

TRANSMISSION COMPANY OF NIGERIA

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

DAILY OPERATIONAL REPORT OF SATURDAY 07/07/2018

FOR: EVENTS OF FRIDAY 06/07/2018

1.0 EXECUTIVE OPERATIONS SUMMARY:

1.1 GENERATION PROFILE: NATIONAL STATISTICS

DETAILS	MW	HRS	DATE
PEAK DEMAND FORECAST (CONNECTED + SUPPRESSED LOAD)	22,330	22:00	06/07/2018
GENERATION CAPABILITY	7432.3	-00-	-00-
UNITS ON BARK CAPABILITY AT PEAK	4753.6	-00-	-00-
PEAK GENERATION	4447.9	-00-	-00-
LOWEST GENERATION	3141.6	05:00	06/07/2018
8-HOURLY DURATION PEAK	3442.8	0100-0800	-00-
	4034.3	0900-1600	-00-
	4447.9	1700-2400	-00-
PEAK GENERATION TO DATE	5222.3	21:00	18/12/2017
MAXIMUM AVAILABLE CAPACITY TO DATE	7652.6	08:00	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	354	Omotosho T/S	01:00
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	50.75	07:43
LOWEST FREQUENCY	49.85	20:20

1.4 SYSTEM COLLAPSE UP DATE

Date of last total collapse: 8th June, 2018		No. of days since last total collapse: 28												
Date of last partial collapse: 12th April, 2018		No. of days since last partial collapse: 81												
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	1	0	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							7
	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	175	82
2 JEBBA	HYDRO	244	75
3 SHIRORO	HYDRO	391	256
4 EGBIN ST2 - 5	STEAM	406	366
5 SAPELE	STEAM	48	39
6 DELTA	GAS	581	366
7 AFAM IV-V	GAS	74	75
8 GEREGU GAS	GAS	140	140
9 OMOTOSHO GAS	GAS	171.5	127.1
10 OLORUNSOGO GAS	GAS	166.3	134.6
11 GEREGU NIPP	GAS	123	104
12 SAPELE NIPP	GAS	219	124.8
13 ALAOJI NIPP	GAS	0	0
14 OLORUNSOGO NIPP	GAS	0	0
15 OMOTOSHO NIPP	GAS	218.6	148.6
16 ODUKPANI NIPP	GAS	0	0
17 IHOVBOR NIPP	GAS	95.3	82.3
18 OKPAI	GAS	255	188
19 AFAM VI	GAS	134	103
20 IBOM POWER	GAS	107.3	83.6
21 ASCO	GAS	0	0
22 A.E.S	GAS	0	0
23 OMOKU	GAS	79.2	65.5
24 TRANS AMADI	GAS	483	45.4
25 RIVERS IPP	(GAS)	0	0
26 AZURA - EDO IPP	(GAS)	417	225
27 EGBIN ST6	(GAS)	195	160
28 PARAS ENERGY	(GAS)	71.8	69.4
29 GBARAIN NIPP	GAS	87.4	81.3
TOTAL		4447.9	3141.6

