

TRANSMISSION COMPANY OF NIGERIA

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

DAILY OPERATIONAL REPORT OF SUNDAY 09/09/2018

FOR: EVENTS OF SATURDAY 08/09/2018

1.0 EXECUTIVE OPERATIONS SUMMARY:

1.1 GENERATION PROFILE: NATIONAL STATISTICS

DETAILS	MW	HRS	DATE
PEAK DEMAND FORECAST (CONNECTED + SUPPRESSED LOAD)	22,680	21:30	08/09/2018
GENERATION CAPABILITY	7626.7	-do-	-do-
UNITS ON BAR CAPABILITY AT PEAK	4917.5	-do-	-do-
PEAK GENERATION	4627.9	-do-	-do-
LOWEST GENERATION	2887.6	04:00	08/09/2018
8-HOURLY DURATION PEAK	3481.4	0100-0800	-do-
	3242.6	0900-1600	-do-
	4627.9	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	357	Birnin-Kebbi T/S	13:00
LOWEST VOLTAGE FOR THE DAY	300	Kumbotso, Gombe Yola T/S	12:00, 19:00 & 12:00

1.3 FREQUENCY RANGE

DETAILS	HZ	HRS
NOMINAL FREQUENCY	50	
STATUTORY LIMITS	49.75-50.25	
HIGHEST FREQUENCY	50.85	03:21
LOWEST FREQUENCY	49.86	18:47

1.4 SYSTEM COLLAPSE UP DATE

Date of last total collapse: 4th Sept, 2018		No. of days since last total collapse: 05												
Date of last partial collapse: 12 th April, 2018		No. of days since last partial collapse: 149												
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	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	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	2	1	4	
2015	Total	1	0	1	0	2	0	1	0	0	1	0	6	
	Partial	--	--	1	0	2	0	0	0	1	0	0	4	
2016	Total	--	--	2	3	6	5	0	0	1	1	2	22	
	Partial	--	--	1	0	1	3	1	0	0	0	0	6	
2017	Total	5	3	0	0	3	1	1	0	0	1	1	15	
	Partial	1	0	1	0	0	0	1	0	3	3	--	9	
2018	Total	5	1	0	0	0	1	1	1	1	--	--	9	
	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	312	176		
2 JEBBA	HYDRO	416	280		
3 SHIRORO	HYDRO	438	356		
4 EGBIN ST2 - 5	STEAM	221	221		
5 SAPELE	STEAM	50	52		
6 DELTA	GAS	592	207		
7 AFAM IV-V	GAS	53	61		
8 GEREGU GAS	GAS	127	80		
9 OMOTOSHO GAS	GAS	138	107.7		
10 OLORUNSOGO GAS	GAS	136.8	107.7		
11 GEREGU NIPP	GAS	0	0		
12 SAPELE NIPP	GAS	189.6	59.1		
13 ALAQJI NIPP	GAS	228.9	78.8		
