

TRANSMISSION COMPANY OF NIGERIA

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

DAILY OPERATIONAL REPORT OF TUESDAY 10/04/2018

FOR: EVENTS OF MONDAY 09/04/2018

1.0 EXECUTIVE OPERATIONS SUMMARY:

1.1 GENERATION PROFILE: NATIONAL STATISTICS

DETAILS	MW	HRS	DATE
PEAK DEMAND FORECAST (CONNECTED + SUPPRESSED LOAD)	23,030	14:00	09/04/2018
GENERATION CAPABILITY	6967.6	-do-	-do-
UNITS ON BAR CAPABILITY AT PEAK	4884.1	-do-	-do-
PEAK GENERATION	3946.5	-do-	-do-
LOWEST GENERATION	2953.3	24:00	09/04/2018
8-HOURLY DURATION PEAK	3946.53	0100-0800	-do-
	3946.53	0900-1600	-do-
	3797.6	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	365	Omotosho T/S	23:00
LOWEST VOLTAGE FOR THE DAY	300	Gombe & Yola T/S	06:00 each

1.3 FREQUENCY RANGE

DETAILS	HZ	HRS
NOMINAL FREQUENCY	50	
STATUTORY LIMITS	49.75 - 50.25	
HIGHEST FREQUENCY	50.73	20:51
LOWEST FREQUENCY	50.25	08:37

1.4 SYSTEM COLLAPSE UP DATE

Date of last total collapse: 1st Feb., 2018		No. of days since last total collapse: 62																						
Date of last partial collapse: 17 th Oct., 2017		No. of days since last partial collapse: 164																						
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	--	2	2	1	4	22											
	Partial	1	--	--	1	1	3	4	4	3	2	--	1											
	Total	--	--	--	4	3	1	1	1	2	1	--	13											
	Partial	--	1	--	--	--	--	1	--	1	2	--	6											
2011	Total	--	2	1	5	2	1	--	--	2	2	1	16											
	Partial	--	--	2	3	--	--	--	1	--	1	1	8											
2012	Total	--	1	2	2	3	4	1	1	1	4	2	22											
	Partial	--	--	--	--	--	--	--	2	--	--	--	2											
2013	Total	2	--	0	2	0	3	1	0	0	1	0	9											
	Partial	--	--	0	0	1	0	0	0	0	2	1	4											
2014	Total	1	0	1	0	2	0	1	0	0	1	0	6											
	Partial	--	--	1	0	2	0	0	0	1	0	0	4											
2015	Total	--	--	2	3	6	5	0	0	1	2	2	22											
	Partial	--	--	1	0	1	3	1	0	0	0	0	6											
2016	Total	5	3	0	3	1	1	0	0	1	1		15											
	Partial	1	0	1	0	0	0	1	0	0	3		9											
2017	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	254	151
2 JEBBA	HYDRO	252	157
3 SHIRORO	HYDRO	188	175
4 EGBIN ST2 - 5	STEAM	536	398
5 SAPELE	STEAM	0	55
6 DELTA	GAS	472	307
7 AFAM IV-V	GAS	0	0
8 GEREGU GAS	GAS	220	180
9 OMOTOSHO GAS	GAS	168.3	126.2
10 OLORUNSOGO GAS	GAS	134.1	100.4
11 GEREGU NIPP	GAS	114	109
12 SAPELE NIPP	GAS	178.9	73.2
13 ALAQJI NIPP	GAS	0	0
14 OLORUNSOGO NIPP	GAS	75.7	102.4
15 OMOTOSHO NIPP	GAS	100	87.2
16 ODUKPANI NIPP	GAS	287.3	166.4
17 IHOVBOR NIPP	GAS	0	79.6
18 OKPAI	GAS	118	95
19 AFAM VI	GAS	384	220
20 IBOM POWER	GAS	66.9	71.1
21 ASCO	GAS	0	0
22 A.E.S	GAS	0	0
23 OMOKU	GAS	75.9	73.3
24 TRANS AMADI	GAS	0	0
25 RIVERS IPP	(GAS)	105	85
26 AZURA - EDO IPP	(GAS)	67	0
27 EGBIN ST6	(GAS)	0	0
28 PARAS ENERGY	(GAS)	68.6	69.4
29 GBARAIN NIPP	GAS	80.8	72.1
TOTAL		3946.5	2953.3