1.6 ENERGY GENERATED/ENERGY SENT OUT:		ENERGY GENERATED		ENERGY SENT OUT	
STATION	TURBINE	MWH	MWH/H	MWH	MWH/H
1 KAINJI	HYDRO	2976.00	124.00	2960.40	123.35
2 JEBBA	HYDRO	2977.00	124.04	2959.24	123.30
3 SHIRORO	HYDRO	7751.00	322.96	7725.01	321.88
4 EGBIN ST2 - 5	STEAM	8959.00	373.29	8530.30	355.43
5 SAPELE	STEAM	1056.60	44.03	1010.10	42.09
6 DELTA	GAS	12787.29	532.80	12552.40	523.02
7 AFAM IV-V	GAS	1781.00	74.21	1776.13	74.01
8 GEREGU GAS	GAS	4355.20	181.47	4329.55	180.40
9 OMOTOSHO GAS	GAS	3624.00	151.00	3592.40	149.68
10 OLORUNSOGO GAS	GAS	3299.91	137.50	3271.21	136.30
11 GEREGU NIPP	GAS	2760.62	115.03	2747.06	114.46
12 SAPELE NIPP	GAS	4113.28	171.39	4089.67	170.40
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	4667.50	194.48	4631.50	192.98
16 ODUKPANI NIPP	GAS	0.00	0.00	0.00	0.00
17 IHOVBOR NIPP	GAS	2180.00	90.83	2160.49	90.02
18 OKPAI	GAS	5490.00	228.75	5417.10	225.71
19 AFAM VI	GAS	2950.10	122.92	2900.51	120.85
20 IBOM	GAS	2064.05	86.00	2055.00	85.63
21 ASCO	GAS	0.00	0.00	0.00	0.00
22 AZURA - EDO IPP	GAS	7254.90	302.29	7235.40	301.48
23 A.E.S	GAS	0.00	0.00	0.00	0.00
24 OMOKU	GAS	1735.20	72.30	1698.44	70.77
25 TRANS AMADI	GAS	1106.00	46.08	1081.20	45.05
26 RIVERS IPP	GAS	0.00	0.00	0.00	0.00
27 EGBIN ST6	STEAM	3978.00	165.75	3778.20	157.43
28 PARAS ENERGY	GAS	1621.80	67.58	1613.00	67.21
29 GBARAIN NIPP	GAS	2000.90	83.37	1984.10	82.67
TOTAL		91,489.35	3,812.06	90,098.41	3,754.10

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

	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	157	77	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 1	80	65	2G2 - 5 - Shut down on water management. 2G6 - Out due to burnt generator winding and AVR.
	SHIRORO HYDRO	4	411G 2 - 4 3	440	375	411G2 - 4 3	375	170	411G1 - Out due to synchronization problem. Generation reduced on frequency management.
	EGBIN STEAM	5	ST2 & 4 2	440	440	ST2 & 4 2	396	376	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	50	ST2 1	50	50	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 - 13, 15, 16 & 18 - 20 11	635	635	GT7, 9 - 13, 15, 18 & 20 9	435	420	GT3 & 5 - Out due to generator winding fault. GT4 - Out on loss of excitation. GT6, 8 & 14 - Out on major overhaul. GT16 & 19 - Shut down 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	180	GT13 - Out due to gas constraint. Generation reduced on frequency management.
	OMOTOSHO GAS	8	GT1 - 8 8	336	304	GT1, 2, 5 - 7 5	190	143	GT3, 4 & 8 - Out due to gas constraint. Generation reduced on frequency management.
	OLORUNSOGO GAS	8	GT1 - 8 8	336	304	GT1, 2, 4, 6 & 8 5	190	138.2	GT3, 5 & 7 - Out due to gas constraint. Generation reduced on frequency management.
NIPP	GEREGU NIPP	3	GT21 - 23 3	435	435	GT22 3	145	100	GT21 & 23 - Out due to gas constraint.
	SAPELE NIPP	4	GT1 & 3 2	225	225	GT1 & 3 2	225	129.9	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	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	148.9	GT1 - Out on frequency management. GT2 & 4 - On frequency response. 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	75.7	75.7	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	86.1	Available unit on bar.
	OKPAI GAS/STEAM	3	GT11 & 12 2	300	300	GT11 & 12 2	300	185	ST18 - Out due to water shortage. Generation reduced on frequency management.
	AZURA - EDO	3	GT11 - 13 3	461	461	GT11 - 13 3	461	325	Generation reduced on frequency management.
IPP	AFAM VI GAS/STEAM	4	GT11 - 13 & ST10 4	650	640	GT13 1	150	104	GT11 & ST10 - Out due to gas constraint. GT12 - Shut down on frequency management.
	IBOM POWER GAS	3	GT3 1	115	115	GT3 1	115	77.6	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	64.6	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	60	49	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	81	7695.5	7176.5	53	4202.2	3040	Frequency = 50.63Hz.

