

TRANSMISSION COMPANY OF NIGERIA

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

DAILY OPERATIONAL REPORT OF SATURDAY 06/10/2018

FOR: EVENTS OF FRIDAY 05/10/2018

1.0 EXECUTIVE OPERATIONS SUMMARY:

1.1 GENERATION PROFILE: NATIONAL STATISTICS

DETAILS	MW	HRS	DATE
PEAK DEMAND FORECAST (CONNECTED + SUPPRESSED LOAD)	22,780	21:15	05/10/2018
GENERATION CAPABILITY	7590.5	-do-	-do-
UNITS ON BAR CAPABILITY AT PEAK	5024.3	-do-	-do-
PEAK GENERATION	4568.6	-do-	-do-
LOWEST GENERATION	3268.1	03:00	05/10/2018
8-HOURLY DURATION PEAK	4205.6	0100-0800	-do-
	3720	0900-1600	-do-
	4568.6	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	355	Jos T/S	03:00
LOWEST VOLTAGE FOR THE DAY	300	Kumbotso & Gombe T/S	11:00 & 12:00

1.3 FREQUENCY RANGE

DETAILS	HZ	HRS
NOMINAL FREQUENCY	50	
STATUTORY LIMITS	49.75-50.25	
HIGHEST FREQUENCY	50.89	03:00
LOWEST FREQUENCY	50.14	05:38

1.4 SYSTEM COLLAPSE UP DATE

Date of last total collapse: 20th Sept, 2018		No. of days since last total collapse: 15												
Date of last partial collapse: 12th April, 2018		No. of days since last partial collapse: 174												
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	--	1	20	
2011	Total	--	--	--	--	4	3	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	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		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	370	269
2 JEBBA	HYDRO	446	297
3 SHIRORO	HYDRO	443	412
4 EGBIN ST2 - 5	STEAM	391	336
5 SAPELE	STEAM	51	48
6 DELTA	GAS	391	271
7 AFAM IV-V	GAS	0	46
8 GEREGU GAS	GAS	137	81
9 OMOTOSHO GAS	GAS	125.4	121.6
10 OLORUNSOGO GAS	GAS	142.7	146.3
11 GEREGU NIPP	GAS	0	0
12 SAPELE NIPP	GAS	185.4	0
13 ALAOJI NIPP	GAS	110.6	79.7
14 OLORUNSOGO NIPP	GAS	110.3	101.1
15 OMOTOSHO NIPP	GAS	106.2	68.6
16 ODUKPANI NIPP	GAS	0	0
17 IHOVBOR NIPP	GAS	109.8	62.8
18 OKPAI	GAS	330	176
19 AFAM VI	GAS	134	110
20 IBOM POWER	GAS	79.4	67.5
21 ASCO	GAS	0	0
22 A.E.S	GAS	0	0
23 OMOKU	GAS	57.4	51.3
24 TRANS AMADI	GAS	63.6	36.6
25 RIVERS IPP	(GAS)	110	85
26 AZURA - EDO IPP	(GAS)	408	150
27 EGBIN ST6	(GAS)	113	113
28 PARAS ENERGY	(GAS)	69.4	68.6
29 GBARAIN NIPP	GAS	84.4	70
TOTAL		4568.6	3268.1