1.6 ENERGY GENERATED/ENERGY SENT OUT:

STATION	TURBINE	ENERGY GENERATED		ENERGY SENT OUT	
		MWH	MWH/H	MWH	MWH/H
1 KAINJI	HYDRO	5159.00	214.96	5141.80	214.24
2 JEBBA	HYDRO	4881.00	203.38	4852.60	202.19
3 SHIRORO	HYDRO	4404.00	183.50	4372.24	182.18
4 EGBIN ST2 - 5	STEAM	12488.00	520.33	11745.80	489.41
5 SAPELE	STEAM	221.40	9.23	175.60	7.32
6 DELTA	GAS	10587.30	441.14	10233.30	426.39
7 AFAM IV-V	GAS	0.00	0.00	0.00	0.00
8 GEREGU GAS	GAS	4881.40	203.39	4854.42	202.27
9 OMOTOSHO GAS	GAS	3915.00	163.13	3882.20	161.76
10 OLORUNSOGO GAS	GAS	2881.79	120.07	2853.48	118.90
11 GEREGU NIPP	GAS	2530.87	105.45	2515.86	104.83
12 SAPELE NIPP	GAS	3837.64	159.90	3712.75	154.70
13 ALAQJI NIPP	GAS	0.00	0.00	0.00	0.00
14 OLORUNSOGO NIPP	GAS	2098.20	87.43	2053.70	85.57
15 OMOTOSHO NIPP	GAS	2291.20	95.47	2270.50	94.60
16 ODUKPANI NIPP	GAS	6371.88	265.50	6342.28	264.26
17 IHOVBOR NIPP	GAS	930.00	38.75	918.20	38.26
18 OKPAI	GAS	2594.00	108.08	2488.50	103.69
19 AFAM VI	GAS	8167.60	340.32	8060.84	335.87
20 IBOM	GAS	1625.97	67.75	1617.00	67.38
21 ASCO	GAS	0.00	0.00	0.00	0.00
22 AZURA - EDO IPP	GAS	571.10	23.80	570.50	23.77
23 A.E.S	GAS	0.00	0.00	0.00	0.00
24 OMOKU	GAS	1835.70	76.49	1798.01	74.92
25 TRANS AMADI	GAS	0.00	0.00	0.00	0.00
26 RIVERS IPP	GAS	2466.10	102.75	2460.13	102.51
27 EGBIN ST6	STEAM	0.00	0.00	0.00	0.00
28 PARAS ENERGY	GAS	1638.40	68.27	1630.10	67.92
29 GBARAIN NIPP	GAS	1913.10	79.71	1895.90	79.00
TOTAL		88,290.65	3,678.78	86,445.71	3,601.90