14 OLORUNSOGO NIPP	GAS	107.5	104.1		
15 OMOTOSHO NIPP	GAS	108.3	72.2		
16 ODUKPANI NIPP	GAS	212.5	58.4		
17 IHOVBOR NIPP	GAS	97.8	75.9		
18 OKPAI	GAS	297	179		
19 AFAM VI	GAS	137	102		
20 IBOM POWER	GAS	0	0		
21 ASCO	GAS	0	0		
22 A.E.S	GAS	0	0		
23 OMOKU	GAS	53.3	36.3		
24 TRANS AMADI	GAS	0	19.8		
25 RIVERS IPP	(GAS)	115	0		
26 AZURA - EDO IPP	(GAS)	417	275		
27 EGBIN ST6	(GAS)	110	110		
28 PARAS ENERGY	(GAS)	70.2	68.6		
29 GBARAIN NIPP	GAS	0	0		
TOTAL		4627.9	2887.6		
1.6 ENERGY GENERATED/ENERGY SENT OUT:					
STATION	TURBINE	ENERGY GENERATED		ENERGY SENT OUT	
		MWH	MWH/H	MWH	MWH/H
1 KAINJI	HYDRO	7173.00	298.88	7158.30	298.26
2 JEBBA	HYDRO	8967.00	373.63	8943.96	372.67
3 SHIRORO	HYDRO	9985.00	416.04	9970.85	415.45
4 EGBIN ST2 - 5	STEAM	5291.00	220.46	5089.10	212.05
5 SAPELE	STEAM	886.30	36.93	831.10	34.63
6 DELTA	GAS	8615.12	358.96	8521.80	355.08
7 AFAM IV-V	GAS	1367.00	56.96	1361.47	56.73
8 GEREGU GAS	GAS	2263.90	94.33	2243.00	93.46
9 OMOTOSHO GAS	GAS	2641.00	110.04	2619.50	109.15
10 OLORUNSOGO GAS	GAS	2684.81	111.87	2664.46	111.02
11 GEREGU NIPP	GAS	0.00	0.00	0.00	0.00
12 SAPELE NIPP	GAS	2191.42	91.31	2174.56	90.61
13 ALAQJI NIPP	GAS	2348.94	97.87	2327.93	97.00
14 OLORUNSOGO NIPP	GAS	2638.70	109.95	2590.50	107.94
15 OMOTOSHO NIPP	GAS	2214.70	92.28	2195.10	91.46
16 ODUKPANI NIPP	GAS	2318.96	96.62	2291.36	95.47
17 IHOVBOR NIPP	GAS	2180.00	90.83	2158.14	89.92
18 OKPAI	GAS	5188.00	216.17	5054.10	210.59
19 AFAM VI	GAS	2796.35	116.51	2713.29	113.05
20 IBOM	GAS	0.00	0.00	0.00	0.00
21 ASCO	GAS	0.00	0.00	0.00	0.00
22 AZURA - EDO IPP	GAS	6183.50	257.65	6161.00	256.71
23 A.E.S	GAS	0.00	0.00	0.00	0.00
24 OMOKU	GAS	1245.00	51.88	1212.61	50.53
25 TRANS AMADI	GAS	216.90	9.04	208.70	8.70
26 RIVERS IPP	GAS	802.30	33.43	801.10	33.38
27 EGBIN ST6	STEAM	2618.00	109.08	2508.30	104.51
28 PARAS ENERGY	GAS	1651.20	68.80	1645.90	68.58
29 GBARAIN NIPP	GAS	0.00	0.00	0.00	0.00
TOTAL		84,468.10	3,519.50	83,446.13	3,476.92

