

TRANSMISSION COMPANY OF NIGERIA

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

DAILY OPERATIONAL REPORT OF TUESDAY 11/09/2018

FOR: EVENTS OF MONDAY 10/09/2018

1.0 EXECUTIVE OPERATIONS SUMMARY:

1.1 GENERATION PROFILE: NATIONAL STATISTICS

DETAILS	MW	HRS	DATE
PEAK DEMAND FORECAST (CONNECTED + SUPPRESSED LOAD)	22,680	21:15	10/09/2018
GENERATION CAPABILITY	7712.9	-do-	-do-
UNITS ON BAR CAPABILITY AT PEAK	4379.9	-do-	-do-
PEAK GENERATION	3966.6	-do-	-do-
LOWEST GENERATION	2498.8	03:00	10/09/2018
8-HOURLY DURATION PEAK	2951.2	0100-0800	-do-
	3314	0900-1600	-do-
	3966.6	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	Makurdi & Lokoja T/S	03:00 & 04:00
LOWEST VOLTAGE FOR THE DAY	330	Yola T/S	16:00

1.3 FREQUENCY RANGE

DETAILS	HZ	HRS
NOMINAL FREQUENCY	50	
STATUTORY LIMITS	49.75-50.25	
HIGHEST FREQUENCY	50.98	03:06
LOWEST FREQUENCY	50.15	20:52

1.4 SYSTEM COLLAPSE UP DATE

Date of last total collapse: 4th Sept, 2018		No. of days since last total collapse: 07												
Date of last partial collapse: 12 th April, 2018		No. of days since last partial collapse: 151												
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	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	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	314	164		
2 JEBBA	HYDRO	423	275		
3 SHIRORO	HYDRO	439	229		
4 EGBIN ST2 - 5	STEAM	349	246		
5 SAPELE	STEAM	52	52		
6 DELTA	GAS	272	168		
7 AFAM IV-V	GAS	0	0		
8 GEREGU GAS	GAS	139	80		
9 OMOTOSHO GAS	GAS	120.8	90.9		
10 OLORUNSOGO GAS	GAS	146.6	86.1		
11 GEREGU NIPP	GAS	0	0		
12 SAPELE NIPP	GAS	91.2	60.7		
13 ALAQJI NIPP	GAS	90.7	70.6		
14 OLORUNSOGO NIPP	GAS	109.1	80.4		
15 OMOTOSHO NIPP	GAS	109.2	71		
16 ODUKPANI NIPP	GAS	99.8	75		
17 IHOVBOR NIPP	GAS	98.7	78.5		
18 OKPAI	GAS	315	178		
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	56.5	49		
24 TRANS AMADI	GAS	61.6	0		
25 RIVERS IPP	(GAS)	155	93		
26 AZURA - EDO IPP	(GAS)	140	75		
27 EGBIN ST6	(GAS)	178	110		
28 PARAS ENERGY	(GAS)	69.4	64.6		
29 GBARAIN NIPP	GAS	0	0		
TOTAL		3966.6	2498.8		
1.6 ENERGY GENERATED/ENERGY SENT OUT:					
STATION	TURBINE	ENERGY GENERATED		ENERGY SENT OUT	
		MWH	MWH/H	MWH	MWH/H
1 KAINJI	HYDRO	7339.00	305.79	7323.40	305.14
2 JEBBA	HYDRO	9221.00	384.21	9197.40	383.23
3 SHIRORO	HYDRO	7505.00	312.71	7476.64	311.53
4 EGBIN ST2 - 5	STEAM	6274.00	261.42	6027.50	251.15
5 SAPELE	STEAM	650.00	27.08	584.70	24.36
6 DELTA	GAS	9494.43	395.60	9401.30	391.72
7 AFAM IV-V	GAS	0.00	0.00	0.00	0.00
8 GEREGU GAS	GAS	2632.40	109.68	2613.42	108.89
9 OMOTOSHO GAS	GAS	2598.00	108.25	2577.00	107.38
10 OLORUNSOGO GAS	GAS	2626.83	109.45	2602.02	108.42
11 GEREGU NIPP	GAS	0.00	0.00	0.00	0.00
12 SAPELE NIPP	GAS	2303.68	95.99	2284.73	95.20
13 ALAQJI NIPP	GAS	1357.82	56.58	1336.65	55.69
14 OLORUNSOGO NIPP	GAS	2299.60	95.82	2252.80	93.87
15 OMOTOSHO NIPP	GAS	2211.80	92.16	2187.90	91.16
16 ODUKPANI NIPP	GAS	2011.06	83.79	1988.56	82.86
17 IHOVBOR NIPP	GAS	2020.00	84.17	1999.84	83.33
18 OKPAI	GAS	5163.00	215.13	5029.70	209.57
19 AFAM VI	GAS	2837.73	118.24	2751.51	114.65
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	2610.70	108.78	2590.40	107.93
23 A.E.S	GAS	0.00	0.00	0.00	0.00
24 OMOKU	GAS	1313.00	54.71	1280.79	53.37
25 TRANS AMADI	GAS	429.30	17.89	421.50	17.56
26 RIVERS IPP	GAS	2884.00	120.17	2873.80	119.74
27 EGBIN ST6	STEAM	2921.00	121.71	2780.40	115.85
28 PARAS ENERGY	GAS	1636.30	68.18	1631.70	67.99
29 GBARAIN NIPP	GAS	0.00	0.00	0.00	0.00
TOTAL		80,339.65	3,347.49	79,213.66	3,300.57