1.7A GENERATION POSITION AT 06:00HRS OF TUESDAY 10/04/2018

	STATIONS	NO OF INSTALLED UNITS	AVAILABLE UNITS	INSTALLED CAPACITY OF AVAILABLE UNITS(MW)	GENERATION CAPABILITY OF AVAILABLE UNITS(MW)	UNITS ON BAR	CAPABILITY OF UNITS ON BAR (MW)	GENERATION AT 06:00HRS (MW)	REMARKS
PRIVATISED COMPANIES	KAINJI HYDRO	8	1G5, 6 & 12 3	290	290	1G5, 6 & 12 3	290	152	1G5, 6 & 12 - Generation reduced on frequency management. 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. 1G11 - Tripped on governor fault.
	JEBBA HYDRO	6	2G1 - 5 5	475	475	2G1 & 5 2	190	170	2G2 & 3 - Out on water management. 2G4 - Out on frequency management. 2G6 - Out due to burnt generator winding and AVR.
	SHIRORO HYDRO	4	411G2 & 3 2	300	300	411G2 & 3 2	180	120	411G2 & 3 - Generation reduced on frequency management.
	EGBIN STEAM	5	ST1, 2, 4 & 5 4	880	580	ST1, 2, 4 & 5 4	580	398	ST3 - Tripped on high vibration since 19th June 2017. Generation reduced on frequency management.
	SAPELE (STEAM)	6	ST2 1	120	55	ST2 1	55	55	ST1 - Tripped on low drum level. ST3 - Out on stator winding problem. ST4 & 5 - Awaiting major overhaul. ST6 - Tripped on gas control valve not following reference point.
	DELTA (GAS)	18	GT7, 9 - 13, 16 & 18 - 20 10	520	520	GT7, 9 - 13 18-20 9	420	363	GT3 & 5 - Out due to generator winding fault. GT4 - Shut down due to vibration problem. GT6 & 14 - Out on major overhaul. GT7, 9 - 13 - Generation reduced on frequency management. GT15 - Out on maintenance. GT16 - Shut down on frequency management. 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. GT17 - Tripped on loss of excitation. GT18 - Out on 4000Hrs inspection and maintenance since 04/04/2018. GT19 & 20 - Awaiting major overhaul.
	GEREGU GAS	3	GT11 - 13 3	435	435	GT11 - 13 3	435	180	Generation reduced on frequency management.
	OMOTOSHO GAS	8	GT1 - 8 8	336	304	GT2, 3, 4, 6 & 8 5	190	126.9	GT1, 5 & 7 - Out due to gas constraint. Generation reduced on frequency management.
	OLORUNSOGO GAS	8	GT1 - 8 8	336	304	GT2, 4, 6 & 8 4	152	101.6	GT1, 3, 5 & 7 - Out due to gas constraint. Generation reduced on frequency management.
NIPP	GEREGU NIPP	3	GT22 & 23 2	290	290	GT22 1	145	90	GT21 - Out on maintenance. GT22 - Generation reduced on frequency management.
	SAPELE NIPP	4	GT1 1	112.5	112.5	GT1 1	112.5	62.4	GT2 & 3 - Out due to high air inlet differential pressure. GT4 - Tripped on generator fire alarm. Generation reduced on frequency management.
	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	375	360	GT1 1	120	70.9	GT2 & 3 - Out due to gas constraint. GT4 - Out due to ignition failure and control relay failure alarm. ST13 & ST23 - Out on maintenance. Generation reduced on frequency management.
	OMOTOSHO NIPP GAS	4	GT1, 2 & 4 3	375	360	GT2 1	120	96.2	GT1 & 4 - Out due to gas constraint. GT3 - Shut down due to oil leakage on the unit.
	ODUKPANI NIPP	5	GT3, 4 & 5 3	360	345	GT3 & 4 2	230	178.8	GT1 - Out on fault. GT2 - Out due to malfunctioning gas regulating valve. GT5 - Out on frequency management.
	IHOVBOR NIPP	4	GT3 1	112.5	112.5	GT3 1	110	81.2	GT1 - Out due to gas constraint. GT2 - Out due to gas outlet valve problem. GT4 - Out on maintenance.
	GBARAIN NIPP GAS	1	GT2 1	112.5	112.5	GT2 1	112.5	91.4	Available unit on bar.
IPP	OKPAI GAS/STEAM	3	GT12 1	150	150	GT12 1	150	101	GT11 & ST18 - Out on maintenance. GT12 - On frequency response.
	AZURA - EDO	3	GT11 & 13 2	300	300	0 0	0	0	GT12 - Awaiting commissioning. GT11 & 13 - Shut down after test.
	AFAM VI GAS/STEAM	4	GT11- 13 & ST10 4	650	650	GT12 & 13 2	300	220	GT11 & ST10 - Shut down on frequency management.
	IBOM POWER GAS	3	GT3 1	115	115	GT3 1	115	74.5	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	1	0 0	0	0	0 0	0	0	GT1 - Shut down due to leakage in the furnace.
	OMOKU GAS	6	GT1, 2, 5 & 6 4	100	80	GT2, 5 & 6 3	80	60.5	GT1 - Shut down on frequency management. GT3 - Out due to gas leakage. GT4 - Awaiting major overhaul.
	TRANS-AMADI	4	GT1 & 2 2	50	40	0 0	0	0	GT1 & 2 - Out due to line constraint. GT3 - Out on fault. GT4 - Tripped on generator differential lockout.
	RIVERS	1	GT1 1	180	160	GT1 1	160	85	GT1 - Generation reduced on frequency management.
	SUB TOTAL	130	76	7349.5	6810.5	49	4247	2878.4	Frequency = 50.49Hz.