1.7A GENERATION POSITION AT 06:00HRS SUNDAY 09/09/2018

	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) AT 50.63Hz.	REMARKS
PRIVATISED COMPANIES	KAINJI HYDRO	8	1G5, 6, 11 & 12 4	440	410	1G5, 6, 11 & 12 4	410	217	1G7 - Out on stator winding failure. 1G8 - Out due to oil leakage on governor runner head. 1G9 - Out due to burnt 7.5MVA 33/0.415kV & 183.6MVA 16/330kV station service transformer and generator transformer. 1G10 - Shut down due to thrust bearing temperature problem.
	JEBBA HYDRO	6	2G1 - 5 5	475	450	2G1 - 5 5	450	331	2G6 - Out due to burnt generator winding and AVR.
	SHIRORO HYDRO	4	411G2 - 4 3	450	450	411G2 - 4 3	450	422	411G1 - Out due to technical issues.
	EGBIN STEAM	5	ST2 & 4 2	440	400	ST2 & 4 2	221	221	ST1 - Out due to refusal to send report of tripping on 04/09/2018. ST3 - Out on high vibration since 19th June 2017. ST5 - Shut down due to boiler pump trouble.
	SAPELE (STEAM)	6	ST2 1	120	50	ST2 1	50	50	ST1 - Shut down due to alarm on inlet gas guide control trouble. ST4 & 5 - Awaiting major overhaul. ST6 - Out on gas control valve not following reference point.
	DELTA (GAS)	18	GT9 - 13, 15, 16 & 18 - 20 10	625	605	GT9 - 13 & 15 6	215	207	GT3 & 5 - Out due to generator winding fault. GT4 - Out on loss of excitation. GT6, 8 & 14 - Out on major overhaul. GT7 - Out on fault. GT16, 18 & 20 - Out due to low load demand by the Discos. GT17 - Tripped on bearing vibration more than maximum.
	AFAM IV & V (GAS)	8	GT18 1	75	61	0 0	0	0	GT1 - 12 - De-commissioned and scrapped. GT13 - 16 - Out on blade failure. GT17 - Out due to technical issues. GT18 - Tripped on operating malfunction. GT19 & 20 - Awaiting major overhaul.
	GEREGU GAS	3	GT11 - 13 3	435	435	GT11 1	145	112	GT11 - Generation reduced due to gas constraint. GT12 & 13 - Out due to gas constraint.
	OMOTOSHO GAS	8	GT1 - 8 8	336	304	GT2, 5 & 7 3	114	107.4	GT1, 3, 4, 6 & 8 - Out due to low load demand by the Discos.
	OLORUNSOGO GAS	8	GT1 - 8 8	336	304	GT2, 4 & 6 3	114	107.6	GT1, 5, 7 & 8 - Out due to low load demand by the Discos. GT3 - Out due to gas constraint.
NIPP	GEREGU NIPP	3	GT22 & 23 2	290	290	0 0	0	0	GT21 - Out on maintenance. GT22 & 23 - Out due to gas constraint.
	SAPELE NIPP	4	GT1, 3 & 4 3	337.5	337.5	GT1 1	112.5	70.6	GT3 - Out due to low load demand by the Discos. GT4 - Out due to gas constraint.
	ALAOJI NIPP GAS	4	GT1 & 2 2	250	120	GT1 1	120	81.1	GT1 - Generation reduced due to low load demand by the Discos. GT2 - Out due to low load demand by the Discos. GT4 - Tripped on over voltage lockout relay trip.
	OLORUNSOGO NIPP	6	GT1 - 3 3	375	360	GT2 1	120	90.4	GT1 & 3 - Out due to low load demand by the Discos. GT2 - Generation reduced due to low load demand by the Discos. 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 1	120	81.8	GT1 & 4 - Out due to low load demand by the Discos. GT3 - Out due to oil leakage on the unit.
	ODUKPANI NIPP	5	GT5 1	120	115	GT5 1	120	106.2	GT1 - Out on fault. GT2 - Out due to malfunctioning gas regulating valve. GT3 - Out on high air inlet differential pressure. GT4 - tripped on loss of heat vent (DLN) gas module.
	IHOVBOR NIPP	4	GT1, 2 & 4 3	337.5	337.5	GT1 1	112.5	75.6	GT1 - On manual adjustment to frequency. GT2 & 4 - Out due to low load demand by the Discos. GT3 - Tripped on high vibration.
	GBARAIN NIPP GAS	1	GT2 1	112.5	112.5	0 0	0	0	GT2 - Out due to Gbarain host community protest.
IPP	OKPAI GAS/STEAM	3	GT11, 12 & ST18 3	450	370	GT11, 12 & ST18 3	370	178	GT11 & 12 - Generation reduced due to low load demand by the Discos. ST18 - Generation reduced due to boiler problem.
	AZURA - EDO	3	GT11 - 13 3	461	461	GT13 1	153	75	GT11 & 12 - Out due to low load demand by the Discos. GT13 - Generation reduced due to low load demand by the Discos.
	AFAM VI GAS/STEAM	4	GT11 - 13 & ST10 4	650	640	GT11 1	150	103	GT12, 13 & ST10 - Out due to gas constraint.
	IBOM POWER GAS	3	0 0	0	0	0 0	0	0	GT1 & 2 - Out due to fire outbreak on the control panel. GT3 - Out on fault.
	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 3	75	60	GT2 & 5 2	40	40	GT1 - Out due to low load demand by the Discos. GT3 - Tripped on over speed. GT4 - Awaiting major overhaul. GT6 Out on maintenance.
	TRANS-AMADI	4	GT1 & 2 2	50	40	0 0	0	0	GT1 & 2 - Out due to gas constraint. GT3 - Out on faulty. GT4 - Tripped on loss of excitation.
	RIVERS	1	GT1 1	160	160	GT1 1	160	80	GT1 - Generation reduced due to low load demand by the Discos.
	SUB TOTAL	131	79	7775.5	7232.5	42	3747	2756.7	Frequency = 50.63Hz.

