

TRANSMISSION COMPANY OF NIGERIA

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

DAILY OPERATIONAL REPORT OF MONDAY 03/12/2018

FOR: EVENTS OF SUNDAY 02/12/2018

1.0 EXECUTIVE OPERATIONS SUMMARY:

1.1 GENERATION PROFILE: NATIONAL STATISTICS

DETAILS	MW	HRS	DATE
PEAK DEMAND FORECAST (CONNECTED + SUPPRESSED LOAD)	23,000	21:45	02/12/2018
GENERATION CAPABILITY	5139.2	-do-	-do-
UNITS ON BAR CAPABILITY AT PEAK	4630.4	-do-	-do-
PEAK GENERATION	4449.2	-do-	-do-
LOWEST GENERATION	3588.2	09:00	02/12/2018
8-HOURLY DURATION PEAK	4320	0100-0800	-do-
	4082	0900-1600	-do-
	4449.2	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	351	Birin-Kebbi T/S	11:00
LOWEST VOLTAGE FOR THE DAY	300	Kumbotso, Gombe & Yola T/S	13:00, 06:00 & 06:00

1.3 FREQUENCY RANGE

DETAILS	HZ	HRS
NOMINAL FREQUENCY	50	
STATUTORY LIMITS	49.75-50.25	
HIGHEST FREQUENCY	50.68	08:34
LOWEST FREQUENCY	49.84	21:12

1.4 SYSTEM COLLAPSE UP DATE

Date of last total collapse: 20th Sept, 2018		No. of days since last total collapse: 73													
Date of last partial collapse: 12th April, 2018		No. of days since last partial collapse: 234													
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	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						10	
	Partial	0	0	0	1	0			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	423	290
2 JEBBA	HYDRO	432	413
3 SHIRORO	HYDRO	427	178
4 EGBIN ST2 - 5	STEAM	353	348
5 SAPELE	STEAM	89	40
6 DELTA	GAS	468	349
7 AFAM IV-V	GAS	41	0
8 GREGU GAS	GAS	388	362
9 OMOTOSHO GAS	GAS	133.4	111.5
10 OLORUNSOGO GAS	GAS	202.8	169.2
11 GREGU NIPP	GAS	117	116
12 SAPELE NIPP	GAS	0	0
13 ALAOJI NIPP	GAS	0	0
14 OLORUNSOGO NIPP	GAS	0	0
15 OMOTOSHO NIPP	GAS	107.1	93.2
16 ODUKPANI NIPP	GAS	340.5	228.3
17 IHOVBOR NIPP	GAS	0	0
18 OKPAI	GAS	100	264
19 AFAM VI	GAS	0	0
20 IBOM POWER	GAS	108.2	89
21 ASCO	GAS	0	0
22 A.E.S	GAS	0	0
23 OMOKU	GAS	81.6	77.8
24 TRANS AMADI	GAS	42	0
25 RIVERS IPP	(GAS)	0	0
26 AZURA - EDO IPP	(GAS)	411	275
27 EGBIN ST6	(GAS)	116	116
28 PARAS ENERGY	(GAS)	68.6	68.2
29 GBARAIN NIPP	GAS	0	0
TOTAL		4449.2	3588.2