1.7B GENERATION POSITION AT 06:00HRS OF TUESDAY 10/04/2018 FOR UNITS ON BILATERAL AGREEMENT

FEEDER	MAX. LOAD (MW)	TIME (HRS)	REMARK
EGBIN	1	0	ST6 - Shut down to clean condenser.
		0	
		0	
PARAS ENERGY	8	GT2 - 9	Available units on bar.
		8	
		67.8	
		67.8	
		GT2 - 9	
		8	
		67.8	
		67.8	
SUB TOTAL	9	8	
		67.8	
		67.8	
GRAND TOTAL	139	84	Frequency = 50.49Hz.
		7417.3	
		6878.3	
		57	
		4,314.80	
		2,946.20	

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1.7C BILATERAL AGREEMENT UNITS DISPATCH - MONDAY 09/04/2018

FEEDERS NAME	MAX. LOAD (MW)	TIME (HRS)	REMARK
Egbin ST6 120MW GENERATION TO IKEJA ELECTRICITY DISTRIBUTION COMPANY			
OGBA	U-STEEL	1	0700HRS 24 NIL
	PTCEXPRESS	13	1600HRS 20 TRIPPED ON INST O/C AND INST. E/F
	SANKYO	ON	0100HRS 20 TRIPPED ON INST O/C AND INST. E/F AND E/F
	FEEDER 8	15	1100HRS 24 NIL
IKORODU	PULK IT	4	0200HRS 24 NIL
	INDUSTRIAL	20	1700HRS 24 NIL
	SPINTEX	4	2200HRS 24 NIL
	DANGOTE	ON	0700HRS 24 NIL
	LAND CRAFT	43	2000HRS 24 NIL
ALABUSA	TR4 15MVA	7.8	1600HRS 20 DUE TO TRIPPING AT OTTA END
	TR5 -15MVA	6	1500HRS 20 DUE TO TRIPPING AT OTTA END
	ALAUUSA	16.2	1200HRS 21 DUE TO TRIPPING AT OTTA END
MLAND	PTC (MARYLAND)	16	1300HRS 13 OUTAGE DUE TO FAULT ON PTC 33KV FEEDER
	TOTAL LOAD	146	

BILATERAL AGREEMENT LOAD DISPATCH
60MW PARAS ENERGY GENERATION TO CEB

FEEDER	MAX	TIME	HOURS IN SERVICE	REMARK
Ikeja West Sakete 330kV line	69.4	24:00	24	NIL

1.8 HYDROLOGICAL DATA: TUESDAY 10/04/2018

	KAINJI	JEBBA	SHIRORO
HEAD WATER ELEVATION (METERS)	136.62	99.86	370.11
TAIL WATER ELEVATION (METERS)	102.8	72.9	270.20
GROSS OPERATING HEAD (METERS)	33.82	26.96	99.91
AVERAGE TURBINE DISCHARGE (M3/SEC)	692.00	869.00	217.00
AVERAGE SPILLAGE (M3/SEC)	305.00	0.00	0.00
AVERAGE TOTAL STATION DISCHARGE (M3/SEC)	997	869	217
COMPUTED INFLOW (M3/SEC)	94.00	996.00	4.00
STORAGE DIFFERENTIAL	-903.00	127	-213
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 MONDAY 09/04/2018

