

TRANSMISSION COMPANY OF NIGERIA

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

DAILY OPERATIONAL REPORT OF WEDNESDAY 07/11/2018

FOR: EVENTS OF TUESDAY 06/11/2018

1.0 EXECUTIVE OPERATIONS SUMMARY:

1.1 GENERATION PROFILE: NATIONAL STATISTICS

DETAILS	MW	HRS	DATE
PEAK DEMAND FORECAST (CONNECTED + SUPPRESSED LOAD)	22,900	21:30	06/11/2018
GENERATION CAPABILITY	6982.6	-do-	-do-
UNITS ON BAR CAPABILITY AT PEAK	5270.3	-do-	-do-
PEAK GENERATION	4856.8	-do-	-do-
LOWEST GENERATION	3321.8	04:00	06/11/2018
8-HOURLY DURATION PEAK	3810.5	0100-0800	-do-
	4112.9	0900-1600	-do-
	4970.8	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	349	Jos T/S	03:00
LOWEST VOLTAGE FOR THE DAY	296	Sakete T/S	22:00

1.3 FREQUENCY RANGE

DETAILS	HZ	HRS
NOMINAL FREQUENCY	50	
STATUTORY LIMITS	49.75-50.25	
HIGHEST FREQUENCY	50.96	00:48
LOWEST FREQUENCY	50.03	18:47

1.4 SYSTEM COLLAPSE UP DATE

Date of last total collapse: 20th Sept, 2018		No. of days since last total collapse: 46													
Date of last partial collapse: 12th April, 2018		No. of days since last partial collapse: 205													
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		2				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	395	284
2 JEBBA	HYDRO	459	360
3 SHIRORO	HYDRO	596	302
4 EGBIN ST2 - 5	STEAM	469	340
5 SAPELE	STEAM	50	50
6 DELTA	GAS	520	335
7 AFAM IV-V	GAS	65	38
8 GEREGU GAS	GAS	143	70
9 OMOTOSHO GAS	GAS	137.5	101.8
10 OLORUNSOGO GAS	GAS	0	0
11 GEREGU NIPP	GAS	0	0
12 SAPELE NIPP	GAS	152.2	98.4
13 ALAOJI NIPP	GAS	109	75.9
14 OLORUNSOGO NIPP	GAS	212.9	128.3
15 OMOTOSHO NIPP	GAS	220.4	138.7
16 ODUKPANI NIPP	GAS	0	0
17 IHOVBOR NIPP	GAS	103.4	90.1
18 OKPAI	GAS	260	180
19 AFAM VI	GAS	152	101
20 IBOM POWER	GAS	95.8	76
21 ASCO	GAS	0	0
22 A.E.S	GAS	0	0
23 OMOKU	GAS	57.1	50.7
24 TRANS AMADI	GAS	32.2	32.1
25 RIVERS IPP	(GAS)	0	0
26 AZURA - EDO IPP	(GAS)	449	225
27 EGBIN ST6	(GAS)		111
28 PARAS ENERGY	(GAS)	69.4	65.4
29 GBARAIN NIPP	GAS	108.9	68.4
TOTAL		4856.8	3321.8