1.7A GENERATION POSITION AT 06:00HRS TUESDAY 11/09/2018

	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 50.32Hz.	REMARKS
PRIVATISED COMPANIES	KAINJI HYDRO	8	1G5, 6, 11 & 12 4	440	370	1G5, 6, 11 & 12 4	370	300	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	412	2G6 - Out due to burnt generator winding and AVR.
	SHIRORO HYDRO	4	411G2 - 4 3	450	450	411G2 - 4 3	450	439	411G1 - Tripped on generate ground fault.
	EGBIN STEAM	5	ST2 & 4 2	440	400	ST2 & 4 2	251	251	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. ST4 - Generation reduced due to refusal to send report of tripping on 04/09/18
	SAPELE (STEAM)	6	ST2 1	120	50	ST2 1	50	30	ST1 - Shut down due to alarm on inlet gas guide control trouble. ST2 - Generation reduced due to low load demand by the Discos. 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 - 12 & 15 5	195	188	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. GT13, 16, 18, 19 & 20 - Out due to low load demand by the Discos. GT17 - Tripped on bearing vibration more 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 - Tripped on operating malfunction. GT19 & 20 - Awaiting major overhaul.
	GEREGU GAS	3	GT11 - 13 3	435	435	GT11 1	145	99	GT12 & 13 - Out due to gas constraint.
	OMOTOSHO GAS	8	GT1 - 8 8	336	304	GT2 & 5 - 7 4	152	121.3	GT1, 3, 4 & 8 - Out due to low load demand by the Discos. Generation reduced due to low load demand by the Discos.
	OLORUNSOGO GAS	8	GT1 - 8 8	336	304	GT2, 4, 6 & 7 4	152	114.1	GT1, 5 & 8 - Out due to low load demand by the Discos. GT3 - Out due to gas constraint. Generation reduced due to low load demand by the Discos.
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	GT3 1	112.5	88.3	GT1 - Out due to low load demand by the Discos. GT4 - Out due to gas constraint.
	ALAOJI NIPP GAS	4	GT1 & 2 2	250	120	0 0	0	0	GT1 & 2 - Out 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	0 0	0	0	GT1 & 3 - Out due to low load demand by the Discos. GT2 - Out 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	GT4 1	120	100.9	GT1 & 2 - Out due to low load demand by the Discos. GT3 - Out due to oil leakage on the unit.
	ODUKPANI NIPP	5	GT4 & 5 2	250	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 - Out due to low load demand by the Discos. GT5 - Tripped on high inlet filter pressure.
	IHOVBOR NIPP	4	GT1, 2 & 4 3	337.5	337.5	GT1 1	112.5	99.7	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	197	GT11 - Generation reduced due to low load demand by the Discos. GT12 - On frequency response. ST18 - Generation reduced due to boiler problem.
	AZURA - EDO	3	GT11 - 13 3	461	461	GT13 1	153	129	GT11 & 12 - Out due to low load demand by the Discos.
	AFAM VI GAS/STEAM	4	GT11 - 13 & ST10 4	650	640	GT11 1	150	130	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	GT1, 2 & 5 3	52.6	52.6	GT3 - Tripped on over speed. GT4 - Awaiting major overhaul. GT6 Out on maintenance.
	TRANS-AMADI	4	GT1, 2 & 4 3	75	64.9	GT1, 2 & 4 3	64.9	64.9	GT3 - Out on fault.
	RIVERS	1	GT1 1	160	160	0 0	0	0	GT1 - Out due to low load demand by the Discos.
	SUB TOTAL	131	80	7855.5	7271.4	43	3350.5	2816.8	Frequency = 50.32Hz.