DISCO	MAXIMUM LOAD(MW)	TIME(HRS)	ALLOCATED LOAD (MW)	MINIMUM LOAD(MW)	TIME(HRS)
ABUJA	413.50	10:00	405.65	320.9	23:00
EKO	508.1	15:00	396.7	83.2	22:00
IKEJA	551.7	19:00	504.7	95.7	23:00

2.0 GAS POSITION: TUESDAY 10/04/2018

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	577	1100	580	580	520
DELTA (GAS)	402	915	420	420	495
OMOTOSHO GAS	177.9	336.8	190	190	146.8
OMOTOSHO NIPP	99.4	500	120	120	380
OLORUNSOGO (GAS)	111.5	336	152	152	184
OLORUNSOGO NIPP	101.4	750	120	120	630
SAPELE NIPP	174.3	500	112.5	112.5	387.5
SAPELE STEAM	0	720	0	720	0
AFAM IV-V	0	300	0	300	300
AFAM VI	350	650	300	300	350
GEREGU GAS	172	435	435	435	0
GEREGU NIPP	100	435	145	145	290
OKPAI (GAS/STEAM)	114	480	150	150	330
ALAQJI NIPP	0	504	0	504	504
IHOVBOR NIPP	0	450	0	450	450
IBOM	72.7	198	110	110	88
ODUKPANI NIPP	285.1	625	230	230	395
TOTAL	2737.3	9236.22	3064.5	3064.5	6170.3

1 MMSCF IS EQUIVALENT TO 3.75MW

3.0 SPINNING RESERVE FOR : MONDAY 09/04/2018

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

3.1 SYSTEM SPINNING RESERVE AS AT 0600HRS OF TUESDAY 10/04/2018 = 0MW. FREQUENCY 50.49HZ.

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		382.5	
		GT4		0	
4	Geregu NIPP	GT22	35	0	0
		GT1	0		
5	Omotosho NIPP	GT2	40	0	0
		GT3		0	
		GT4		0	
TOTAL (MW)			295	0	0

4.0 UNUTILIZED GENERATION CAPABILITY

The unutilized generation capability for Tuesday 10/04/2018 as at 0600Hrs was = 3206.7MW.

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 NIPP GT1 & 4	240	0	240	1963.5
2	Ihovbor GT1	112.5	0	112.5	
3	Alaqji NIPP GT1, 2 & 4	360	0	360	
4	Olorunsogo Gas GT1, 3, 5 & 7	152	0	152	
5	Olorunsogo NIPP GT2 & 3	240	0	240	
6	Omotosho gas GT1, 5 & 8	114	0	114	
7	Geregu NIPP GT23	145	0	145	
				0	
				0	
				0	
				0	
IT IS ENVISAGED WITH IMPROVED PLANT AVAILABILITY AND RELIEF FROM EXISTING POWER SYSTEM NETWORK RELATED CONSTRAINTS, ADDITIONAL 1582.08MSCF OF GAS (EQUIVALENT TO 6170.3MW) WILL BE REQUIRED WHEN ALL THERMAL UNITS ARE ON BAR.					
4.2 DUE TO LINE CONSTRAINTS					
1	Frans-Amadi GT1 & 2	40	0	40	80.5
2	Ibom Power GT3	115	74.5	40.5	
				0	
				0	
4.3 DUE TO FREQUENCY MANAGEMENT OCCASIONED BY DISCOS' LOAD DEMAND					
1	Kainji IGS 6 & 11	290	152	138	1572.7
2	Delta GT7, 9-13 & 16	220	90	130	
3	Jebba 2G4	95	0	95	
4	Rivers IPP GT1	160	85	75	
5	Olorunsogo NIPP GT1	120	70.9	49.1	
6	Olorunsogo Gas GT2, 4, 6 & 8	152	101.6	50.4	
7	Alam GT11 & ST10	350	0	350	
8	Sapele NIPP GT1	112.5	62.4	50.1	
9	Geregu Gas GT11 - 13	435	150	285	
10	Geregu NIPP GT22	145	90	55	
11	Omoku GT1	20	0	20	
12	Omotosho Gas GT2 - 4, 6 & 8	190	126.9	63.1	
13	Egbin ST1, 2, 4 & 5	580	398	182	
14	Shiroro 41TG2 & 3	180	120	60	
				0	
4.4 DUE TO WATER MANAGEMENT					
1	Jebba 2G2 & 3	190	0	190	190
Grand Total					3206.7

