 – 11:02Hrs, Azura-Edo GT11 tripped on low gas temperature. LHR = 125MW.
- 3 06:15 – 11:11Hrs, Delta GT15 tripped on low gas temperature. LHR = 108MW.
- 4 08:05 - 20:01Hrs, Geregu Gas GT12 tripped due to low gas pressure. LHR = 114MW.

5(B) FORCED OUTAGES (TRANSMISSION):-

- 1 14:22 – 14:42Hrs, New Haven/Yandev 132kV line CB tripped at New Haven T/S on distance protection relay O/C starting JR, JS, JT auxiliary starting R, S, T neutral M zone 2, FCT – 0.35sec, back up relay instantaneous O/C 3-Phases and instantaneous E/F. Load loss = 4.2MW.
- 2 14:58 – 15:14Hrs, New Haven/Yandev 132kV line CB tripped at New Haven T/S on distance protection relay O/C starting JT auxiliary starting T neutral M zone 2, backup relay instantaneous O/C Blue Phase. Load loss = 0.01MW.
- 3 18:04 – 18:55Hrs, Olorunsogo T/S 125MVA 11/330kV transformer T3 secondary CB tripped on inter posing relay. LHR = 110.8MW.
- 4 15:17 – 15:47Hrs, Calabar T/S 60MVA 132/33kV transformer T1 primary CB tripped on O/C Yellow Phase. LHR = 11.7MW.

5 (C) PLANNED OUTAGES:- NIL

5(D) URGENT OUTAGES:-

- 1 08:17 through 24:00Hrs, Ikeja West T/S 330kV 75MX Reactor R2 was taken out due to oil leakage.
- 2 10:20 – 14:15Hrs, Owerri T/S 60MVA 132/33kV transformer TR1 was taken out to treat hot spot on the Yellow Phase secondary down dropper to the bus bar. No load loss as the transformer was on soak.
- 3 14:20 – 14:57Hrs, Shiroro/Katampe 330kV line (cct R4B) CB was taken out to build up low SF6 gas pressure to normal at Shiroro T/S. No load loss as the tie CB was in service.

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	27
OPTIC FIBRE	13	8
PLS	14	0

5 (E) EMERGENCY OUTAGES:-

The under mentioned lines were opened on frequency control.

- 1 05:14 – 05:26Hrs, Ayede/Jericho 132kV line. Load loss = 25MW. Frequency was 48.75Hz.
- 2 05:14 – 05:26Hrs, Ayede/McPherson/Shagamu 132kV line. Load loss = 30MW. Frequency was 48.75Hz.
- 3 05:14 – 05:29Hrs, Ayede/Ibadan North/Iwo/Iseyin 132kV line. Load loss = 50MW. Frequency was 48.75Hz.

5 (F) AUTOMATIC UNDER FREQUENCY OPERATION:-

- 1 05:13 – 05:36Hrs, Akangba T/S 60MVA 132/33kV transformer 10T1A secondary CB. LHR = 14MW.
- 2 05:14 – 05:19Hrs, Alaoji/Umuahia 132kV line 1 CB. LHR = 16MW.
- 3 05:14 – 05:29Hrs, Shagamu/Ijebu-Ode 132kV line CB. LHR = 8MW.
- 4 05:14 – 05:30Hrs, Iseyin T/S 45MVA 132/33kV transformer T1 secondary CB. LHR = 6MW.
- 5 05:14 – 05:40Hrs, Mando T/S 3 x 60MVA transformers T1, T2 & T3 CBs. Total LHR = 39.5MW.

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 Kano & Kaduna.

7 INTERNATIONAL LINES:-

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

Maximum load - 288MW at 21:00Hrs.
Minimum load - 118MW at 01:00Hrs.

B BIRNIN KEBBI/NIAMEY 132KV LINE

Maximum load - 107.0MW at 23:00Hrs.
Minimum load - 81.0MW at 07:00Hrs.

C KATSINA/GAZAOUA/MARADI 132KV LINE

Maximum load - 36.1MW at 22:00Hrs.
Minimum load - 21.3MW at 19:00Hrs.

8 MISCELLANEOUS:-

- 1 00:46Hrs, Egbin ST4 was tied. The unit was out due to system collapse of 08/07/2018.
- 2 02:03 – 05:34Hrs, Jebba 2G2 was shut down on water management. Load loss = 70MW.
- 3 03:05Hrs, Egbin ST2 was tied. The unit was out due to system collapse of 08/07/2018.
- 4 04:11 – 05:40Hrs, Jebba 2G5 was shut down on water management. Load loss = 70MW.
- 5 04:12Hrs, Azura-Edo GT12 was tied. The unit was out due to system collapse of 08/07/2018.
- 6 05:41 - 10:36Hrs, Jebba 2G2 was shut down. No load loss as 70MW was transferred to 2G5.
- 7 06:36 - 14:48Hrs, Jebba 2G5 was shut down on water management. Load loss = 63MW.
- 8 07:36Hrs, Lokoja/Gwagwalada 330kV line 2 (cct L7G) was restored. The line was out due to system collapse of 08/07/2018.
- 9 07:37Hrs, Jebba T/S 75MX 330kV Reactor R2 was switched on for voltage control. V/P = 340/338kV.
- 10 07:39Hrs, Jebba/Shiroro 330kV line 1 (cct J7R) was restored. The line was out due to system collapse of 08/07/2018.
- 11 11:06Hrs, Olorunsogo NIPP GT3 was tied. The unit was out due to gas constraint.
- 12 11:41Hrs, Afam IV GT18 was tied. The unit tripped on loss of excitation.

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	89	13

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.

- 13 12:58Hrs, Kainji 1G11 was tied. The unit was out due to system collapse of 08/07/2018.
- 14 14:49 - 18:35Hrs, Jebba 2G2 was shut down. No load loss as 70MW was transferred to 2G5.
- 15 16:15 through 24:00Hrs, Ikeja West T/S 330kV 75MX Reactor R1 was switched off on voltage control. V/P = 315/317kV.
- 16 18:57Hrs, 330kV cct H2U was restored. The line was out due to system collapse of 08/07/2018.
- 17 20:50 through 24:00Hrs, Jebba 2G2 was shut down on water management. Load loss = 65MW.
- 18 20:52Hrs, Afam 6 GT12 was tied. The unit was out on frequency management.
- 19 22:43 through 24:00Hrs, Jebba 2G3 was shut down on frequency management. Load loss = 63MW.

***** **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.**

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/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 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 & 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