1.6 ENERGY GENERATED/ENERGY SENT OUT:

STATION	TURBINE	ENERGY GENERATED	AV.ENERGY GENERATED	ENERGY SENT OUT	AV. ENERGY SENT OUT
		MWH	MWH/H	MWH	MWH/H
1 KAINJI	HYDRO	8495.00	353.96	8480.84	353.37
2 JEBBA	HYDRO	9548.00	397.83	9527.36	396.97
3 SHIRORO	HYDRO	7876.00	328.17	7845.10	326.88
4 EGBIN ST2 - 5	STEAM	8433.00	351.38	7953.10	331.38
5 SAPELE	STEAM	1221.90	50.91	1141.20	47.55
6 DELTA	GAS	10475.68	436.49	10327.00	430.29
7 AFAM IV-V	GAS	361.00	15.04	357.26	14.89
8 GREGU GAS	GAS	8591.90	358.00	8561.24	356.72
9 OMOTOSHO GAS	GAS	2909.00	121.21	2885.80	120.24
10 OLORUNSOGO GAS	GAS	4170.05	173.75	4138.91	172.45
11 GREGU NIPP	GAS	2693.38	112.22	2681.01	111.71
12 SAPELE NIPP	GAS	0.00	0.00	0.00	0.00
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	2325.20	96.88	2305.50	96.06
16 ODUKPANI NIPP	GAS	7360.73	306.70	7319.83	304.99
17 IHOVBOR NIPP	GAS	620.00	25.83	607.23	25.30
18 OKPAI	GAS	5090.00	212.08	4965.20	206.88
19 AFAM VI	GAS	0.00	0.00	0.00	0.00
20 IBOM	GAS	2155.34	89.81	2147.00	89.46
21 ASCO	GAS	0.00	0.00	0.00	0.00
22 AZURA - EDO IPP	GAS	8575.75	357.32	8548.50	356.19
23 A.E.S	GAS	0.00	0.00	0.00	0.00
24 OMOKU	GAS	1927.00	80.29	1876.44	78.19
25 TRANS AMADI	GAS	491.00	20.46	479.90	20.00
26 RIVERS IPP	GAS	0.00	0.00	0.00	0.00
27 EGBIN ST6	STEAM	2769.00	115.38	2627.60	109.48
28 PARAS ENERGY	GAS	1630.40	67.93	1625.20	67.72
29 GBARAIN NIPP	GAS	36.40	1.52	32.50	1.35
TOTAL		97,755.73	4,073.16	96,433.72	4,018.07