1.7B GENERATION POSITION AT 06:00HRS OF TUESDAY 11/09/2018 FOR UNITS ON BILATERAL AGREEMENT

EGBIN	1	ST6		220	131	ST6		131	131	Available unit on bar.
		1	1			1	1			
PARAS ENERGY	8	GT2 - 9		69.4	69.4	GT2 - 9		69.4	69.4	Available units on bar.
		8	8			8	8			
SUB TOTAL	9	9		289.4	200.4	9		200.4	200.4	
GRAND TOTAL	140	89		8144.9	7471.8	52		3,550.90	3,017.20	Frequency = 50.32Hz.

1.7C

BILATERAL AGREEMENT UNITS DISPATCH - MONDAY 10/09/2018.							
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		NIL
	PTCEXPRESS	ON	0100HRS		24		NIL
	SANKYO	ON	0100HRS		24		NIL
	FEEDER 8	14	1500HRS		24		NIL
IKORODU	PULK IT	5	1000HRS		24		NIL
	INDUSTRIAL	8	2200HRS		24		NIL
	SPINTEX	14	2100HRS		24		NIL
	DANGOTE	ON	0100HRS		24		NIL
	LAND CRAFT	14	0800HRS		24		NIL
ALAUZA	TR4 15MVA	6	1000HRS		24		NIL
	TR5 -15MVA	4.6	1000HRS		24		NIL
	ALAUZA	12.5	0800HRS		24		NIL
M/LAND	PTC (MARYLAND)	18	1400HRS		24		NIL
	TOTAL LOAD	96.1					

BILATERAL AGREEMENT LOAD DISPATCH 60MW PARAS ENERGY GENERATION TO CEB OF MONDAY 10/09/018							
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	60.8	07:00	24	1626	NIL

BILATERAL AGREEMENT MAIN STREAM ENERGY KAINJI LOAD DISPATCH TO THE FOLLOWING COMPANIES OF: MONDAY 10/09/2018									
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	2	20:00	2	24:00	24	10	SUPPLY NOT INTERRUPTED
KAM STEEL		15.0	2.6	17:00	0.2	03:00	24	13.6	SUPPLY NOT INTERRUPTED
ASAKA CEMENT		0.0	5.2	01:00	0.1	10:00	23	78.0	LOSS OF SUPPLY
XING 1	33kV feeder	0.0	16.8	21:00	0.3	10:00	16	100.0	SUPPLY NOT INTERRUPTED
XING 2		0.0	20.2	24:00	1.0	01:00	22	120.3	SUPPLY NOT INTERRUPTED
KAM INTEGRATED		15.0	4.6	05:00	1.3	07:00	24	72.0	SUPPLY NOT INTERRUPTED
OLAM FLOUR MILLS		3.0	1.8	02:00	0.4	07:00	24	17.4	SUPPLY NOT INTERRUPTED
LORDSMITH		0	0.2	07:00	0.1	01:00	24	4.20	SUPPLY NOT INTERRUPTED

1.8 HYDROLOGICAL DATA: TUESDAY 11/09/2018

	KAINJI	JEBBA	SHIRORO
HEAD WATER ELEVATION (METERS)	138.76	104.46	382.16
TAIL WATER ELEVATION (METERS)	106.99	77.9	273.5
GROSS OPERATING HEAD (METERS)	31.77	26.56	108.66
AVERAGE TURBINE DISCHARGE (M3/SEC)	1083.00	1641.00	329.00
AVERAGE SPILLAGE (M3/SEC)	2754.00	3794.00	1740.00
AVERAGE TOTAL STATION DISCHARGE (M3/SEC)	3837.00	5435.00	2069.00
COMPUTED INFLOW (M3/SEC)	5722.00	4914.00	3254.00
STORAGE DIFFERENTIAL	1885.00	-521	1185.00
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 MONDAY 10/09/2018

