

TRANSMISSION COMPANY OF NIGERIA

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

DAILY OPERATIONAL REPORT OF SUNDAY 11/02/2018

FOR: EVENTS OF SATURDAY 10/02/2018

1.0 EXECUTIVE OPERATIONS SUMMARY:

1.1 GENERATION PROFILE: NATIONAL STATISTICS

DETAILS	MW	HRS	DATE
PEAK DEMAND FORECAST (CONNECTED + SUPPRESSED LOAD)	21,390	23:00	10/02/2018
GENERATION CAPABILITY	7608.2	-do-	-do-
UNITS ON BAR CAPABILITY AT PEAK	5604.2	-do-	-do-
PEAK GENERATION	4804.8	-do-	-do-
LOWEST GENERATION	3276.4	10:00	10/02/2018
8-HOURLY DURATION PEAK	4202.3	0000-0800	-do-
	3529.8	0900-1600	-do-
	4804.8	1700-2400	-do-
PEAK GENERATION TO DATE	5222.3	21:00	18/12/2017
MAXIMUM AVAILABLE CAPACITY TO DATE	7652.6	06:00	14/04/2014
MAXIMUM ENERGY GENERATED (MWH) TO DATE	109,372.01	0000-2400	02/02/2016

1.2 CRITICAL VOLTAGE

DETAILS	KV	STATION	HRS
NOMINAL VOLTAGE	330		
STATUTORY LIMITS	280.5 - 346.6		
HIGHEST VOLTAGE FOR THE DAY	363	Omotosho T/S	07:00
LOWEST VOLTAGE FOR THE DAY	295	Sakete & Makurdi T/S	01:00 each

1.3 FREQUENCY RANGE

DETAILS	HZ	HRS
NOMINAL FREQUENCY	50	
STATUTORY LIMITS	49.75-50.25	
HIGHEST FREQUENCY	50.58	03:50
LOWEST FREQUENCY	50.02	20:36

1.4 SYSTEM COLLAPSE UP DATE

Date of last total collapse: 1st Feb., 2018		No. of days since last total collapse: 10												
Date of last partial collapse: 17th Oct., 2017		No. of days since last partial collapse: 113												
Highest No of days ever attained in-between total collapses:		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	--	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	4	2	22	
	Partial	--	--	--	--	--	--	--	2	--	--	--	2	
2014	Total	2	--	--	2	0	3	1	0	0	1	0	9	
	Partial	--	0	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	2	2	22	
	Partial	--	--	1	0	1	3	1	0	0	0	0	6	
2017	Total	5	3	0	3	1	1	0	0	1	1	0	15	
	Partial	1	0	1	0	0	0	1	0	3	3	--	9	
2018	Total	5	1	--	--	--	--	--	--	--	--	--	6	
	Partial	--	--	--	--	--	--	--	--	--	--	--	0	

1.5 BREAKDOWN OF PEAK & OFF PEAK GENERATION (NATIONAL PEAK & OFF PEAK)

STATION	TURBINE	PEAK GEN. (MW)	OFF-PEAK GEN(MW)
1 KAINJI	HYDRO	405	313
2 JEBBA	HYDRO	365	210
3 SHIRORO	HYDRO	201	113
4 EGBIN ST2 - 5	STEAM	463	397
5 SAPELE	STEAM	0	0
6 DELTA	GAS	460	333
7 AFAM IV-V	GAS	0	0
8 GEREGU GAS	GAS	422	241
9 OMOTOSHO GAS	GAS	137	102.5
10 OLORUNSOGO GAS	GAS	164.9	143.2
11 GEREGU NIPP	GAS	139	101
12 SAPELE NIPP	GAS	207.5	160.8
13 ALAQJI NIPP	GAS	0	0
14 OLORUNSOGO NIPP	GAS	212.9	145.6
15 OMOTOSHO NIPP	GAS	110.4	93.4
16 ODUKPANI NIPP	GAS	226.7	87.5
17 IHVOBOR NIPP	GAS	0	0
18 OKPAI	GAS	333	210
19 AFAM VI	GAS	416	220
20 IBOM POWER	GAS	99.3	78.9
21 ASCO	GAS	0	0
22 A.E.S	GAS	0	0
23 OMOKU	GAS	57.9	57.9
24 TRANS AMADI	GAS	55	55
25 RIVERS IPP	(GAS)	60	60
26 AZURA - EDO IPP	(GAS)	0	137
27 EGBIN ST6	(GAS)	179	68.6
28 PARAS ENERGY	(GAS)	70.2	0
29 GBARAIN NIPP	GAS	0	0
TOTAL		4804.8	3278.4