1.7A GENERATION POSITION AT 06:00HRS OF MONDAY 03/12/2018

	STATIONS	NO OF UNITS INSTALLED	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 50.42Hz.	REMARKS
PRIVATISED COMPANIES	KAINJI HYDRO	8	1G5, 6, 11 & 12 4	440	440	1G5, 6, 11 & 12 4	420	389	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	476	470	2G1 - 5 5	470	432	2G6 - Out due to burnt generator winding and AVR.
	SHIRORO HYDRO	4	411G1, 2 & 4 3	450	450	411G1, 2 & 4 3	450	325	411G3 - Out on fault. 411G2 - Generation reduced due to water management.
	EGBIN STEAM	6	ST2, 4, 5 & 6 4	880	800	ST2, 4, 5 & 6 4	471	471	ST1 - Out due to undisclosed fault since 04/09/2018. ST3 - Out on high vibration since 19th June 2017. Available units on bar.
	SAPELE (STEAM)	6	ST2 & 3 2	240	120	ST2 & 3 2	120	86	ST1 - Tripped on low drum level. ST2 & 3 - Generation reduced due to low load demand by the Discos. ST4 & 5 - Awaiting major overhaul. ST6 - Tripped on gas control valve not following reference point.
	DELTA (GAS)	18	GT7, 9, 11 - 13, 15, 16 & 19 & 20 10	545	545	GT7, 9 - 13, 15, 19 & 20 9	445	413	GT2 - Tripped on transformer differential lockout. GT3 & 5 - Out due to generator winding fault. GT4 - Out on loss of excitation. GT6, 8 & 14 - Out on major overhaul. GT16 - Out due to low load demand by the Discos. GT17 - Tripped on bearing vibration more than maximum. GT18 - Out due to generator lockout problem.
	AFAM IV & V (GAS)	8	GT17 1	120	70	GT17 1	37	37	GT11 - 12 - De-commissioned and scrapped. GT13,14 & 16 - Out on blade failure. GT18 - Out due to maintenance. GT19 & 20 - Awaiting major overhaul. Available unit on bar.
	GEREGU GAS	3	GT11 - 13 3	435	435	GT11 - 13 3	435	375	GT11 & 12 - Generation reduced due to low load demand by the Discos. GT13 - Generation reduced due to inlet gas valve controller problem.
	OMOTOSHO GAS	8	GT1, 4, 6 & 7 4	152	152	GT1, 4, 6 & 7 4	136.3	136.3	GT2, 3, 5 & 8 - Out due to gas constraint. Available units on bar.
	OLORUNSOGO GAS	8	GT1, 2, 5 - 8 6	228	228	GT1, 2, 5 - 8 6	167.8	167.8	GT3 & 4 - Out due to gas constraint. Available units on bar.
NIPP	GEREGU NIPP	3	GT22 1	145	145	GT22 1	145	124	GT21 - Out on maintenance. GT23 - Out due to gas constraint.
	SAPELE NIPP	4	0 0	0	0	0 0	0	0	GT1 & 3 - Out due to low gas pressure. GT2 - Out on maintenance. GT4 - Out due to high air filter differential pressure.
	ALAOJI NIPP GAS	4	0 0	0	0	0 0	0	0	GT1 - Out on maintenance. GT2 - Out due to low gas pressure. GT3 - Shut down due to lack of spare part. GT4 - Tripped on over voltage lockout relay trip.
	OLORUNSOGO NIPP	6	0 0	0	0	0 0	0	0	GT1 & 2 - Shut down due to low gas pressure. GT3 - Out due to maintenance. GT4 - Out due to ignition failure and control relay failure alarm. ST13 & ST23 - Out on maintenance.
	OMOTOSHO NIPP GAS	4	GT2 1	125	120	GT2 1	120	95.6	GT1, 3 & 4 - Out due to gas constraint.
	ODUKPANI NIPP	5	GT2, 3 & 4 3	360	345	GT3 & 4 2	232.6	232.6	GT1 - Out on fault. GT2 - Out due to low load demand by the Discos. GT5 - Out due to gas constraint.
	IHOVBOR NIPP	4	0 0	0	0	0 0	0	0	GT1, 2 & 4 - Out due to gas station maintenance. GT3 - Tripped on high vibration.
	GBARAIN NIPP GAS	1	0 0	0	0	0 0	0	0	GT2 - Out on fault.
IPP	OKPAI GAS/STEAM	3	GT12 1	120	120	GT12 1	100	100	GT11 & ST18 - Out due to gas constraint. Available unit on bar.
	AZURA - EDO	3	GT11 - 13 3	461	461	GT11 - 13 3	461	375	Available units on bar.
	AFAM VI GAS/STEAM	4	0 0	0	0	0 0	0	0	GT11 - Out on type C inspection. GT12, 13 & ST10 - Out due to maintenance at gas station.
	IBOM POWER GAS	3	GT3 1	115	115	GT3 1	115	88.7	GT1 & 2 - Out due to fire outbreak on the control panel.
	AES	9	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, 3 & 5 4	100	80	GT1, 2, 3 & 5 4	80	74.4	GT4 - Out on major overhaul. GT6 - Out on maintenance.
	TRANS-AMADI	4	GT1 & 2 2	41.1	41.1	GT1 & 2 2	41.1	41.1	GT4 - Out due to gas constraint. GT3 - Out on fault. Available units on bar.
RIVERS	1	0 0	0	0	0 0	0	0	GT1 - Out due to gas constraint	
	SUB TOTAL	141	58	5433.1	5137.1	56	4446.8	3963.5	Frequency = 50.42Hz.