1.7B GENERATION POSITION AT 06:00HRS OF SUNDAY 09/09/2018 FOR UNITS ON BILATERAL AGREEMENT

EGBIN	1	ST6		220	110	ST6		110	110	Available unit on bar.
		1	1			1	1			
PARAS ENERGY	8	GT2 - 9		67.8	67.8	GT2 - 9		67.8	67.8	Available units on bar.
		8	8			8	8			
SUB TOTAL	9	9	9	287.8	177.8	9	9	177.8	177.8	
GRAND TOTAL	140	88	88	8063.3	7410.3	51	51	3,924.80	2,934.50	Frequency = 50.63Hz.

1.7C

BILATERAL AGREEMENT UNITS DISPATCH - SATURDAY 08/09/2018.							
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
OGBA	U-STEEL	ON	0100HRS		24		CONNECTED TO FEEDER 2 DUE TO FAULT ON T1 60MVA TRANSFORMER
	PTCEXPRESS	ON	0100HRS		24		CONNECTED TO FEEDER 2 DUE TO FAULT ON T1 60MVA TRANSFORMER
	SANKYO	ON	0100HRS		24		NIL
	FEEDER 8	12	1900HRS		24		NIL
IKORODU	PULK IT	4	1800HRS		23		TRIPPED ON E/F
	INDUSTRIAL	4	0800HRS		24		NIL
	SPINTEX	4	2100HRS		24		NIL
	DANGOTE	ON	0100HRS		24		SERVED AS SAFE WORKING SPACE TO CLEAR FAULT ON OWUTU 33KV FEEDER
	LAND CRAFT	15	1900HRS		24		NIL
ALAUZA	TR4 15MVA	4.1	0800HRS		24		NIL
	TR5 -15MVA	3.2	0800HRS		24		NIL
	ALAUZA	11	2000HRS		24		NIL
M/LAND	PTC (MARYLAND)	14	1600HRS		21		URGENT OUTAGE ON T2-60MVA SEC.BUS BAR
	TOTAL LOAD	71.3					

BILATERAL AGREEMENT LOAD DISPATCH							
60MW PARAS ENERGY GENERATION TO CEB OF SATURDAY 08/09/18							
FEEDER	MAX LOAD (MW)	TIME (HRS)	MIN LOAD (MW)	TIME (HRS)	HOURS IN SERVICE	TOTAL (MWH)	REMARK
Ikeja West/Sakete 330kV line	70.2	20:00	67	12:00	24	1648	NIL

BILATERAL AGREEMENT MAIN STREAM ENERGY KAINJI LOAD DISPATCH TO THE FOLLOWING COMPANIES OF: SATURDAY 08/09/2018									
COMPANY NAME	VOLTAGE LEVEL	CONTRACTUAL LOAD (MW)	MAX LOAD (MW)	TIME (HRS)	MIN LOAD (MW)	TIME (HRS)	HOURS IN SERVICE	TOTAL (MWH)	REMARK
INNER GALAXY	132kV line 2	ON	38	16:00	10	19:00	24	496	SUPPLY NOT INTERRUPTED
KAM STEEL		15.0					24		SUPPLY NOT INTERRUPTED
ASAKA CEMENT		0.0	9.9	12:00	3.7	22:00	24	174.2	LOSS OF SUPPLY
XING 1	33kV feeder	0.0	18	23:00	7.2	07:00	24	347.3	SUPPLY NOT INTERRUPTED
XING 2		0.0	28.55	03:00	1.59	13:00	24	535.2	SUPPLY NOT INTERRUPTED
KAM INTEGRATED		15.0					24		SUPPLY NOT INTERRUPTED
OLAM FLOUR MILLS		3.0					24		SUPPLY NOT INTERRUPTED
LORDSMITH		0	0.2	01:00	0.1	19:00	24	4.20	SUPPLY NOT INTERRUPTED