	MAXIMUM LOAD (MW)	TIME (HRS)	ALLOCATED LOAD (MW)	MINIMUM LOAD (MW)	TIME (HRS)
ABUJA	420.0	22:00	489.68	20:00	03:00
EKO	350.6	13:00	568.39	285.2	08:00
IKEJA	504.5	22:00	638.72	331.5	04:00

2.0 GAS POSITION: TUESDAY 11/09/2018

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		400	700
DELTA (GAS)	248	915		215	700
OMOTOSHO GAS	101.5	336.8		152	184.8
OMOTOSHO NIPP	76.8	500		120	380
OLORUNSOGO (GAS)	84.4	336		152	184
OLORUNSOGO NIPP	80.4	750		0	750
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		0	504
IHOVBOR NIPP	85.4	450		112.5	337.5
IBOM	0	198		0	198
ODUKPANI NIPP	0	625		0	625
TOTAL	1605.1	9234.80		1979	7255.8

1 MMSCF IS EQUIVALENT TO 3.75MW

3.0 SPINNING RESERVE FOR: MONDAY 10/09/018

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

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 11/09/2018 as at 0600Hrs was = 4167MW.

S/NO	STATION	ACTUAL GENERATION CAPABILITY (MW)	GENERATION AT 0600HRS (MW)	UNAVAILABLE CAPABILITY (MW)	SUB-TOTAL
4.1 DUE TO GAS CONSTRAINTS:					
1	Geregu Gas GT12 & 13	290	0	290	1260.5
2	Alam VI GT12, 13 & ST10	490	0	490	
3	Geregu NIPP GT22 & 23	290	0	290	
4	Olorunsogo Gas GT3	38	0	38	
5	Sapele NIPP GT4	112.5	0	112.5	
6	Trans-Amadi GT1 & 2	40	0	40	
				0	
				0	
				0	
				0	
				0	
				0	
IT IS ENVISAGED WITH IMPROVED PLANT AVAILABILITY AND RELIEF FROM EXISTING POWER SYSTEM NETWORK RELATED CONSTRAINTS, ADDITIONAL 1934.88MMSCF OF GAS (EQUIVALENT TO 7255.8MW WILL BE REQUIRED WHEN ALL THERMAL UNITS ARE ON BAR.					
4.2 DUE TO LINE CONSTRAINTS					
				0	0
				0	0
4.3 DUE TO LOW LOAD DEMAND BY THE DISCOS					
1	Ihovbor GT2 & 4	225	0	225	2906.5
2	Azura Edo GT11 & 12	308	0	308	
3	Egbin ST4	151	0	151	
4	Olorunsogo Gas GT1, 2, 4 & 8	266	0	266	
5	Delta GT13, 16, 18, 19 & 20	410	0	410	
6	Alaoji NIPP GT1 & 2	240	0	240	
7	Rivers IPP GT1	160	0	160	
8	Olorunsogo NIPP GT1 - 3	360	0	360	
9	Omotosho Gas GT1 - 8	304	0	304	
10	Okpai GT11	150	20	130	
11	Omotosho NIPP GT1 & 4	240	0	240	
12	Sapele NIPP GT1	112.5	0	112.5	
				0	
				0	
				0	
4.1 DUE TO WATER MANAGEMENT:					
Grand Total					4167

5.0 OUTAGES:

5 (A) FORCED OUTAGES (GENERATION):-

- 1 00:12 - 02:05Hrs, Shiroro 411G4 tripped on protective shut down. Load loss = 148MW.
- 2 03:51 - 12:01Hrs, Shiroro 411G2 tripped on protective shut down 86 PS field ground fault 84F. Load loss = 60MW