1.6 ENERGY GENERATED/ENERGY SENT OUT:					
STATION	TURBINE	ENERGY GENERATED		ENERGY SENT OUT	
		MWH	MWH/H	MWH	MWH/H
1 KAINJI	HYDRO	9334.00	388.92	9318.20	388.26
2 JEBBA	HYDRO	9561.00	398.38	9536.12	397.34
3 SHIRORO	HYDRO	9996.00	416.50	9964.20	415.18
4 EGBIN ST2 - 5	STEAM	8737.00	364.04	8250.00	343.75
5 SAPELE	STEAM	1110.50	46.27	1062.50	44.27
6 DELTA	GAS	8901.49	370.90	8591.30	357.97
7 AFAM IV-V	GAS	625.00	26.04	619.75	25.82
8 GEREGU GAS	GAS	2401.80	100.08	2382.90	99.29
9 OMOTOSHO GAS	GAS	2823.00	117.63	2800.30	116.68
10 OLORUNSOGO GAS	GAS	3179.19	132.47	3151.55	131.31
11 GEREGU NIPP	GAS	0.00	0.00	0.00	0.00
12 SAPELE NIPP	GAS	1957.50	81.56	1940.20	80.84
13 ALAOJI NIPP	GAS	2003.13	83.46	1997.74	83.24
14 OLORUNSOGO NIPP	GAS	2261.70	94.24	2225.70	92.74
15 OMOTOSHO NIPP	GAS	2160.40	90.02	2135.40	88.98
16 ODUKPANI NIPP	GAS	0.00	0.00	0.00	0.00
17 IHOVBOR NIPP	GAS	2110.38	87.93	2086.37	86.93
18 OKPAI	GAS	4833.00	201.38	4710.10	196.25
19 AFAM VI	GAS	2752.09	114.67	2693.45	112.23
20 IBOM	GAS	1672.49	69.69	1664.00	69.33
21 ASCO	GAS	0.00	0.00	0.00	0.00
22 AZURA - EDO IPP	GAS	5207.40	216.98	5189.70	216.24
23 A.E.S	GAS	0.00	0.00	0.00	0.00
24 OMOKU	GAS	1351.50	56.31	1318.30	54.93
25 TRANS AMADI	GAS	1270.80	52.95	1240.90	51.70
26 RIVERS IPP	GAS	1913.50	79.73	1907.16	79.47
27 EGBIN ST6	STEAM	2724.00	113.50	2584.50	107.69
28 PARAS ENERGY	GAS	1649.90	68.75	1640.80	68.37
29 GBARAIN NIPP	GAS	1759.00	73.29	1743.40	72.64
TOTAL		92,295.77	3,845.66	90,754.54	3,781.44