1.8 HYDROLOGICAL DATA: SUNDAY 09/09/2018

	KAINJI	JEBBA	SHIRORO
HEAD WATER ELEVATION (METERS)	138.37	104.56	381.74
TAIL WATER ELEVATION (METERS)	107	77.6	273
GROSS OPERATING HEAD (METERS)	31.37	26.96	108.54
AVERAGE TURBINE DISCHARGE (M3/SEC)	1068.00	1597.00	431.00
AVERAGE SPILLAGE (M3/SEC)	2837.00	3467.00	1328.00
AVERAGE TOTAL STATION DISCHARGE (M3/SEC)	3905.00	5064.00	1759.00
COMPUTED INFLOW (M3/SEC)	5720.00	5609.00	2083.00
STORAGE DIFFERENTIAL	1815.00	545	324.00
MAXIMUM LEVEL FOR SPILLAGE COMMENCEMENT	141.73	103	382.50
MINIMUM LEVEL BELOW WHICH NO GENERATION	130	99	355.00

1.9 MAXIMUM/ALLOCATED LOAD/MINIMUM LOADS FOR ABUJA AND LAGOS AS AT SATURDAY 08/09/2018

	MAXIMUM LOAD (MW)	TIME (HRS)	ALLOCATED LOAD (MW)	MINIMUM LOAD (MW)	TIME (HRS)
ABUJA	483.8	22:00	448.94	297.4	07:00
EKO	376.1	01:00	529.42	233.5	09:00
IKEJA	553.2	22:00	585.58	328.4	10:00

2.0 GAS POSITION: SUNDAY 09/09/2018

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	356	1100		331	769
DELTA (GAS)	248	915		215	700
OMOTOSHO GAS	101.5	336.8		114	222.8
OMOTOSHO NIPP	76.8	500		120	380
OLORUNSOGO (GAS)	84.4	336		114	222
OLORUNSOGO NIPP	80.4	750		120	630
SAPELE NIPP	81.4	500		112.5	387.5
SAPELE STEAM	50	720		50	670
JAFAM IV-V	0	300		0	300
JAFAM VI	103	650		150	500
GEREGU GAS	90	435		145	290
GEREGU NIPP	0	435		0	435
OKPAI (GAS/STEAM)	177	480		370	110
ALAOJI NIPP	71.2	504		120	384
IHOVBOR NIPP	85.4	450		112.5	337.5
IBOM	0	198		0	198
ODUKPANI NIPP	0	625		115	510
TOTAL	1605.1	9234.80		2189	7045.8

1 MMSCF IS EQUIVALENT TO 3.75MW

3.0 SPINNING RESERVE FOR : SATURDAY 08/09/018

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

3.1 SYSTEM SPINNING RESERVE AS AT 0600HRS OF SUNDAY 09/09/2018 = 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
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 Sunday 09/09/2018 as at 0600Hrs was = 3747.5MW.

S/NO	STATION	ACTUAL GENERATION CAPABILITY (MW)	GENERATION AT 0600HRS (MW)	UNAVAILABLE GENERATION CAPABILITY (MW)	SUB-TOTAL
4.1 DUE TO GAS CONSTRAINTS:					
1	Geregu Gas GT11 - 13	435	112	323	1527.5
2	Alam VI GT12, 13 & ST10	490	0	490	
3	Geregu NIPP GT22 & 23	290	0	290	
4	Olorunsogo Gas GT1, 5, 7 & 8	152	0	152	
5	Sapele NIPP GT4	112.5	0	112.5	
6	Alaoji NIPP GT2	120	0	120	
7	Trans-Amadi GT1 & 2	40	0	40	
			0	0	
			0	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 1878.88MMSCF OF GAS (EQUIVALENT TO 7045.8MW WILL BE REQUIRED WHEN ALL THERMAL UNITS ARE ON BAR.					
4.2 DUE TO LINE CONSTRAINTS					
			0	0	0
			0	0	0
4.3 DUE TO LOW LOAD DEMAND BY THE DISCOS					
1	Ihovbor GT2 & 4	225	0	225	2220
2	Azura Edo GT11 - 13	461	78	383	
3	Omoku GT1	20	0	20	
4	Olorunsogo Gas GT1, 5, 7 & 8	152	0	152	
5	Delta GT16, 18 & 20	290	0	290	
6	Alaoji NIPP GT1 & 2	240	81.1	158.9	
7	Rivers IPP GT1	160	80	80	
8	Olorunsogo NIPP GT1 - 3	360	90.4	269.6	
9	Omotosho Gas GT1, 3, 4, 6 & 8	190	0	190	
10	Okpai GT11 & 12	300	121	179	
11	Omotosho NIPP GT1 & 4	240	0	240	
12	Sapele NIPP GT3	112.5	0	112.5	
			80	-80	
			0	0	
			0	0	
			0	0	
4.1 DUE TO WATER MANAGEMENT:					
Grand Total					3747.5