5.0 **OUTAGES:**

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

1 21:19 through 24:00Hrs, Sapele NIPP GT4 tripped on generator fire alarm. LHR = 74MW.

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

- 1 12:36 – 12:38Hrs, Ihovbor/Okada 132kV line 1 CBs tripped at both ends on the following relay indications:
At Ihovbor T/S: ABB Relay. General trip, zone 1 R-PH fault, stand protection OPTD.
At Okada T/S: General trip zone 1. LHR = 1.4MW.
- 2 12:58 – 13:13Hrs, Alaoji/Umuahia 132kV line 1 CB tripped at Alaoji T/S on Micom Relay zone 1, started Phase CN, tripped Phase CN, distance trip Z1, O/C start I->I, E/F start M1 >I2 E/F trip IM>2, fault duration = 60ms, fault location = 43.11km, 2 by 3-Phases trip. LHR = 18MW.
- 3 12:43 – 13:22Hrs, Ayede T/S 100MVA 132/33kV transformer T1 primary & secondary CBs tripped on differential E/F, O/C Red & Yellow Phases. LHR = 35MW.
- 4 12:41 – 23:55Hrs, Mpherson T/S 40MVA 132/33kV transformer T1 primary & secondary CBs tripped on general trip and REF. LHR = 0.1MW.
- 5 17:45 – 18:27Hrs, Ife/Ondo 132kV line tripped at Ife T/S on Optimho relay, Location = -1405km, period = 0ms. LHR = 0.1MW.
- 6 18:32 – 18:18Hrs, Ihovbor/Okada 132kV line CBs tripped at both ends on the following relay indications:
At Ihovbor T/S: ABB relay – General trip, zone 1, Yellow Phase fault.
At Okada T/S: Micom relay – General trip, Yellow Phase zone 1. LHR = 0.5MW.
- 7 20:47 – 23:37Hrs, Ogba/Alausa 132kV line CB tripped at Ogba T/S on micom relay – location = 2.911km. LHR = 56MW.
- 8 20:39 through 24:00Hrs, Ajah/Alagbon 330kV line 1(cct J1B) tripped at both ends on the following relay indications:
At Ajah T/S: O/C, 3- Phases & zone 1 trip.
At Alagbon T/S: E/F relay. LHR = 62MW.
- 9 20:39 through 24:00Hrs, Ajah T/S 100MVA & 60MVA 132/33kV transformers T1 & T2 primary CBs tripped on E/F relay. LHR = 20MW & 3MW respectively.
- 10 20:39 – 22:50Hrs, Alagbon T/S 60MVA 13/33kV mobile transformer tripped without relay indication. LHR = 15MW.

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

5(D) **URGENT OUTAGES:**

- 1 00:20 – 12:20Hrs, New Haven T/S 60MVA 132/33kV transformer T2 was taken out due to Buchholz trip alarm that came up on the transformer. Load loss = 12.6MW.
- 2 09:20 – 10:00Hrs, Omosho T/S 150MVA 330/132/33kV auto transformer primary CB #3313 was taken to build up its low SF6 gas pressure to normal. No load loss as the tie CB # 3312 was in service.