1.6 ENERGY GENERATED/ENERGY SENT OUT:

STATION	TURBINE	ENERGY GENERATED		ENERGY SENT OUT	
		MWH	MWH/H	MWH	MWH/H
1 KAINJI	HYDRO	7923.00	330.13	7907.30	329.47
2 JEBBA	HYDRO	6254.00	260.58	6228.64	259.53
3 SHIRORO	HYDRO	3541.00	147.54	3516.81	146.53
4 EGBIN ST2 - 5	STEAM	10073.00	419.71	9527.50	396.98
5 SAPELE	STEAM	0.00	0.00	0.00	0.00
6 DELTA	GAS	9948.99	414.54	9779.50	407.48
7 AFAM IV-V	GAS	0.00	0.00	0.00	0.00
8 GEREGU GAS	GAS	7344.60	306.03	7314.50	304.77
9 OMOTOSHO GAS	GAS	3067.00	127.79	3042.20	126.76
10 OLORUNSOGO GAS	GAS	3672.00	153.00	3643.71	151.82
11 GEREGU NIPP	GAS	2689.50	112.06	2675.36	111.47
12 SAPELE NIPP	GAS	4087.37	170.31	4067.01	169.46
13 AZURA - EDO IPP	GAS	0.00	0.00	0.00	0.00
14 ALAQJI NIPP	GAS	0.00	0.00	0.00	0.00
15 OLORUNSOGO NIPP	GAS	4429.80	184.58	4379.50	182.48
16 OMOTOSHO NIPP	GAS	2370.10	98.75	2353.30	98.05
17 ODUKPANI NIPP	GAS	3200.49	133.35	3170.89	132.12
18 IHVOBOR NIPP	GAS	0.00	0.00	0.00	0.00
19 OKPAI	GAS	5919.00	246.63	5756.80	239.87
20 AFAM VI	GAS	6235.78	259.82	6191.00	257.96
21 IBOM	GAS	1646.39	68.60	1638.00	68.25
22 ASCO	GAS	0.00	0.00	0.00	0.00
23 A.E.S	GAS	0.00	0.00	0.00	0.00
24 OMOKU	GAS	1367.30	56.97	1339.07	55.79
25 TRANS AMADI	GAS	477.80	19.91	463.30	19.30
26 RIVERS IPP	GAS	1528.30	63.68	1522.70	63.45
27 EGBIN ST6	STEAM	3653.00	152.21	3462.00	144.25
28 PARAS ENERGY	GAS	1665.50	69.40	1660.70	69.20
29 GBARAIN NIPP	GAS	0.00	0.00	0.00	0.00
TOTAL		91,093.92	3,795.58	89,639.79	3,734.99