1.6 ENERGY GENERATED/ENERGY SENT OUT:

STATION	TURBINE	ENERGY GENERATED		ENERGY SENT OUT	
		MWH	MWH/H	MWH	MWH/H
1 KAINJI	HYDRO	9688.00	403.67	9670.60	402.94
2 JEBBA	HYDRO	9893.00	412.21	9871.44	411.31
3 SHIRORO	HYDRO	10024.00	417.67	9996.06	416.50
4 EGBIN ST2 - 5	STEAM	8839.00	368.29	8288.20	345.34
5 SAPELE	STEAM	974.30	40.60	949.40	39.56
6 DELTA	GAS	9561.43	398.39	9443.70	393.49
7 AFAM IV-V	GAS	1306.00	54.42	1299.75	54.16
8 GEREGU GAS	GAS	2511.70	104.65	2493.32	103.89
9 OMOTOSHO GAS	GAS	2643.00	110.13	2619.30	109.14
10 OLORUNSOGO GAS	GAS	0.00	0.00	0.00	0.00
11 GEREGU NIPP	GAS	0.00	0.00	0.00	0.00
12 SAPELE NIPP	GAS	2533.97	105.58	2513.30	104.72
13 ALAOJI NIPP	GAS	2181.63	90.90	2181.61	90.90
14 OLORUNSOGO NIPP	GAS	4808.80	200.37	4757.90	198.25
15 OMOTOSHO NIPP	GAS	4301.30	179.22	4273.80	178.08
16 ODUKPANI NIPP	GAS	0.00	0.00	0.00	0.00
17 IHOVBOR NIPP	GAS	2260.44	94.19	2237.06	93.21
18 OKPAI	GAS	4743.00	197.63	4621.40	192.56
19 AFAM VI	GAS	3122.92	130.12	3030.33	126.26
20 IBOM	GAS	1897.74	79.07	1889.00	78.71
21 ASCO	GAS	0.00	0.00	0.00	0.00
22 AZURA - EDO IPP	GAS	7035.15	293.13	7015.00	292.29
23 A.E.S	GAS	0.00	0.00	0.00	0.00
24 OMOKU	GAS	1302.10	54.25	1260.86	52.54
25 TRANS AMADI	GAS	750.80	31.28	737.40	30.73
26 RIVERS IPP	GAS	0.00	0.00	0.00	0.00
27 EGBIN ST6	STEAM	2677.00	111.54	2521.70	105.07
28 PARAS ENERGY	GAS	1622.50	67.60	1613.70	67.24
29 GBARAIN NIPP	GAS	1958.00	81.58	1941.60	80.90
TOTAL		96,635.78	4,026.49	95,226.43	3,967.77

1.7A GENERATION POSITION AT 06:00HRS OF WEDNESDAY 07/11/2018

	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 50.51Hz.	REMARKS
PRIVATISED COMPANIES	KAINJI HYDRO	8	1G5, 6, 11 & 12 4	440	420	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	475	475	2G1 - 5 5	445	438	2G6 - Out due to burnt generator winding and AVR.
	SHIRORO HYDRO	4	411G1 - 4 4	600	600	411G1 - 4 4	600	502	411G3 - Generation reduced due to low load demand by the Discos.
	EGBIN STEAM	5	ST2, 4 & 5 3	660	600	ST2, 4 & 5 3	600	381	ST1 - Out due to undisclosed fault since 04/09/2018. ST3 - Out on high vibration since 19th June 2017. Generation reduced due to low load demand by the Discos.
	SAPELE (STEAM)	6	ST2 1	120	60	ST2 1	50	50	ST1 & 3 - Tripped on low drum level. ST4 & 5 - Awaiting major overhaul. ST6 - Tripped on gas control valve not following reference point.
	DELTA (GAS)	18	GT7, 9 - 13, 15, 16 & 19 & 20 10	545	545	GT7, 9 - 13, 15, 16 & 19 9	440	423	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. GT15 - On frequency response. GT17 - Tripped on bearing vibration more than maximum. GT18 - Out due to generator lockout problem. GT20 - Out due to low load demand by the Discos.
	AFAM IV & V (GAS)	8	GT18 1	75	70	GT18 1	45	45	GT1 - 12 - De-commissioned and scrapped. GT13,14 & 16 - Out on blade failure. GT17 - Out due to technical issue. GT19 & 20 - Awaiting major overhaul.
	GEREGU GAS	3	GT11 1	145	145	GT11 1	145	119	GT12 & 13 - Tripped on natural gas valve position.
	OMOTOSHO GAS	8	GT1 - 8 8	336	304	GT1, 2, 6 & 7 4	152	102.4	GT3 - 5 & 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	304	304	0 0	0	0	GT1 - 8 - Out due to maintenance work at gas station.
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 1	112.5	112.5	GT1 1	112.5	84.6	GT2 - Out on general maintenance. GT3 & 4 - Shut down due to air inlet filter proble.
	ALAOJI NIPP GAS	4	GT2 1	120	120	GT2 1	120	75.4	GT1 - Out on maintenance. GT2 - Generation reduced due to low load demand by the Discos. GT3 - Shut down due to lack of spare part. GT4 - Tripped on over voltage lockout relay trip.
	OLORUNSOGO NIPP	6	GT1 & 2 2	250	240	GT1 & 2 2	219.3	219.3	GT3 - Out on maintenance. 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	GT1 & 2 2	240	193	GT3 - Out on lube oil leakage. GT4 - Out due to low load demand by the Discos.
	ODUKPANI NIPP	5	0 0	0	0	0 0	0	0	GT1 & 2 - Out on fault. GT3 & 5 - Out due to gas leakage. GT4 - Tripped on main transformer neutral O/C and HV protection.
	IHOVBOR NIPP	4	GT1, 2 & 4 3	337.5	337.5	GT2 1	112.5	103.3	GT1 & 4 - Out due to low load demand by the Discos. GT2 - On frequency response. GT3 - Tripped on high vibration.
	GBARAIN NIPP GAS	1	GT2 1	115	112.5	GT2 1	112.5	104.6	Available unit on bar.
IPP	OKPAI GAS/STEAM	3	GT11, 12 & ST18 3	370	370	GT11, 12 & ST18 3	290	188	GT11 - Generation reduced due to gas constraint. ST18 - Generation reduced due to boiler problem.
	AZURA - EDO	3	GT11 - 13 3	461	461	GT11 - 13 3	461	375	Available units on bar.
	AFAM VI GAS/STEAM	4	GT11 - 13 & ST10 4	650	640	GT13 1	153	153	GT11 & ST10 - Out due to gas constraint. GT12 - Out due to low load demand by the Discos.
	IBOM POWER GAS	3	GT3 1	115	115	0 0	0	0	GT1 & 2 - Out due to fire outbreak on the control panel. GT3 - Tripped due to the tripping of Itu/Uyo 132kV line.
	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 & 5 3	75	70	GT1, 2 & 5 3	55.4	55.4	GT3 - Tripped on over speed. GT4 - Out on major overhaul. GT6 - Out on maintenance.
	TRANS-AMADI	4	GT1, 2 & 4 3	75	60	GT1 & 2 2	60	20.2	GT1 & 2 - Generation reduced due to gas constraint. GT3 - Out on fault. GT4 - Out due to gas constraint.
	RIVERS	1	0 0	0	0	0 0	0	0	GT1 - Out due to lube oil interlock problem
	SUB TOTAL	140	75	7046	6811.5	52	4833.2	4021.2	Frequency = 50.40Hz.