1.7A GENERATION POSITION AT 06:00HRS SATURDAY 06/10/2018

	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 50.60Hz.	REMARKS
PRIVATISED COMPANIES	KAINJI HYDRO	8	1G5, 6, 11 & 12 4	440	420	1G5, 6, 11 & 12 4	420	330	1G7 - Out on stator winding failure. 1G8 - Out due to oil leakage on governor runner head. 1G9 - Out due to burnt 7.5MVA 33/0.415kV & 183.6MVA 16/330kV station service transformer and generator transformer. 1G10 - Shut down due to thrust bearing temperature problem.
	JEBBA HYDRO	6	2G1- 5 5	475	450	2G1- 5 5	450	402	2G6 - Out due to burnt generator winding and AVR.
	SHIRORO HYDRO	4	411G2 - 4 3	450	450	411G2 - 4 3	450	441	411G1 - Out due to technical problem. Available units on bar.
	EGBIN STEAM	5	ST2, 4 & 5 3	660	450	ST2, 4 & 5 3	450	393	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	54	ST2 1	54	35	ST1 - Shut down due to alarm on inlet gas guide control trouble. ST4 & 5 - Awaiting major overhaul. ST6 - Out on gas control valve not following reference point.
	DELTA (GAS)	18	GT9 - 13, 15, 16 & 18 - 20 10	625	610	GT9 - 13, 18 & 20 7	310	300	GT3 & 5 - Out due to generator winding fault. GT4 - Out on loss of excitation. GT6, 8 & 14 - Out on major overhaul. GT7 - Out on fault. GT15, 16 & 19 - Out due to low load demand by the Discos. GT17 - Tripped on bearing vibration more than maximum.
	AFAM IV & V (GAS)	8	GT17 1	75	46	0 0	0	0	GT1 - 12 - De-commissioned and scrapped. GT13,14 & 16 - Out on blade failure. GT17 - Tripped on oil high bearing temperature. GT18 - Out on maintenance. GT19 & 20 - Awaiting major overhaul.
	GEREGU GAS	3	GT11 - 13 3	435	435	GT12 1	145	112	GT11 & 13 - Out due to gas constraint.
	OMOTOSHO GAS	8	GT1 - 8 8	336	304	GT1,2, 6 & 8 4	152	111.5	GT3 - 5 & 7 - Out due to low load demand by the Discos. Generation reduced due to low load demand by the discos.
	OLORUNSOGO GAS	8	GT1 - 8 8	336	304	GT2, 4, 6 & 7 4	152	116.7	GT1, 3, 5 & 8 - Out due to low load demand by the Discos. Generation reduced due to low load demand by the discos.
NIPP	GEREGU NIPP	3	GT22 & 23 2	290	290	0 0	0	0	GT21 - Out on maintenance. GT22 & 23 - Out due to gas constraint.
	SAPELE NIPP	4	GT1 - 4 4	450	450	GT2 1	112.5	74.2	GT1 & 3 - Out due to low load demand by the Discos. GT4 - Out due to gas constraint.
	ALAOJI NIPP GAS	4	GT1 & 2 2	250	240	0 0	0	0	GT1 - Out due to low load demand by the Discos. GT2 - Shut down due to low load demand. GT3 - Shut down due to lack of spare part. GT4 - Tripped on over voltage lockout relay trip.
	OLORUNSOGO NIPP	6	GT1 - 3 3	375	360	GT1 1	120	80.2	GT2 & 3 - Out due to low load demand by the Discos. GT4 - Out due to ignition failure and control relay failure alarm. ST13 & ST23 - Out on maintenance. Generation reduced due to low load demand by the Discos.
	OMOTOSHO NIPP GAS	4	GT1, 2 & 4 3	375	360	GT4 1	120	84.3	GT1 & 2 - Out due to low load demand by the Discos. GT3 - Out due to oil leakage on the unit.
	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	GT4 1	112.5	78.5	GT1 - Out due to low load demand by the Discos. GT3 - Tripped on high vibration. GT4 - On manual adjustment to frequency.
	GBARAIN NIPP GAS	1	GT2 1	115	112.5	GT2 1	112.5	72	GT2 - Generation reduced due to low load demand by the Discos.
IPP	OKPAI GAS/STEAM	3	GT11, 12 & ST18 3	370	370	GT11, 12 & ST18 3	370	176	GT11 - Generation reduced due to low load demand by the Discos. ST18 - Generation reduced due to boiler problem.
	AZURA - EDO	3	GT11 - 13 3	461	461	GT12 & 13 2	306	150	GT11 - Out due to low load demand by the Discos. GT12 & 13 - Generation reduced due to low load demand by the Discos.
	AFAM VI GAS/STEAM	4	GT11 - 13 & ST10 4	650	640	GT13 1	150	105	GT11 & 12 - Out due to low load demand by the Discos. ST10 - Out due to gas constraint.
	IBOM POWER GAS	3	GT3 1	115	115	GT3 1	115	62.9	GT1 & 2 - Out due to fire outbreak on the control panel. GT3 - Generation reduced due to low load demand by the Discos.
	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	60	GT1, 2 & 5 3	49.8	49.8	GT3 - Tripped on over speed. GT4 - Awaiting major overhaul. GT6 Out on maintenance. Available units on bar.
	TRANS-AMADI	4	GT 1, 2 & 4 3	75	60	GT1,2 & 4 3	52.9	52.9	GT3 - Out on fault. Available units on bar.
	RIVERS	1	GT1 1	160	160	GT1 1	160	85	GT1 - Generation reduced due to low load demand by the Discos.
	SUB TOTAL	140	82	8050.5	7539	51	4364.2	3312	Frequency = 50.60Hz.

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

EGBIN	1	ST6		220	113	ST6		113	113	Available unit on bar.
		1	1			1	1			
PARAS ENERGY	8	GT2 - 9		67.8	67.8	GT2 - 9		67.8	67.8	Available units on bar.
		8	8			8	8			
SUB TOTAL	9	9		287.8	180.8	9		180.8	180.8	
GRAND TOTAL	149	91		8338.3	7719.8	60		4,545.00	3,492.80	Frequency = 50.60Hz