1.7A GENERATION POSITION AT 06:00HRS OF SUNDAY 11/02/2018

	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	7	1G5, 6,11 & 12 4	440	440	1G5, 6, 11 & 12 4	440	249	1G7 - Out on stator winding failure. 1G8 - Out due to loss of supply to the auxiliary. 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, 2, 4 & 5 4	380	380	2G1, 4 & 5 3	380	225	2G2 - Out on frequency management. 2G3 - Out on maintenance. 2G6 - Out due to burnt generator winding and AVR.
	SHIRORO HYDRO	4	411G1, 3 & 4 3	435	435	411G1 & 3 2	290	104	411G2 - Out due to fallen object on the unit transformer. 411G1 & 3 - Generation reduced on frequency management. 411G4 - Out on water management.
	EGBIN STEAM	5	ST1, 2, 4 & 5 4	880	770	ST1, 2 & 4 3	550	411	ST1 - Limited to 110MW on observation by Egbin management after maintenance work on the unit transformer. ST2 & 4 - Generation reduced on frequency management. ST3 - Tripped on high vibration. ST5 - Out due to low gas pressure.
	SAPELE (STEAM)	6	0 0	0	0	0 0	0	0	ST1 - Tripped on low drum level. ST2 - Out on maintenance. ST3 - Out on stator winding problem. ST4 & 5 - Awaiting major overhaul. ST6 - Tripped on gas control valve not following reference point.
	DELTA (GAS)	18	GT4, 7, 9 - 13, 15, 16, 18 - 20 12	655	655	GT4, 7, 9 - 13, 15, 16, 18 - 20 12	655	502	GT3 & 5 - Out due to generator winding fault. GT4, 7 & 9 - 13 - Generation reduced on frequency management. GT6 & 14 - Out on major overhaul. GT17 - Out on excitation trouble.
	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. GT19 & 20 - Awaiting major overhaul. GT17 - Out due to technical issue with generator auxiliary. GT18 - Tripped on load angle limitation.
	GEREGU GAS	3	GT11 - 13 3	435	435	GT11 - 13 3	435	237	GT11 - 13 - Generation reduced on frequency management.
	OMOTOSHO GAS	8	GT1 - 8 8	336	304	GT1, 2, 4 & 6 4	152	122.8	GT3, 5, 7 & 8 - Out due to gas constraint. Generation reduced on frequency management.
	OLORUNSOGO GAS	8	GT1 - 8 8	336	304	GT2, 4, 5, 6 & 8 5	190	147.4	GT1, 3 & 7 - Out due to gas constraint.
NIPP	GEREGU NIPP	3	GT22 & 23 2	290	290	GT23 1	145	114	GT21 - Out on maintenance. GT22 - Out due to gas constraint. GT23 - On frequency response.
	SAPELE NIPP	4	GT1 & 3 2	230	230	GT1 & 3 2	230	160.6	GT2 - Out due to high air inlet differential pressure. GT4 - Tripped on fire protection alarm.
	ALAOJI NIPP GAS	4	GT1, 2 & 4 3	375	360	0 0	0	0	GT1, 2 & 4 - Tripped due to low gas pressure. GT3 - Shut down due to generator air inlet filter trouble.
	OLORUNSOGO NIPP	6	GT1 - 3 3	360	360	GT1 & 2 2	240	193.7	GT1 & 2 - Generation reduced due to low gas pressure. GT3 - Out due to gas constraint. GT4 - Out of production since 25/10/2016. ST13 & ST23 - Out on maintenance.
	OMOTOSHO NIPP GAS	4	GT1, 2 & 4 3	250	240	GT2 1	120	92.6	GT1 & 4 - Out due to gas constraint. GT3 - Shut down due to oil leakage on the unit.
	ODUKPANI NIPP	5	GT2, 4 & 5 3	360	345	GT4 & 5 2	230	180.8	GT1 - Out due to high air inlet differential pressure. GT2 - Out on frequency management. GT3 - Tripped on high air inlet differential pressure.
	IHOVBOR NIPP	4	GT1 & 2 2	225	225	0 0	0	0	GT1 & 2 - Out due to gas constraint. GT3 - Out due to gas inlet valve problem. GT4 - Out on maintenance.
	GBARAIN NIPP GAS	1	0 0	0	0	0 0	0	0	GT2 - Out on maintenance.
IPP	OKPAI GAS/STEAM	3	GT11,12 & ST18 3	375	375	GT11,12 & ST18 3	256	206	GT12 - Generation reduced due to ambient temperature. ST18 - Boiler #12: Out due to broken spray water valve.
	AZURA - EDO	0	0 0	0	0	0 0	0	0	GT11 - Undergoing commissioning tests. GT12 & 13 - Awaiting commissioning.
	AFAM VI GAS/STEAM	4	GT11 - 13 & ST10 4	650	650	GT11 - 13 3	450	330	GT11 - 13 - Generation reduced on frequency management. ST10 - Out due to gas constraint.
	IBOM POWER GAS	3	GT3 1	115	115	GT3 1	115	75.4	GT1 & 2 - Out on fault. 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	0	0 0	0	0	0 0	0	0	GT1 - Shut down due to leakage in the furnace.
	OMOKU GAS	6	GT2, 5 & 6 3	75	60	GT2, 5 & 6 3	60	51.1	GT1 - Out due to excitation problem. GT3 - Out due to gas leakage. GT4 - Awaiting major overhaul.
	TRANS-AMADI	4	GT1, 2 & 4 3	75	60	GT1,2 & 4 3	60	55.3	GT3 - Out on fault.
	RIVERS	1	GT1 1	180	160	GT1 1	160	60	GT1 - Generation reduced due to gas constraint.
	SUB TOTAL	125	79	7457	7193	58	5158	3517.7	Frequency = 50.48Hz.