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

FEEDER	MAX LOAD (MW)	ST6		TOTAL (MWH)	REMARK
		TIME (HRS)	MIN LOAD (MW)		
EGBIN	1	1	220	167	Available unit on bar.
PARAS ENERGY	8	8	69.4	69.4	Available units on bar.
SUB TOTAL	9	9	289.4	236.4	
GRAND TOTAL	140	90	7984.9	7412.9	Frequency = 50.63Hz.

1.7C

BILATERAL AGREEMENT UNITS DISPATCH - FRIDAY 06/07/2018.
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
ALAUUSA	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 THURSDAY - 05/07/018

FEEDER	MAX LOAD (MW)	TIME (HRS)	MIN LOAD (MW)	TIME (HRS)	HOURS IN SERVICE	TOTAL (MWH)	REMARK
Ikeja West/Sakete 330kV line	71.8	19:00	68.6	04:00	23	1615.4	Out due to tripping of Ikorodu/Shagamu 132kV line

BILATERAL AGREEMENT MAIN STREAM ENERGY KAINJI LOAD DISPATCH TO THE FOLLOWING COMPANIES OF: FRIDAY - 06/07/2018

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	On	On	On	On	On	On	O
KAM STEEL		15.0	3.4	12:00	1.6	14:00	24	60.0	SUPPLY NOT INTERRUPTED
ASAKA CEMENT		0	6.8	11:00	2.9	14:00	16	97	SUPPLY NOT INTERRUPTED
KAM INTEGRATED	33kV feeder	15.0	3.4	23:00	1.6	14:00	24	59.4	SUPPLY NOT INTERRUPTED
OLAM FLOUR MILLS		3.0	2.2	11:00	1.0	08:00	24	41.4	SUPPLY NOT INTERRUPTED
LORDSMITH		3	0.2	01:00	0.1	17:00	24	4.1	E/F

1.8 HYDROLOGICAL DATA: FRIDAY 06/07/2018

	KAINJI	JEBBA	SHIRORO
HEAD WATER ELEVATION (METERS)	130.17	100.01	363.30
TAIL WATER ELEVATION (METERS)	101.98	73.30	271.00
GROSS OPERATING HEAD (METERS)	28.19	26.71	92.30
AVERAGE TURBINE DISCHARGE (M3/SEC)	454.00	524.00	401.00
AVERAGE SPILLAGE (M3/SEC)	0.00	0.00	0.00
AVERAGE TOTAL STATION DISCHARGE (M3/SEC)	454	524	401
COMPUTED INFLOW (M3/SEC)	1440.00	651.00	1234.00
STORAGE DIFFERENTIAL	986.00	127	833
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 FRIDAY 06/07/2018

DISCO	MAXIMUM LOAD(MW)	TIME(HRS)	ALLOCATED LOAD (MW)	MINIMUM LOAD(MW)	TIME(HRS)
ABUJA	405.8	23:00	478.4	332.6	08:00
EKO					
IKEJA	739.3	21:00	516.4	425.9	13:00

2.0 GAS POSITION: SATURDAY 06/07/2018

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		543	557
DELTA (GAS)	420	915		435	480
OMOTOSHO GAS	143	336.8		190	146.8
OMOTOSHO NIPP	148.9	500		240	290
OLORUNSOGO (GAS)	138.2	336		190	146
OLORUNSOGO NIPP	0	750		0	750
SAPELE NIPP	129.9	500		225	275
SAPELE STEAM	50	720		50	670
AFAM IV-V	75	300		75	225
AFAM VI	104	650		150	500
GEREGU GAS	180	435		290	145
GEREGU NIPP	100	435		145	290
OKPAI (GAS/STEAM)	185	480		300	180
ALAJU NIPP	0	504		0	504
IHOVOR NIPP	75.7	450		75.7	374.3
IBOM	77.6	198		115	83
ODUKPANI NIPP	0	625		0	625
TOTAL	2203.3	9234.80		3023.7	6211.1

1 MMSCF IS EQUIVALENT TO 3.79MW

3.0 SPINNING RESERVE FOR : FRIDAY 06/07/2018

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

3.1 SYSTEM SPINNING RESERVE AS AT 0600HRS OF FRIDAY 06/07/2018 = 0MW, FREQUENCY 50.63Hz.

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	
TOTAL (MW)			295	0	0

4.0 UNAVAILABLE GENERATION CAPABILITY

The unavailable generation capability for Saturday 07/07/2018 as at 0600Hrs was = 3468.6MW.