1.7B **GENERATION POSITION AT 06:00HRS OF MONDAY 03/12/2018 FOR UNITS ON BILATERAL AGREEMENT**

PARAS ENERGY	8	GT2 - 9 8	70	67.8	GT2 - 9 8	67.8	67.8	Available units on bar.
SUB TOTAL	8	8	70	67.8	8	67.8	67.8	
GRAND TOTAL	149	66	5503.1	5204.9	64	4,514.60	4,031.30	Frequency = 50.42Hz

1.7C BILATERAL AGREEMENT UNITS DISPATCH - SUNDAY 02/12/2018								
EGBIN ST6 5MW 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	11	1900HRS			24		NIL
IKORODU	PULK IT	2	0800HRS			24		NIL
	INDUSTRIAL	8	2100HRS			24		NIL
	SPINTEX	8	0100HRS			24		NIL
	DANGOTE	ON	0100HRS			24		NIL
	LAND CRAFT	17	2300HRS			24		NIL
ALAUSA	TR4 15MVA	6	2100HRS			24		NIL
	TR5 -15MVA	4.6	0100HRS			24		NIL
	ALAUSA	15.6	1100HRS			24		NIL
M/LAND	PTC (MARYLAND)	17	1400HRS			24		NIL
	TOTAL LOAD	113.2						

BILATERAL AGREEMENT LOAD DISPATCH 60MW PARAS ENERGY GENERATION TO CEB OF SUNDAY 02/12/2018							
FEEDER	MAX LOAD (MW)	TIME (HRS)	MIN LOAD (MW)	TIME (HRS)	HOURS IN SERVICE	TOTAL (MWH)	REMARK
Ikeja West/Sakete 330kV line	69.4	24:00	62.2	16:00	24	1618	NIL.

BILATERAL AGREEMENT MAIN STREAM ENERGY KAINJI LOAD DISPATCH TO THE FOLLOWING COMPANIES OF: SUNDAY 02/12/2018									
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	0	ON	ON	ON	ON	ON	ON	SUPPLY NOT INTERRUPTED
KAM STEEL		25.0	0.2	01:00	0.1	11:00	24	3.2	SUPPLY NOT INTERRUPTED
ASAKA CEMENT		0	10	23:00	7.5	04:00	24	219.4	SUPPLY NOT INTERRUPTED
XING 1	33kV feeder	0	1.8	17:00	0.3	16:00	13	10.2	SUPPLY NOT INTERRUPTED
XING 2		0	4.3	03:00	0.6	08:00	20	24.6	SUPPLY NOT INTERRUPTED
KAM INTEGRATED		15	4	07:00	1.3	21:00	24	55.3	SUPPLY NOT INTERRUPTED
OLAM FLOUR MILLS		3	0.2	01:00	0.1	08:00	24	3.1	SUPPLY NOT INTERRUPTED
LORDSMITH		3	0.3	01:00	0.3	02:00	24	7.2	SUPPLY NOT INTERRUPTED

3.1 SYSTEM SPINNING RESERVE AS AT 0600HRS OF MONDAY 03/12/2018 = 0MW. FREQUENCY 50.42Hz.

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

1.8 HYDROLOGICAL DATA: MONDAY 03/12/2018

	KAINJI	JEBBA	SHIRORO
HEAD WATER ELEVATION (METERS)	141.56	101.94	379.68
TAIL WATER ELEVATION (METERS)	104.2	74.7	270.8
GROSS OPERATING HEAD (METERS)	37.36	27.24	108.88
AVERAGE TURBINE DISCHARGE (M3/SEC)	1057.00	1637.00	350.00
AVERAGE SPILLAGE (M3/SEC)	446.00	0.00	0.00
AVERAGE TOTAL STATION DISCHARGE (M3/SEC)	1503.00	1637.00	350.00
COMPUTED INFLOW (M3/SEC)	1503.00	1533.00	21.00
STORAGE DIFFERENTIAL	0.00	-104	-329
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 SUNDAY 02/12/2018

	MAXIMUM LOAD (MW)	TIME (HRS)	ALLOCATED LOAD (MW)	MINIMUM LOAD (MW)	TIME (HRS)
ABUJA	524.7	20:00	484.44	348.1	08:00
EKO	431.6	15:00	563.38	253.9	24:00
IKEJA	559.4	18:00	631.88	400.8	12:00