1.7B GENERATION POSITION AT 06:00HRS OF SUNDAY 11/02/2018 FOR UNITS ON BILATERAL AGREEMENT

FEEDER	UNIT	ST6		ST6		220	150	Available unit on bar.
		1	220	220	1			
EGBIN	1	1	220	220	1	220	150	Available unit on bar.
PARAS ENERGY	8	GT2 - 9 8	69.4	69.4	GT2 - 9 8	69.4	69.4	Available units on bar.
SUB TOTAL	9	9	289.4	289.4	9	289.4	219.4	
GRAND TOTAL	134	88	7746.4	7482.4	67	5,447.40	3,737.10	Frequency = 50.48Hz.

1.7C BILATERAL AGREEMENT UNITS DISPATCH - SATURDAY 10/02/2018

FEEDERS NAME	MAX. LOAD (MW)	TIME (HRS)		REMARK
Egbin ST6 120MW GENERATION TO IKEJA ELECTRICITY DISTRIBUTION COMPANY				
OGBA	U-STEEL	ON	0100HRS	24HRS NIL
	PTCEXPRESS	10	1900HRS	10HRS TRIPPED ON E/F
	SANKYO	ON	0100HRS	24HRS NIL
	FEEDER 8	11	1700HRS	24HRS NIL
IKORODU	PULK IT	1	1900	10 E/F.
	INDUSTRIAL	22	1800	24 NIL
	SPINTEX	3	0700	24 NIL
	DANGOTE	3	2200	24 NIL
	LAND CRAFT	44	22	23 TRIPPED ON O/C A,B&C
ALAJUSA	TR4 15MVA	5.5MW	18.00HRS	11.00HRS DUE TO TRIPPING ON T1-45MVA
	TR5 -15MVA	4.0MW	18.00HRS	11.00HRS DUE TO TRIPPING ON T1-45MVA
	ALAJUSA	13.3MW	18.00HRS	23.00HRS DU TO TRIPPING ON 132KV LINE @ OTTA TS
MALAND	PTC (MARYLAND)	16	17:00:00	1400HRS PLANNED JOB
	TOTAL LOAD	110		

BILATERAL AGREEMENT LOAD DISPATCH
60MW PARAS ENERGY GENERATION TO CEB

FEEDER	MAX	TIME	HOURS IN SERVICE	REMARK
Ikeja West/Sakete 330kV line	71	19:00	24	Nil

1.8 HYDROLOGICAL DATA: SUNDAY 11/02/2018

	KAINJI	JEBBA	SHIRORO
HEAD WATER ELEVATION (METERS)	140.90	102.10	371.66
TAIL WATER ELEVATION (METERS)	104.02	74.00	270.40
GROSS OPERATING HEAD (METERS)	36.88	28.10	101.26
AVERAGE TURBINE DISCHARGE (M3/SEC)	992.00	1046.00	180.00
AVERAGE SPILLAGE (M3/SEC)	0.00	0.00	0.00
AVERAGE TOTAL STATION DISCHARGE (M3/SEC)	992	1046	180
COMPUTED INFLOW (M3/SEC)	443.00	1023.00	9.00
STORAGE DIFFERENTIAL	-549.00	-23	-171
MAXIMUM LEVEL FOR SPILLAGE COMMENCEMENT	141.73	103	382.5
MINIMUM LEVEL BELOW WHICH NO GENERATION	130	99	355