S/NO	STATION	ACTUAL GENERATION CAPABILITY (MW)	GENERATION AT 0600HRS (MW)	UNAVAILABLE GENERATION CAPABILITY (MW)	SUB-TOTAL
4.1 DUE TO GAS CONSTRAINTS:					
1	Alajo NIPP GT1, 2 & 4	360	0	360	1953
2	Olorunsogo Gas GT3, 5 & 7	114	0	114	
3	Geregu NIPP GT21 & 23	290	0	290	
4	Atam 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	
8	Geregu Gas GT13	145	0	145	
				0	
				0	
				0	
				0	
IT IS ENVISAGED WITH IMPROVED PLANT AVAILABILITY AND RELIEF FROM EXISTING POWER SYSTEM NETWORK RELATED CONSTRAINTS, ADDITIONAL 1656.29MMSCF OF GAS (EQUIVALENT TO 6211.1MW WILL BE REQUIRED WHEN ALL THERMAL UNITS ARE ON BAR.					
4.2 DUE TO LINE CONSTRAINTS					
1	Ibom Power GT3	115	77.6	37.4	63.8
2	Trans-Amadi GT1, 2 & 4	80	49	11	
3	Omoku GT1, 2, 5 & 6	80	64.6	15.4	
				0	
4.3 DUE TO FREQUENCY MANAGEMENT OCCASIONED BY DISCOS' LOAD DEMAND					
1				0	1131.8
2	Omotosho NIPP GT1	120	0	120	
3	Shiroro 411G2 - 4	375	170	205	
4	Azura-Edo GT13	153	75	78	
5	Ihovbor NIPP GT1	75	0	75	
6	Delta GT16 & 19	180	0	180	
7	Omotosho Gas GT1, 2, 5 - 7	190	143	47	
8	Olorunsogo Gas GT1, 2, 4, 6 & 8	190	138.2	51.8	
9	Atam VI GT12	150	0	150	
10	Geregu Gas GT11 & 12	290	180	110	
11	Okpai GT11 & 12	300	185	115	
				0	
				0	
4.4 DUE TO WATER MANAGEMENT					
1	Jebba 2G2 - 5	320	0	320	320
				0	
Grand Total					3468.6

5.0 **OUTAGES:-**

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

- 1 11:45Hrs, Paras Energy GTs 2 – 9 tripped on reverse power due to tripping of Ikorodu/Shagamu 132kV line. Total LHR = 71MW
12:30Hrs, GT2 was tied, 12:32Hrs, GT3 was tied, 12:35Hrs, GT4 was tied, 12:36Hrs, GT5 was tied, 12:38Hrs, GT6 was tied, 12:42Hrs, GT8 was tied & 12:45Hrs, GT9 was tied.
- 2 18:49 - 21:32Hrs, Geregu Gas GT11 tripped on low gas pressure. LHR = 124MW.
- 3 18:49 - 23:07Hrs, Geregu Gas GT12 tripped on low gas pressure. LHR = 124MW.

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

- 1 11:45 – 12:13Hrs, Ikorodu/Shagamu 132kV line CB tripped at Ikorodu T/S on distance protection A-N, distance =18.9km. LHR = 6MW

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

- 1 09:25 - 17:46Hrs, Benin/Irrua 132kV line was taken out to cut dangerous trees on towers # 112 - 114, # 148 - 150 and # 196 - 199. Load loss = 30MW.
- 2 09:50 - 12:58Hrs, Ikeja West/Ayobo 132kV line 2 was taken out at Ikeja West T/S to carry out annual preventive maintenance on tie CB and its associated equipment. No load loss as line 1 was in service.
- 3 10:55 - 18:01Hrs, Uyo T/S 60MVA 132/33kV transformer T2 was taken out to replace secondary defective Red Phase SF6 gas gauge monitor with new one. Load loss = 3MW.
- 4 11:42 - 17:50Hrs, Delta/Oghara 132kV line was taken out to cut dangerous trees on towers # 176 - 177, # 180 - 181 and # 234 = 236. Load loss = 20MW.