5.0 OUTAGES:

5 (A) FORCED OUTAGES (GENERATION):-

- 1 11:10 - 11:34Hrs, Shiroro 411G4 tripped on protective shut down. LHR = 147MW
- 2 21:59 through 24:00Hrs, Odukpani NIPP GT4 tripped on loss of heat vent (DLN) gas module. LHR = 94.2MW
- 3 22:24 through 24:00Hrs, Afam IV P/S GT18 tripped on operation malfunction. LHR = 62MW

5(B) FORCED OUTAGES (TRANSMISSION):

- 1 00:10 – 00:27Hrs, Alaoji/Owerri 132kV line 2 CB tripped at Alaoji T/S on Siemens relay: Instantaneous trip ie>>, instantaneous trip ie>> Yellow phase and back up. LHR = 32MW
- 2 04:24 - 16:42Hrs, Gombe/Maiduguri 132kV line CB tripped at Gombe T/S on distance protection, JR, JM, R & M phases, instantaneous E/F trip, Red phase pick up. LHR = 13MW
- 3 06:21 - 14:16Hrs, Alagbon T/S 60MVA 132/33kV transformer TR2 primary CB tripped without relay indication. LHR = 8MW
- 4 06:21 – 14:15Hrs, Alagbon T/S 132kV Bus coupler breaker tripped without relay indications. LHR = 8MW.
- 5 09:03 – 14:58Hrs Abakaliki T/S 30MVA 132/33kV transformer T1 primary CB tripped on lock out relay while the secondary CB tripped on SBEF. LHR = 10MW. Note: The transformers primary CB at Abakaliki T/S serves as the line CB.
- 6 18:08 – 18:33Hrs, Birnin-Kebbi/Sokoto 132kV line CB tripped at Birnin-Kebbi T/S on O/C Red & Blue phases and 86 lockouts. LHR = 63MW
- 7 20:25 – 20:32Hrs, Kano T/S 150MVA 330/132/33kV transformer T2A secondary CB tripped on O/C Blue phase. LHR = 104MW

5 (C) PLANNED OUTAGES:-

- 1 10:00 - 17:05Hrs, Jos T/S 150MVA 330/132/33kV transformer T2 was taken out of service for routine maintenance of the transformer. Load loss = 35MW
- 2 10:12 - 15:33Hrs, Apir T/S 40MVA 132/33kV transformer was taken out for annual preventive maintenance. No load loss as the transformer was on soak.
- 3 10:31- 14:51Hrs, Osogbo/Akure 132kV line was taken out of service for LMD crew to cut trees between towers #47-48 & 58-59. Load loss = 41MW

5(D) URGENT OUTAGES:-

- 1 17:31 through 24:00Hrs, Trans-Amadi GT1 was shut down due to low gas pressure. Load loss = 7MW

5 (E) EMERGENCY OUTAGES:- NIL

5 (F) AUTOMATIC UNDER FREQUENCY OPERATION:-

5 (G) 330KV LINES THAT ARE OUT ON VOLTAGE CONTROL:- ccts A1K, K4U, 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 J2H & N4J.

5 (K) 330KV LINES THAT ARE ON SOAK:- ccts F1K & B3D.

6 WEATHER REPORT:- Rainfall was reported at Akangba, Egbin, Osogbo, Lokoja, Shiroro

7 INTERNATIONAL LINES:-

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

Maximum load - 248MW at 20:00Hrs.
Minimum load - 173MW at 07:00Hrs.

B BIRNIN KEBBI/NAMEY 132KV LINE

Maximum load - 96MW at 17:00Hrs.
Minimum load - 73MW at 08:00Hrs.

C KATSINA/GAZAOUA/MARADI 132KV LINE

Maximum load - 33.7MW at 20:00Hrs.
Minimum load - 21.8MW at 03:00Hrs.