1.9 MAXIMUM/ALLOCATED LOAD/MINIMUM LOADS FOR ABUJA AND LAGOS AS AT SATURDAY 10/02/2018

DISCO	MAXIMUM LOAD(MW)	TIME(HRS)	ALLOCATED LOAD (MW)	MINIMUM LOAD(MW)	TIME(HRS)
ABUJA	552.40	23:00	574.46	375.9	11:00
EKO	0.0	0:00	0	0	0
IKEJA	637.5	21:00	959.3	277.6	07:00

2.0 GAS POSITION: SUNDAY 11/02/2018

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	383	1100		770	330
DELTA (GAS)	519	915		655	260
OMOTOSHO GAS	102.6	336.8		162	184.8
OMOTOSHO NIPP	90	500		120	380
OLORUNSOGO (GAS)	149.2	336		190	146
OLORUNSOGO NIPP	204.5	750		240	510
SAPLE NIPP	146.6	500		230	270
SAPLE STEAM	0	720		0	720
AFAM IV-V	0	300		0	300
AFAM VI	246	650		300	350
GEREGU GAS	232	435		435	0
GEREGU NIPP	100	435		145	290
ODUKPANI (GAS/STEAM)	237	480		255	224
ALAOJI NIPP	0	504		0	504
IHOVBOR NIPP	0	450		0	450
IBOM	73.6	198		115	83
ODUKPANI NIPP	166.4	625		230	395
TOTAL	2621.9	9235.68		3838	5396.8

1 MMSCF IS EQUIVALENT TO 3.79MW

3.0 SPINNING RESERVE FOR : SATURDAY 10/02/2018

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

3.1 SYSTEM SPINNING RESERVE AS AT 0600HRS OF SUNDAY 11/02/2018 = 0MW. FREQUENCY 50.48Hz.

S/N	POWER STATION	UNIT ON SPINNING RESERVE	CONTRACTED RESERVE	ACTUAL RESERVE (MW)	TOTAL (MW)
1	Egbin	ST2	100	0	0
		ST4		0	
		ST6		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	
		GT4		0	
TOTAL (MW)			295	0	0

4.0 UNUTILIZED GENERATION CAPABILITY

The unutilized generation capability for Sunday 11/02/2018 as at 0600Hrs was = 2904.9MW.

S/NO	STATION	ACTUAL GENERATION CAPABILITY (MW)	GENERATION AT 0600HRS (MW)	UNUTILIZED GENERATION CAPABILITY (MW)	SUB-TOTAL
4.1 DUE TO GAS CONSTRAINTS:					
1	Omotosho GT1	120	0	120	1802.3
2	Ihobor GT1 & 2	225	0	225	
3	Alaoji NIPP GT1, 2 & 4	360	0	360	
4	Olorunsogo Gas GT1, 3 & 7	114	0	114	
5	Olorunsogo NIPP GT1 - 3	360	193.7	166.3	
6	Omotosho Gas GT3, 5, 7 & 8	152	0	152	
7	Alam VI ST10	200	0	200	
8	Egbin ST5	220	0	220	
9	Geregu NIPP GT22	145	0	145	
11	Rivers IPP GT1	160	60	100	
				0	
				0	
IT IS ENVISAGED WITH IMPROVED PLANT AVAILABILITY AND RELIEF FROM EXISTING POWER SYSTEM NETWORK RELATED CONSTRAINTS, ADDITIONAL 1439.15MMSCF OF GAS (EQUIVALENT TO \$396.8MW) WILL BE REQUIRED WHEN ALL THERMAL UNITS ARE ON BAR.					
4.2 DUE TO LINE CONSTRAINTS					
1	Ibom Power GT3	115	75.4	39.6	39.6
			0	0	
			0	0	
4.3 DUE TO FREQUENCY MANAGEMENT OCCASIONED BY DISCOS' LOAD DEMAND					
1	Shiroro 411G1 & 3	230	105	185	918
2	Odukeani NIPP GT2	115	0	115	
3	Egbin ST2 & 4	440	300	140	
4	Jebba 2G2	95	0	95	
5	Geregu Gas GT11 - 13	435	237	198	
6	Alam VI GT11 - 13	450	330	120	
7	Delta GT4, 7 & 9 - 13	140	75	65	
				0	
				0	
				0	
				0	
4.4 DUE TO WATER MANAGEMENT					
1	Shiroro 411G4	145	0	145	145
Total					2904.9

5.0 **OUTAGES:**

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

- 1 06:39 through 24:00Hrs, Odukpani NIPP GT3 tripped on high air inlet differential pressure. LHR = 81.4MW.