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

- 1 10:11 - 17:34Hrs, Trans-Amadi GT1 was shut down due to malfunctioning of the magnetic speed pick up sensor. Load loss = 16MW.
- 2 13:30 – 13:45Hrs, Yenegoa T/S 40MVA 132/33kV transformer T2 was taken out to facilitate the relocation of newly installed 40MVA 132/33kV mobitra that is close to 90MVA 132/33kV transformer T1 to a convenient location in the station. Load loss = 4.7MW.

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, OLORUNSGO 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

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

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

The under mentioned lines were opened on frequency control.

- 1 20:13 - 20:15Hrs, Osogbo/Akure/Ado-Ekiti 132kV line. Load loss = 59MW. Frequency was 49.93Hz.
- 2 20:19 – 21:55Hrs, Ayede/Ibadan North/Iwo/Iseyin 132kV line. Load loss = 40MW. Frequency was 49.95Hz.

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, R1M, J2H & S5B.

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

6 **WEATHER REPORT:-** Rainfall reported at Kaduna, Osogbo,

7 **INTERNATIONAL LINES:-**

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

Maximum load - 304MW at 21:00Hrs.
Minimum load - 219MW at 07:00Hrs.

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

Maximum load - 109.0MW at 03:00Hrs.
Minimum load - 60.0MW at 08:00Hrs.

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

Maximum load - 39.3MW at 22:00Hrs.
Minimum load - 26.0MW at 04:00Hrs.

8 **MISCELLANEOUS:-**

- 1 02:55 – 09:01Hrs, Jebba 2G5 was shut down on water management. Load loss = 65MW.
 - 2 04:30 – 11:04Hrs, Delta GT19 was shut down on frequency management. Load loss = 66MW.
 - 3 07:50Hrs, Olorungso Gas GT3 was shut down on frequency management. Load loss = 25MW.
 - 4 08:17 - 19:00Hrs, Kainji 1G12 was shut down on frequency management. Load loss = 33MW.
 - 5 09:02Hrs, Jebba 2G1 was shut down. No load loss as 70MW was transferred to 2G5.
 - 6 06:05Hrs of 05/07/2018 – 09:32Hrs of 06/07/2018, Mando T/S 150MVA 330/132/33kV transformer T1A primary CB tripped on O/C Red Phase and REF relay. No load loss as the transformer was on soak.
 - 7 14:29Hrs, Delta GT16 was tied.
 - 8 11:41Hrs, Ayede T/S 100MVA 132/33kV transformer T1 was restored. The transformer was out on fault.
 - 9 13:42 through 24:00Hrs, Ayede T/S 150MVA 330/132/33kV transformer T1A secondary CB was taken out to transfer load to 150MVA 330/132/33kV transformer T2A. Load loss = 48MW.
 - 10 13:44Hrs, Ayede T/S 150MVA 330/132/33kV transformer T2A was restored. The transformer was out on fault.
 - 11 15:11Hrs, Ajah T/S 150MVA 330/132kV transformer TR4 was restored. The transformer was out on fault.
 - 12 16:45Hrs, Olorungso Gas GT8 was tied. The unit was out due to gas constraint.
 - 13 18:54Hrs, Jebba 2G2 was tied.
 - 14 21:42Hrs, Mando T/S 75MX 330kV Reactor 3R3 was switched off on voltage control. Voltage profile: 299/308kV.
- *****
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(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 IkoI-Ekpeni 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) Maidugun 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 Benin, Ikeja West, Onitsha, Egbin, Uguwuaji, Osogbo, Kaduna, 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