1.7B GENERATION POSITION AT 06:00HRS OF WEDNESDAY 07/11/2018 FOR UNITS ON BILATERAL AGREEMENT

EGBIN	1	ST6 1	220	115	ST6 1	115	115	Available unit on bar.
PARAS ENERGY	8	GT2 - 9 8	70	67	GT2 - 9 8	67	67.8	Available units on bar.
SUB TOTAL	9	9	290	182	9	182	182.8	
GRAND TOTAL	149	84	7336	6993.5	61	5,015.20	4,204.00	Frequency = 50.40Hz

1.7C		BILATERAL AGREEMENT UNITS DISPATCH - TUESDAY 06/11/018							
		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	2000HRS			5		T2 60MVA TRIPPED ON DIFFERENTIAL	
	PTCEXPRESS	ON	2000HRS			5		T2 60MVA TRIPPED ON DIFFERENTIAL	
	SANKYO	ON	0100HRS			24		NIL	
	FEEDER 8	14	1000HRS			24		NIL	
IKORODU	PULK IT	4	1000HRS			24		NIL	
	INDUSTRIAL	9	0800HRS			24		NIL	
	SPINTEX	6	0800HRS			24		NIL	
	DANGOTE	ON	0100HRS			24		NIL	
	LAND CRAFT	17	2400HRS			24		NIL	
ALAUSA	TR4 15MVA	6.4	1000HRS			24		NIL	
	TR5 -15MVA	5.5	1500HRS			24		NIL	
	ALAUSA	14	1700HRS			24		NIL	
M/LAND	PTC (MARYLAND)	17	0900HRS			24		NIL	
	TOTAL LOAD	92.9							