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

- 1 03:48 – 04:08Hrs, Egbin/Oke-Aro 330kV line 1 (cct N7K) CBs tripped at both ends on the following relay indications:
At Egbin T/S: ABB Relay: zone 1 trip, trip start L1, L2, distance = 7.7km,
Siemens Relay: zone 1 trip, relay trip Red & Yellow Phases, Phase fault, O/C pick up L12, distance 8.3km,
At Oke-Aro T/S: Trip N1, trip N2, 21N. No load interruption as cct N8K was in service.
- 2 07:45 – 09:19Hrs, Akangba/Ojo 132kV line 1 CB tripped at Akangba T/S on distance protection , zone 2, O/C Phases A, B & C. LHR = 40MW.
- 3 09:06 – 09:31Hrs, Benin/Delta 132kV line CB tripped at Benin T/S on distance protection E/F, FCT = 5.93ms, distance = 192.2km. LHR = 28.5MW.
- 4 09:06 through 24:00Hrs, Delta/Oghara 132kV line CB tripped at Delta T/S without relay indication. LHR = 26.8MW.
- 5 09:06 – 09:33Hrs, Benin/Oghara line CB tripped at Benin T/S on distance protection E/F, location = 74km. LHR = 24MW.
- 6 11:34 - 14:28Hrs, New Haven/Yandev 132kV line tripped at New Haven T/S without relay indication. No load loss as the line was on soak.
- 7 11:58 – 12:31Hrs, Itu/Uyo 132kV line CB tripped at Uyo T/S on O/C 3-phases. LHR = 64MW.
- 8 16:53 – 19:04Hrs, Alaoji/Afam 132kV line 2 tripped at Alaoji T/S on Micom relay 1 > L2 O/C. LHR = 48MW.

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

- 1 08:38 – 18:26Hrs, Zaria/Funtua/Gusau 132kV line was taken out to enable maintenance crew continue re-stringing of cut sky wire between towers #118 and 119. Load loss = 45.7MW.
- 2 09:49 - 17:30Hrs, Delta/Benin 330kV line (cct G3B) was taken out to enable maintenance crew remove unlatched optic fibre tape between towers #7 & 8. No load interruption as ccts S4G, S3B & S4B were in service.
- 3 11:20Hrs, Osogbo/Ayede 330kV line (cct H2A) tie CB was isolated to enable maintenance crew de-commission and replace it with new one. No load interruption as line CB was in service. **Note:** 16:50Hrs, job suspended on tie CB at Ayede T/S.

5 (D) **URGENT OUTAGES:**

- 1 09:53 - 17:59Hrs, Delta GT13 was shut down for safe working space for ongoing job on GT14. Load loss = 10MW.

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 2 - OTHER 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 CONTACTED FOR THE ANCILLARY SERVICE)

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:-** NIL

5 (I) **330KV LINES THAT ARE OUT ON PLANNED OUTAGE:-** Nil.

5 (J) **330KV LINES THAT ARE OUT ON LINE FAULT:-** cct S5B.

5 (K) **330KV LINES THAT ARE OUT ON SOAK:-** ccts N4J, F1K & W4L.

6 **WEATHER REPORT:-** No rainfall reported in any station.

7 **INTERNATIONAL LINES:-**

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

Maximum load - 269MW at 23:00Hrs.
Minimum load - 184MW at 08:00Hrs.

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

Maximum load - 86MW at 21:00Hrs.
Minimum load - 60MW at 08:00Hrs.

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

Maximum load - 32.3MW at 21:00Hrs.
Minimum load - 18.3MW at 05:00Hrs.