2.0 GAS POSITION: MONDAY 03/12/2018

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	457	1100		471	629
DELTA (GAS)	453	915		445	470
OMOTOSHO GAS	135.2	336.8		136.3	200.5
OMOTOSHO NIPP	96.3	500		120	380
OLORUNSOGO (GAS)	203.6	336		167.8	168.2
OLORUNSOGO NIPP	0	750		0	750
SAPELE NIPP	0	500		0	500
SAPELE STEAM	50	720		120	600
AFAM IV-V	0	300		0	300
AFAM VI	0	650		0	650
GEREGU GAS	360	435		435	0
GEREGU NIPP	127	435		145	290
OKPAI (GAS/STEAM)	151	480		100	380
ALAOJI NIPP	0	504		0	504
IHOVBOR NIPP	94.8	337.5		0	337.5
IBOM	93.8	198		0	198
ODUKPANI NIPP	0	625		232.6	392.4
TOTAL	2221.7	9122.30		2372.7	6749.6

1 MMSCF IS EQUIVALENT TO 3.75MW

3.0 SPINNING RESERVE FOR : SUNDAY 02/12/2018

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

4.0 UNAVAILABLE GENERATION CAPABILITY

The unavailable generation capability for Monday 03/12/2018 as at 0600Hrs was = 357MW.

S/N	STATION	ACTUAL GENERATION CAPABILITY (MW)	GENERATION AT 0600HRS (MW)	UNAVAILABLE GENERATION CAPABILITY (MW)	SUB-TOTAL
4.1 DUE TO LINE CONSTRAINTS					
			0	0	0
			0	0	
			0	0	
			0	0	
4.2 DUE TO LOW LOAD DEMAND BY THE DISCOS					
1	Odukpani NIPP GT2	117	0	117	257
2	Delta GT16	100	0	100	
3	Geregu Gas GT11 & 12	290	250	40	
				0	
				0	
				0	
4.3 DUE TO WATER MANAGEMENT:					
1	Shiroro 411G2	150	50	100	100
					0
Grand Total					357

5.0 OUTAGES:

5 (A) FORCED OUTAGES (GENERATION):

- 1 00:27 through 24:00Hrs, Gbarain NIPP GT2 tripped due to tripping of Alaoji/Owerri 132kV lines 1 & 2. LHR = 81.6MW

5 (B) FORCED OUTAGES (TRANSMISSION):

- 1 00:27 – 00:54Hrs, Alaoji/Owerri 132kV line 1 CB tripped at Alaoji T/S on the following relay indications:
Optimho relay: Zone 1 phase B-N, distance = 66.51km, period = 59.5ms,
Siemens relay: Instantaneous trip ie>> Yellow phase 2 X 3 phases trip and back up protection trip. LHR = 18MW
- 2 00:27 – 00:58Hrs, Alaoji/Owerri 132kV line 2 CB tripped at both ends on the following relay indications:
At Alaoji T/S:
Siemens relay: Instantaneous trip ie>> Yellow phase and back up protection trip
At Owerri T/S: DEF. LHR = 18MW
- 3 00:27 - 08:59Hrs, Owerri/Ahoada 132kV line 1 CB tripped at Owerri T/S on DEF. LHR = 18.16MW
00:54Hrs, Trial restoration failed at Owerri T/S
- 4 10:30 – 11:10Hrs, Gombe T/S 45MVA 132/33kV transformer T1 primary and secondary CBs tripped on instantaneous O/C. LHR = 6.1MW
- 5 10:41 – 11:06Hrs, Uyo T/S 60MVA 132/33kV transformer T3 secondary CB tripped on SBEF. LHR = 6.0MW
- 6 14:36 – 15:14Hrs, Kumbotso T/S 40MVA 132/33kV transformer TR2 secondary CB tripped on O/C Blue phase. LHR = 16.2MW
- 7 18:14 through 24:00Hrs, Osogbo/Akure/Ado-Ekiti 132kV line CB tripped at Osogbo T/S on micom relay: O/C 3 phases. LHR = 63MW
- 8 18:24 through 24:00Hrs, Oke-Aro T/S 60MVA 132/33kV transformer T6 secondary CB tripped on E/F. LHR = 31MW
- 9 18:24 - 19:45Hrs, Oke-Aro T/S 60MVA 132/33kV transformer T5 secondary CB tripped on E/F. LHR = 30MW
- 10 19:43 - 20:17Hrs, Adabor/Calabar 132kV line 1 CB tripped at Adabor T/S on trip relay. LHR = 36MW
- 11 19:49 - 20:12Hrs, Alaoji/Owerri 132kV line 2 CB tripped at Alaoji T/S on DEF. LHR = 50MW