BILATERAL AGREEMENT LOAD DISPATCH 60MW PARAS ENERGY GENERATION TO CEB OF TUESDAY 06/11/018							
FEEDER	MAX LOAD (MW)	TIME (HRS)	MIN LOAD (MW)	TIME (HRS)	HOURS IN SERVICE	TOTAL (MWH)	REMARK
Ikeja West/Sakete 330kV line	69.4	21:00	65.4	02:00	24	1622	Nil

BILATERAL AGREEMENT MAIN STREAM ENERGY KAINJI LOAD DISPATCH TO THE FOLLOWING COMPANIES OF: TUESDAY 06/11/018									
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	48	07:00	12	01:00	24	234	SUPPLY NOT INTERRUPTED
KAM STEEL		15.0	0.3	01:00	0.1	14:00	24	5.2	SUPPLY NOT INTERRUPTED
ASAKA CEMENT		0.0	9.6	07:00	5.5	15:00	24	201.4	SUPPLY NOT INTERRUPTED
XING 1	33kV feeder	0.0	9.75	20:00	0.3	01:00	24	71.85	SUPPLY NOT INTERRUPTED
XING 2		0.0	25	03:00	6.4	07:00	24	456.8	SUPPLY NOT INTERRUPTED
KAM INTEGRATED		15.0	5.2	10:00	1.4	23:00	24	58.5	SUPPLY NOT INTERRUPTED
OLAM FLOUR MILLS		3.0	2.5	11:00	1.2	14:00	24	47.6	SUPPLY NOT INTERRUPTED
LORDSMITH		0	0.4	01:00	0.4	23:00	24	9.6	SUPPLY NOT INTERRUPTED

1.8 HYDROLOGICAL DATA: TUESDAY 06/11/2018

	KAINJI	JEBBA	SHIRORO
HEAD WATER ELEVATION (METERS)	141.73	103.11	381.66
TAIL WATER ELEVATION (METERS)	105.35	75.1	271.0
GROSS OPERATING HEAD (METERS)	36.38	28.01	110.66
AVERAGE TURBINE DISCHARGE (M3/SEC)	1223.00	1651.00	446.00
AVERAGE SPILLAGE (M3/SEC)	504.00	496.00	0.00
AVERAGE TOTAL STATION DISCHARGE (M3/SEC)	1727.00	2147.00	446.00
COMPUTED INFLOW (M3/SEC)	1287.00	1835.00	194.00
STORAGE DIFFERENTIAL	-440.00	-312	-252
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 TUESDAY 06/11/018

	MAXIMUM LOAD (MW)	TIME (HRS)	ALLOCATED LOAD (MW)	MINIMUM LOAD (MW)	TIME (HRS)
ABUJA	534.2	16:00	528.38	364.3	08:00
EKO	451.2	19:00	605.40	307.3	10:00
IKEJA	625.0	21:00	689.19	444.2	13:00

2.0 GAS POSITION: WEDNESDAY 07/11/2018

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	381	1100		600	500
DELTA (GAS)	423	915		440	475
OMOTOSHO GAS	102.4	336.8		152	184.8
OMOTOSHO NIPP	193	500		240	260
OLORUNSOGO (GAS)	0	336		0	336
OLORUNSOGO NIPP	219.3	750		240	510
SAPELE NIPP	84.6	500		112.5	387.5
SAPELE STEAM	50	720		60	660
AFAM IV-V	45	300		70	230
AFAM VI	153	650		150	500
GEREGU GAS	119	435		145	290
GEREGU NIPP	0	435		0	435
OKPAI (GAS/STEAM)	188	480		290	190
ALAOJI NIPP	75.4	504		120	384
IHOVBOR NIPP	103.3	112.5		112.5	0
IBOM	0	198		0	198
ODUKPANI NIPP	0	625		0	625
TOTAL	2137	8897.30		2732	6165.3