8 **MISCELLANEOUS:-**

- 1 01:00Hrs, Jebba 2G2 was tied. The unit was out on frequency management.
- 2 01:45Hrs, Shiroro P/S reduced generation by 100MW. Frequency was 50.50Hz.
- 3 02:22Hrs, Geregu P/S reduced generation by 72MW. Frequency was 50.42Hz.
- 4 02:27Hrs, Geregu NIPP reduced generation by 24MW. Frequency was 50.40Hz.
- 5 02:38Hrs, Egbin P/S reduced generation by 55MW. Frequency was 50.40Hz.
- 6 02:40Hrs, Okpai P/S reduced generation by 50MW. Frequency was 50.44Hz.
- 7 03:45Hrs, Kainji P/S reduced generation by 50MW. Frequency was 50.42Hz.

GROUP 5 - ALL PLANTS DISPATCHED SUBJECT TO TRANSMISSION CONSTRAINT (NOT YET IDENTIFIED)

GROUP 6 - ALL PLANTS PROVIDING VOLTAGE SUPPORT ABOVE STATUTORY LIMIT.

GROUP 7 - ALL OTHER PLANTS.

11 (A) **COMMUNICATION MEDIA**

STATIONS	NO INSTALLED	NO. WORKING
PLC/PAX	37	28
OPTIC FIBRE	13	8
PLS	14	5

11 (B) **SCADA RTU STATUS**

STATIONS	NO. INSTALLED	NO OF RTU DISTURBED	NO OF RTU WORKING
POWER STATIONS	8	6	2
330kV	19	7	12
132kV	102	86	16

12(A) **UNAVAILABLE TRANSFORMERS/REACTORS:**

SHIRORO REGION:

- 1 Apo T/S 60MVA 132/33kV transformer TR3 - Burnt.
- 2 Birnin Kebbi 75MX Reactor R1.

KADUNA REGION:

- 1 Kumbotso 150MVA 330/132/33kV transformer T1A - Burnt control cables.

8 03:48Hrs, Delta P/S reduced generation by 70MW. Frequency was 50.50Hz.

9 12:01 – 13:18Hrs, Ibom Power GT3 went on island operation load reduced from 77.6MW to 13MW, to feed Eket and Uyo due to tripping of Itu/Uyo 132kV line.

10 14:10Hrs, Omotosho/Ikeja West 330kV line (cct M5W) was restored after amending Blue Phase detached conductor at tower # 403.

11 14:53Hrs, Trans-Amadi GT1 was tied. The unit was out due to tripping of Alaoji/Afam 132kV line 2.

12 16:54Hrs, Alausa T/S 45MVA 132/33kV transformer T1 was restored. The line was out on fault.

13 19:39Hrs, Trans Amadi GT1 was tied. The unit was out due to CB issue at Port Harcourt mains T/S.

14 20:35Hrs, Odukpani NIPP GT5 was tied. The unit was out on fault.

15 21:05Hrs, Trans Amadi GT4 was tied. The unit was out on fault.

16 21:16Hrs, Afam VI GT12 was tied. The unit was out on frequency management.

17 **LACK OF REACTOR AND UNRELIABLE STATION SERVICE SUPPLY AT IKOT-EKPENE T/S ARE HINDERING SMOOTH OPERATION.**

18 **THE SCADA COVERAGE OF ONLY LIMITED AREAS IS NOT GOOD FOR THE SMOOTH OPERATION OF THE GRID.**

12(D) **LAGOS REGION**

- 1 Agbara/Ojo 132kV line 1 on soak from Agbara end.

SHIRORO REGION:- Nil

12(E) **UNAVAILABLE CAPACITOR BANK:**

- (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.

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.

OSOGBO REGION:

- 1 Omotosho 330kV T/S, 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 NIL

- 1 New Haven/Nkalagu 132kV line 2 ground switch - Canibalized Red phase female contact and canibalized Yellow phase male contact.

12 (F) LINES WITH MISSING SKY WIRE

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 Apo T/S 132kV Keffi line - 36 spans
- 4 Shiroro T/S 330kV Jebba line 2 - 28 spans

12 (G) UNAVAILABLE SYNCHROSCOPES :

- 1 Benin, Ikeja West, Onitsha, Egbin, Ugwuaji, Osogbo, Kaduna, Jos, Gwagwalada & Alaoji T/S.

FOR MORE INFORMATION: NCC Telephone Lines -

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