5 (C) PLANNED OUTAGES:-

- 1 06:44 through 24:00Hrs, Ihovbor NIPP GT1 was shut down to enable NGC install and commission volumetric flow control system at gas metering station. Load loss = 85.7MW
- 2 11:48 - 12:30Hrs, Tamburawa T/S 30/40MVA 132/33kV transformer TR2 was taken out to carry out annual preventive maintenance on the transformer and its associated equipment. Load loss = 12.3MW
- 3 13:00 - 13:40Hrs, Tamburawa T/S 30/40MVA 132/33kV transformer TR1 was taken out to carry out annual preventive maintenance on the transformer and its associated equipment. Load loss = 9.5MW

5 (D) URGENT OUTAGES:-

- 1 06:19 through 24:00Hrs, Odukpani NIPP GT5 was shut down due to low gas pressure. Load loss = 95MW
- 2 12:25 - 18:27Hrs, Kainji/Birnin-Kebbi 330kV line (cct K3R) was taken out to replace broken disc insulators between towers #256 & 284 at Kainji T/S. Load loss = 89MW.
- 3 15:36 through 24:00Hrs, Okpai GT11 & ST18 were shut down due to gas leakage from the gas valve. Load loss = 57MW & 109MW respectively.

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).

5 (E) EMERGENCY OUTAGES:- NIL.

5 (F) AUTOMATIC UNDER FREQUENCY OPERATION:- Nil.

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

5 (H) 330KV LINES THAT ARE OUT ON BREAKER PROBLEM:- cct A1K.

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

5 (J) 330KV LINES THAT ARE OUT ON LINE FAULT:- ccts D3T, J2H, K3U & K4U

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

6 WEATHER REPORT:- NIL

7 INTERNATIONAL LINES:-

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

Maximum load - 288MW at 11:00Hrs.

Minimum load - 198MW at 09:00Hrs.

B BIRNIN KEBBI/NIAMEY 132KV LINE

Maximum load - 91MW at 19:00Hrs.

Minimum load - 38MW at 10:00Hrs.

C KATSINA/GAZAOUA/MARADI 132KV LINE

Maximum load - 29.2MW at 20:00Hrs.

Minimum load - 13.2MW at 14:00Hrs.

8 MISCELLANEOUS:-

1 01:11Hrs, Jebba 2G2 was shut down due to low load demand by the Discos. Load loss = 75MW

2 03:42Hrs, Azura-Edo reduced generation by 50MW due to low load demand by the Discos.

3 05:47Hrs, Azura-Edo increased generation to maximum to improve system frequency.

4 10:01 – 16:36Hrs, Alimosho T/S 100MVA 132/33kV transformer T3 was taken out for safe working space to allow contractor erect 4# supporting pole for the fire protection scheme. Load loss = 11MW

5 11:42Hrs, Shiroro G/S increased generation to maximum to improve system frequency.

6 11:44Hrs, Trans-Amadi GT2 was tied. The unit was out due to low gas pressure.

7 11:48Hrs, Trans-Amadi GT1 was tied. The unit was out due to low gas pressure.