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.

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

5 (F) **AUTOMATIC UNDER FREQUENCY OPERATION:- NIL**

5 (g) **330KV LINES THAT ARE OUT ON VOLTAGE CONTROL:-** ccts A2K, B2K & 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 U1A, J2H, W3L & S5B.

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

6 **WEATHER REPORT:-** Rainfall was reported in New Haven, Onitsha, Osogbo, Ajah, Ikeja West, Ayede, Ihovbor & Akangba.

7 **INTERNATIONAL LINES:-**

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

Maximum load - 249MW at 13:00Hrs.
Minimum load - 155MW at 23:00Hrs.

B **BIRNIN KEBBI/NIA MEY 132KV LINE**

Maximum load - 105MW at 24:00Hrs.
Minimum load - 66MW at 23:00Hrs.

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

Maximum load - 40.0MW at 20:00Hrs.
Minimum load - 26.0MW at 08:00Hrs.

8 **MISCELLANEOUS:-**

- 1 01:33 – 08:48Hrs, Delta GT20 was shut down on frequency management. Load loss = 93MW.
- 2 04:05 through 24:00Hrs, Jebba 2G4 was shut down of frequency management. Load loss = 78MW.
- 3 08:43Hrs, Jebba 2G2 was tied. The unit was out on water management.
- 4 10:10 - 18:26Hrs, Benin T/S placed Hold Off Tags (OF12) on ccts B5M & B6N for the live line crew to continue the replacement of corroded glass insulators with silicon composite type.
- 5 10:25Hrs, Azura-Edo IPP GT12 was tied for test.
- 6 14:06Hrs, Azura-Edo GT12 was shut down after test. Load loss = 156MW.

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 CONTACTED 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).

11 (A) COMMUNICATION MEDIA

STATIONS	NO INSTALLED	NO. WORKING
PLC/PAX	37	33
OPTIC FIBRE	13	10
PLS	14	5

11 (B) SCADA RTU STATUS

STATIONS	NO. INSTALLED	NO OF RTU DISTURBED	NO OF RTU WORKING
POWER STATIONS	8	5	3
330kV	19	7	12
132kV	102	78	24

- 7 14:49Hrs, Ihovbor NIPP GT3 was tied. The unit tripped on bus under voltage.
 - 8 14:56 through 24:00Hrs, Benin/Onitsha 330kV line 2 (cct B2T) was taken out on voltage control. Voltage profile: 345/344kV.
 - 9 15:10 through 24:00Hrs, Jebba 2G2 was shut down on water management. Load loss = 70MW.
 - 10 16:41 through 24:00Hrs, Alagiji/Ikot Ekpen 330kV line 2 (cct A2K) was switched off at Ikot-Ekpen T/S on voltage control. V/P = 355/349kV.
 - 11 19:17Hrs, Sapele steam ST2 was tied. The unit was out on maintenance.
 - 12 20:57 through 24:00Hrs, Delta P/S GT16 was shut down for frequency management. Load loss = 82MW.
 - 13 21:17Hrs, Ikeja West T/S 330kV 75MX shunt Reactor R2 was placed in service for voltage control. V/P = 345/343kV.
 - 14 21:18Hrs, Ikeja West T/S 330kV 75MX shunt Reactor R1 was placed in service for voltage control. V/P = 343/341kV.
 - 15 21:23 through 24:00Hrs, Odukpani P/S GT5 was shut down for frequency management. Load loss = 73.1MW.
 - 16 21:40Hrs of 24/03/18 – 14:30Hrs of 09/04/18, Kaduna T/S 150MVA 330/132/33kV transformer T3 primary CB was taken out due to hot spot observed on the newly installed primary CT. **Note:** The primary CT & isolator were changed before restoration.
- ***** 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.

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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-Ekperne 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 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

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

12(D) LAGOS REGION

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

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.

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/Iire 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 (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