1 MMSCF IS EQUIVALENT TO 3.75MW

3.0 SPINNING RESERVE FOR : TUESDAY 06/11/018

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

3.1 SYSTEM SPINNING RESERVE AS AT 0600HRS OF WEDNESDAY 07/11/2018 = 0MW. FREQUENCY 50.40Hz.

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 Wednesday 07/11/2018 as at 0600Hrs was = 2456MW.					
S/N	STATION	ACTUAL GENERATION CAPABILITY (MW)	GENERATION AT 0600HRS (MW)	UNAVAILABLE GENERATION CAPABILITY (MW)	SUB-TOTAL
4.1 DUE TO GAS CONSTRAINTS:					
1	Okpai GT11	145	20	125	1099.8
2	Afam VI GT13 & ST10	340	0	340	
3	Geregu NIPP GT22 & 23	290	0	290	
4	Trans-Amadi GT1, 2 & 4	60	20.2	39.8	
5	Olorunsogo GT1 - 8	305	0	305	
				0	
				0	
				0	
				0	
				0	
IT IS ENVISAGED WITH IMPROVED PLANT AVAILABILITY AND RELIEF FROM EXISTING POWER SYSTEM NETWORK RELATED CONSTRAINTS, ADDITIONAL 1644.08MMSCF OF GAS (EQUIVALENT TO 6165.3MW) WILL BE REQUIRED WHEN ALL THERMAL UNITS ARE ON BAR.					
4.2 DUE TO LINE CONSTRAINTS					
1	Ibom GT3	115	0	115	115
			0	0	
			0	0	
			0	0	
4.3 DUE TO LOW LOAD DEMAND BY THE DISCOS					
1	Ihovbor GT1 & 4	225	0	225	1241.2
2	Azura-Edo GT11 - 13	461	375	86	
3	Omotosho Gas GT1 - 8	304	102.4	201.6	
4	Shiroro 411G3	150	55	95	
5	Delta GT20	100	0	100	
6	Alaoji NIPP GT2	120	75.4	44.6	
7	Afam VI GT12	150	0	150	
8	Omoosho NIPP GT4	120	0	120	
9	Egbin ST2, 4 & 5	600	381	219	
				0	
				0	
				0	
				0	
				0	
4.1 DUE TO WATER MANAGEMENT:					
					0
Grand Total					2456

5.0 OUTAGES:

5 (A) FORCED OUTAGES (GENERATION): Nil.

5(B) FORCED OUTAGES (TRANSMISSION):

- 1 00:48 - 18:46Hrs, Ogba T/S 60MVA 132/33kV transformer T2 primary and secondary CBs tripped on differential relay. LHR = 23MW.
Note: Secondary Blue Phase shattered insulator was replaced, Yellow Phase punctured cable was reterminated and test was successfully carried out before restoration of the transformer.
- 2 04:23 – 05:06Hrs, Benin T/S 150MVA 330/132/33kV transformer 6T1 secondary CB tripped on E/F. LHR = 5MW
- 3 04:23 – 05:07Hrs, Benin T/S 150MVA 330/132/33kV transformer 6T2 secondary CB tripped on E/F. LHR = 5MW
- 4 04:23 - 10:43Hrs, Benin/Delta 132kV line CBs tripped at both ends on the following relay indications:
At Benin T/S: ABB relay: O/C phase C, distance = 56.6km, period = 30ms zone 1.
At Delta T/S: Distance protection relay: O/C Yellow & Blue phases, distance = 34.1km. LHR = 28.4MW
- 5 04:23 through 24:00Hrs, Benin/Oghara 132kV line CBs tripped at both ends on the following relay indications:
At Benin T/S: NARI relay: E/F, 3 phases, OP, POP time = 445ms, OP resist IP time = 476ms, E/F 3 time = 505ms, zone 2 time = 680ms, OP zone 3 time = 1018ms, location = 38.3km
At Oghara T/S: Distance protection O/C Blue phase and E/F, location = 7.27km. LHR = 26.2MW
- 6 04:23 - 16:51Hrs, Delta/Oghara 132kV line CBs tripped at both ends on the following relay indications:
At Delta T/S: Distance protection O/C Red phase and E/F trip relay. LHR = 26.0MW
At Oghara T/S: Schweitzer relay: O/C Blue phase & E/F.
- 7 14:13 - 14:28Hrs, Birnin-Kebbi/Sokoto 132kV line CB tripped at Birnin-Kebbi T/S on general trip and 86 lock out. LHR = 64MW
- 8 08:20 - 09:29Hrs, Akangba/Ojo 132kV line 1 CB tripped at Akangba T/S on O/C 3Phases stage 2. LHR = 52MW.