8 12:16Hrs, Olorunsogo gas GT2 was shut down due to low load demand by the Discos. Load loss = 27MW

9 13:25Hrs, Shiroro G/S increased generation to maximum to improve system frequency.

10 13:53Hrs, Kainji 1G11 was tied. The unit was out on maintenance.

11 14:02Hrs, Azura-Edo increased generation to maximum to improve system frequency.

12 14:12Hrs, Egbin G/S reduced generation by 40MW due to low gas pressure.

13 15:31Hrs, Afam IV GT17 was tied. The unit was out due to gas constraint.

10 **COMMUNICATION MEDIA**

STATIONS	NO INSTALLED	NO. WORKING
PLC/PAX	37	34
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	5	3
330kV	19	6	13
132kV	102	82	20

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 reactor installed.

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

LAGOS REGION:

- Akangba T/S. 132kV Bus Coupler CB - Serious Air leakage.(Undergoing repair)
- Egbin/Aja 330kV line 2 (cct N4J) - faulty breaker at Aja T/S
- Otta/Ogba 132kV line isolator - defective control shaft.
- Osogbo/Ikeja West and Olorunsogo/Ikeja West tie CB at Ikeja West T/S - defective pole .
- Oke-Aro/Ikeja West 330kV lines 1 & 2 tie CB at Ikeja West T/S - Defective pole.
- 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:

- New Haven/Yandev 132kV line CB - Faulty Red phase CB pole. Protection is transferred to the bus coupler CB.
- 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.
- 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.
- Oturkpo/Yandev 132kV By pass isolator - Canibalized to repair the line isolator.
- New Haven/Nkalagu 132kV line 2 ground switch - Canibalized Red phase female contact and canibalized Yellow phase male contact.

SHIRORO REGION

- 1 Jebba T/S 75MX reactor 2R2 CB - exploded.

- 14 15:39Hrs, Odukpani NIPP GT3 was tied. The unit was out due to gas constraint.

- 15 15:56Hrs, Akangba/Isolo/Ilupeju 132kV line was restored. The line was out due to D.C failure.

- 16 16:46Hrs, Mando T/S 150MVA 330/132/33kV transformer T1A was restored. The transformer was out on fault.

- 17 17:46Hrs, Sapele Steam ST3 was tied. The unit was out due to gas constraint.

- 18 18:32Hrs, Delta GT10 was tied. The unit was out on fault.

- 19 19:22Hrs, Ilupeju T/S 45MVA 132/33kV transformer T2 was restored. The transformer was out due to D.C failure.

***** **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

- Omotosho/Ikeja West line (M5W) and Egbin/Ikeja West line 3 (N6W) - 21 spans.
- Ikeja West/Olorunsogo line (cct R1W) - 80 spans.
- 330kV Ikeja West/Osogbo line. - 95 spans.
- Ikeja West/Alimosho/Ogba 132kV lines 1 & 2 - 15 spans.
- Ikeja West/Akangba 330kV line 2 - 1 span.
- Ikeja West/ Ilupeju 132kV lines 1 & 2 - 8 spans.
- Akangba/Itire 132kV lines 1 & 2 - 1 span.
- Ikeja West/Agbara 132kV lines 1 & 2 - 61 spans.
- Ikeja West/Otta 132kV lines 1 & 2- 17 spans.

SHIRORO REGION

- Jebba T/S 330kV Osogbo lines 1 & 2 and Ganmo line - 9 spans
- Minna T/S 132kV Bida line - 32 spans
- 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 Ikeja West, Onitsha, Egbin, Ugwuaji, Jos, Gwagwalada & Alaoji T/S.

FOR MORE INFORMATION: NCC Telephone Lines -

- PAX 09/300, 309, 303 & 305.
- NCC GSM - 08074888524, 08069379367, 08023572651 & 08051401331. CUG Nos. 08129458488, 08129458489, 08129929806; 08036665323.
- PLS - 622
- GM (NCC) - 08036744641.
- AGM (S/O) - 08056002757, CUG: 08129458475