5(B) FORCED OUTAGES (TRANSMISSION):-

- 1 11:35 - 12:17Hrs, Ganmo/Ilorin 132kV line CB tripped at Ganmo T/S on voltage protection trip. Load loss = 33.8MW
- 2 12:53 - 13:11Hrs, Ayede/Ibadan North/Iwo/Iseyin 132kV line CB tripped at Ayede T/S on the following relay indications:
Optimho relay: DEF start.
Siemens relay: O/C 3-Phases and E/F. LHR = 40MW
- 3 12:53 - 13:12Hrs, Ibadan North T/S 60MVA 132/33kV transformer T1 secondary CB tripped on SBEF. LHR = 10.9MW
- 4 14:02 – 14:10Hrs, Katsina/Gazaoua 132kV line CB tripped at Katsina T/S on O/C Red Phase. LHR = 27MW.
- 5 15:55 through 24:00Hrs, Akangba T/S 60MVA 132/33kV transformer 10T2B primary & secondary CBs tripped on differential protection. LHR = 12.4MW.

5 (C) PLANNED OUTAGES:-

- 1 11:20 – 18:00Hrs, Afam IV T/S 330kV bus bar 2 was taken out to complete connection of Afam/Onne 330kV lines 1 & 2. No load loss as bus bar 1 was in service.
- 2 12:52 - 17:08Hrs, Sapele/Benin 330kV line 1 (cct S3B) was taken out to test the newly commissioned auto synchronizing system. No load loss as ccts S4B and S5B were in service.

5(D) URGENT OUTAGES:-

- 1 10:45 through 24:00Hrs, Delta GT13 was shut down to clear 125VDC ground fault and generator field ground. Load loss = 20MW.
- 2 13:23 – 14:27Hrs, Ayede T/S 60MVA 132/33kV transformer T2 was taken out to treat hot spot on the Blue Phase of the secondary CB interrupter head. Load loss = 7MW.

5 (E) EMERGENCY OUTAGES:- NIL

5 (F) AUTOMATIC UNDER FREQUENCY OPERATION:- NIL

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:- cct J2H

5 (K) 330KV LINES THAT ARE ON SOAK:- ccts F1K, N4J & B3D.

6 WEATHER REPORT:- Rainfall was reported at Lagos, Aja, Ayede, Kainji, Ganmo, Osogbo, Alaoji, Benin, Katampe, Ikeja West, Yola & Kano.

7 INTERNATIONAL LINES:-

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

Maximum load - 250MW at 20:00Hrs.
Minimum load - 174MW at 03:00Hrs.

B BIRNIN KEBBI/NAMEY 132KV LINE

Maximum load - 104MW at 03:00Hrs.
Minimum load - 56MW at 21:00Hrs.

C KATSINA/GAZAOUA/MARADI 132KV LINE

Maximum load - 31MW at 21:00Hrs.
Minimum load - 10MW at 15:00Hrs.

8 MISCELLANEOUS:-

- 1 00:15 through 24:00Hrs, Azura-Edo GT12 was shut down due to low load demand by the Discos. Load loss = 75MW.
 - 2 01:32 - 10:58Hrs, Omotosho P/S GT6 was shut down due to low load demand by the Discos. Load loss = 33.6MW
 - 3 03:54 - 12:34Hrs, Sapele P/S ST2 was shut down due to low load demand by the Discos. Load loss = 50MW.
 - 4 13:14Hrs, Alaoji T/S 2x60MVA 132/33kV transformers T2A & T2B common primary was restored. The transformers common CB tripped at 14:05Hrs of 09/09/2018 without relay indication.
 - 5 13:17Hrs, Trans-Amadi P/S GT1 was tied. The unit was out due to low gas pressure.
 - 6 14:20 through 24:00Hrs, Alaoji NIPP GT2 was shut down due to low load demand by the Discos. Load loss = 80MW.
 - 7 16:59Hrs, Trans-Amadi GT4 was tied. The unit was out due to low load demand by the Discos.
 - 8 21:08Hrs, Trans-Amadi GT1 was tied. The unit was out due to low load demand by the Discos.
 - 9 23:42 through 24:00Hrs, Delta GT19 was shut down due to low load demand by the Discos. Load loss = 50MW.
- **** 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 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	28
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	10	9
132kV	102	78	24

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.

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, 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

- 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.

d GM (NCC) - 08036744641.

e AGM (S/O) - 08056002757, CUG: 08129458475