8 MISCELLANEOUS:-

- 1 00:28 through 24:00Hrs, Geregu Gas GT13 was shut down due to low load demand by the Discos. Load loss = 70MW
- 2 00:37through 24:00Hrs, Omoku P/S GT1 was shut down due to low load demand by the Discos. Load loss = 13.8MW
- 3 00:42through 24:00Hrs, Omotosho Gas GT8 was shut down due to low load demand by the Discos. Load loss = 36.4MW
- 4 00:53through 24:00Hrs, Olorunsogo NIPP GT1 was shut down due to low load demand by the Discos. Load loss = 100.2MW
- 5 08:55 - 18:54Hrs, Azura-Edo GT12 was shut down due to low load demand by the Discos. Load loss = 75MW
- 6 10:58Hrs, Rivers GT1 was tied. The unit was out due to low gas pressure.
- 7 16:07Hrs, Afam IV 330kV Bus bar 2 was restored after NIPP contractor Energovod Engineering had hooked up Afam/Onne 330kV double circuit lines to Afam IV switchyard gantry.
- 8 16:33Hrs, Afam T/S 150MVA 330/132/33kV transformer T1B was restored. Note: The transformer was taken out of service at 12:14Hrs of 07/09/2018 as additional apparatus for safe working space to allow NIPP contractor hook up Afam/Onne 330kV lines to Afam IV switchyard gantry.
- 9 18:43Hrs, Delta GT16 was tied. The unit was out due to low load demand by the Discos.

- 10 19:08Hrs, Delta GT18 was tied. The unit was out due to low load demand by the Discos.
- 11 19:27Hrs, Delta GT20 was tied. The unit was out due to low load demand by the Discos.
- 12 19:30Hrs, Sapele NIPP GT1 was tied. The unit was out due to low load demand by the Discos.
- 13 19:33Hrs, Odukpani NIPP GT4 was tied. The unit tripped on turning gear coupling failure.
- 14 19:37Hrs, Olorunsogo Gas GT8 was tied. The unit was out due to low load demand by the Discos.
- 15 20:17Hrs, Omotosho Gas GT6 was tied. The unit was out due to low load demand by the Discos.
- 16 21:11Hrs, Alaoji NIPP GT2 was tied. The unit was out due to NGC maintenance on the gas pipeline.
- 17 21:24 through 24:00Hrs, Katampe T/S 75MX 330kV Shunt Reactor was switched out of service for voltage control. V/P = 309/313kV
- **** **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.**

9 GENERATOR MERIT ORDER BASED ON SYSTEM RESPONSE AND GRID RELIABILITY

- GROUP 1 - HYDRO UNITS (LEAST COST) ON FREE GOVERNOR CONTROL AND ANCILLARY SERVICE.
- GROUP 2A - UNITS FROM ODUKPAI, AZURA, SHELL AFAM VI, AGIP OKPAI, OLORUNSOGO POWER PLC AND OMOTOSHO POWER PLC.
- GROUP 2B - OTHER GENERATING UNITS IDENTIFIED TO BE ON FREE GOVERNOR CONTROL.
- GROUP 3 - OTHER UNITS IDENTIFIED TO BE OFFERING REGULATORY RESERVE.
- GROUP 4 - OTHER UNITS OFFERING SPINNING RESERVE (THE POWER PLANTS CONTRACTED FOR THE ANCILLARY SERVICE).
- GROUP 5 - ALL PLANTS DISPATCHED SUBJECT TO TRANSMISSION CONSTRAINT (NOT YET IDENTIFIED).
- GROUP 6 - ALL PLANTS PROVIDING VOLTAGE SUPPORT ABOVE STATUTORY LIMIT (NOT YET IDENTIFIED).

10 COMMUNICATION MEDIA

STATIONS	NO INSTALLED	NO. WORKING
PLC/PAX	37	33
OPTIC FIBRE	13	10
PLS	14	4

11 SCADA RTU STATUS

STATIONS	NO. INSTALLED	NO OF RTU DISTURBED	NO OF RTU WORKING
POWER STATIONS	8	7	1
330kV	19	13	6
132kV	102	87	15

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-Ekpena T/S: No available reactor.

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

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

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.

- 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, 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 - 822
- d GM (NCC) - 08036744641.
- e AGM (S/O) - 08056002757, CUG: 08129458475