5 (C) PLANNED OUTAGES:-

- 1 09:55 – 15:36Hrs, Jebba/Osogbo 330kV line 1 (cct J1H) was taken out to enable maintenance crew carry out annual preventive maintenance on the CB and its associated equipment at Jebba T/S. No load loss as ccts J3G & H3G were in service.
- 2 13:59 - 18:46Hrs, Jebba 2G5 was shut down to enable maintenance crew carry out preventive maintenance on the slip ring compartment.
Load loss = 90MW
- 3 16:28 - 18:25Hrs, Ayede/Mcpherson/Shagamu/Ijebu-Ode 132kV line was taken out to replace broken stack insulator and defective CB at Ayede T/S. Load loss = 20MW.

5(D) URGENT OUTAGES:-

- 1 04:41 - 15:45Hrs, Sapele NIPP GT3 was shut down due to air inlet filter high differential pressure. Load loss = 30MW
- 2 12:15 - 14:01Hrs, Lekki T/S 60MVA 132/33kV transformer T12 was taken out to treat hot spot on the secondary Yellow Phase clamp.
Load loss = 6MW.

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	26
OPTIC FIBRE	13	10
PLS	14	4

5 (E) EMERGENCY OUTAGES:- NIL.

5 (F) AUTOMATIC UNDER FREQUENCY OPERATION:-

5 (G) 330KV LINES THAT ARE OUT ON VOLTAGE CONTROL:- ccts K4U, L7G, 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

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

6 WEATHER REPORT:- Rainfall reported at Onitsha, Benin, Delta, Osogbo.

7 INTERNATIONAL LINES:-

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

Maximum load - 293MW at 18:00Hrs.
Minimum load - 240MW at 07:00Hrs.

B BIRNIN KEBBI/NIAMEY 132KV LINE

Maximum load - 102MW at 16:00Hrs.
Minimum load - 76MW at 07:00Hrs.

C KATSINA/GAZAOUA/MARADI 132KV LINE

Maximum load - 35.7MW at 21:00Hrs.
Minimum load - 22.0MW at 06:00Hrs.

8 MISCELLANEOUS:-

- 1 00:59Hrs, Delta GT16 was shut down due to low load demand by the Discos. Load loss = 75MW
- 2 11:30Hrs, Afam VI GT13 was tied to swap with GT11.
- 3 12:11Hrs, Afam VI GT11 was shut down. The load was transferred to GT12
- 4 12:15Hrs, Delta GT15 was tied to swap with GT20.
- 5 12:27 - 19:08Hrs, Delta GT20 was shut down. The load was transferred to GT15
- 6 13:15Hrs, Owerri T/S 60MVA 132/33kV transformer TR2 was restored. It was taken out of service at 19:52Hrs of 05/11/2018 due to its primary CB not responding to Remote opening signal.
- 7 18:30Hrs, Jebba 2G5 was declared available.
- 8 18:32Hrs, Azura-Edo increased generation to maximum to improve the frequency.

**** 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.

11 SCADA RTU STATUS

STATIONS	NO. INSTALLED	NO OF RTU DISTURBED	NO OF RTU WORKING
POWER STATIONS	8	7	1
330kV	19	11	8
132kV	102	92	10

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:

- 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 Omotosho/Ikeja West 330kV line CB at Ikeja West T/S.

BENIN REGION:

- 1 Omotosho T/S 330kV, 2nd series 330kV CB #3322 out due to control circuit problem.

ENUGU REGION:

- 1 New Haven/Yandev 132kV line CB - Faulty Red phase CB pole. Protection is transferred to the bus coupler CB.
- 2 Abakaliki T/S 30MVA 132/33kV transformer T1A and 60MVA 132/33kV transformer T2 primary CBs - Breakers were not provided since commissioning but the transformers are protected by Nkalagu 132kV line CB.
- 3 Oji River T/S 30MVA 132/33kV transformer T1A primary CB - The breaker is completely out of service and bypassed. The transformer is either protected by Onitsha/Oji 132kV line CB or New Haven/Oji 132kV line CB.
- 4 Oturkpo/Yandev 132kV By pass isolator - Canibalized to repair the line isolator.
- 5 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.

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