1.7C

BILATERAL AGREEMENT UNITS DISPATCH - FRIDAY 06/10/2018.							
EGBIN ST6 120MW GENERATION TO IKEJA ELECTRICITY DISTRIBUTION COMPANY							
FEEDERS NAME	MAX. LOAD (MW)	TIME (HRS)	MIN LOAD (MW)	TIME (HRS)	HRS IN SERVICE	TOTAL (MWH)	REMARK
OGBA	U-STEEL	ON	1:00		24		NIL
	PTCEXPRESS	ON	1:00		24		NIL
	SANKYO	ON	1:00		24		NIL
	FEEDER 8	16	17:00		24		NIL
IKORODU	PULK IT	3	0700		24		NIL
	INDUSTRIAL	7	0800		24		NIL
	SPINTEX	16	2000		24		NIL
	DANGOTE	ON	0100		24		NIL
	LAND CRAFT	34	0600		24		NIL
ALAUSA	TR4 15MVA	7.1	11:00		24		NIL
	TR5 -15MVA	5.5	09:00		24		NIL
	ALAUSA	16:00	10:00		24		NIL
M/LAND	PTC (MARYLAND)	13	1800HRS		22		PLANNED OUTAGE
	TOTAL LOAD	101.6					

BILATERAL AGREEMENT LOAD DISPATCH 60MW PARAS ENERGY GENERATION TO CEB OF FRIDAY 05/10/2018							
FEEDER	MAX LOAD (MW)	TIME (HRS)	MIN LOAD (MW)	TIME (HRS)	HOURS IN SERVICE	TOTAL (MWH)	REMARK
Ikeja West/Sakete 330kV line	70.2	22:00	65.5	09:00	24	1628.4	Nil.

BILATERAL AGREEMENT MAIN STREAM ENERGY KAINJI LOAD DISPATCH TO THE FOLLOWING COMPANIES OF: FRIDAY 05/10/2018									
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	40	11:00	22	06:00	24	534	SUPPLY NOT INTERRUPTED
KAM STEEL		15.0	0.3	11:00	0.2	01:00	24	5.6	SUPPLY NOT INTERRUPTED
ASAKA CEMENT		0.0	10.3	06:00	0.1	15:00	24	99.2	SUPPLY NOT INTERRUPTED
XING 1	33kV feeder	0.0	20.1	22:00	7.5	10:00	24	347.95	SUPPLY NOT INTERRUPTED
XING 2		0.0	23.1	17:00	6.6	08:00	24	422.6	SUPPLY NOT INTERRUPTED
KAM INTEGRATED		15.0	4.4	11:00	1.4	04:00	24	65	SUPPLY NOT INTERRUPTED
OLAM FLOUR MILLS		3.0	2.2	09:00	1.1	03:00	24	39.5	SUPPLY NOT INTERRUPTED
LORDSMITH		0	0.5	01:00	0.5	10:00	24	12	SUPPLY NOT INTERRUPTED

1.8 HYDROLOGICAL DATA: SATURDAY 06/10/2018

	KAINJI	JEBBA	SHIRORO
HEAD WATER ELEVATION (METERS)	140.92	103.09	382.59
TAIL WATER ELEVATION (METERS)	105.3	75.9	270.8
GROSS OPERATING HEAD (METERS)	35.62	27.19	111.79
AVERAGE TURBINE DISCHARGE (M3/SEC)	1224.00	1666.00	427.00
AVERAGE SPILLAGE (M3/SEC)	581.00	1040.00	0.00
AVERAGE TOTAL STATION DISCHARGE (M3/SEC)	1805.00	2706.00	427.00
COMPUTED INFLOW (M3/SEC)	3579.00	2706.00	740.00
STORAGE DIFFERENTIAL	1774.00	0	313
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 FRIDAY 05/10/2018

	MAXIMUM LOAD (MW)	TIME (HRS)	ALLOCATED LOAD (MW)	MINIMUM LOAD (MW)	TIME (HRS)
ABUJA	527.4	448.2	23:00	316.3	14:00
EKO	0.0	0	0.00	0	0
IKEJA	898.0	624.05	21:00	460.1	14:00

2.0 GAS POSITION: SATURDAY 06/10/2018

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	393	1100		450	650
DELTA (GAS)	300	915		300	615
OMOTOSHO GAS	111.5	336.8		152	184.8
OMOTOSHO NIPP	84.3	500		120	380
OLORUNSOGO (GAS)	116.7	336		152	184
OLORUNSOGO NIPP	80.2	750		120	630
SAPELE NIPP	74.2	500		112.5	387.5
SAPELE STEAM	35	720		35	685
AFAM IV-V	0	300		0	300
AFAM VI	105	650		150	500
GEREGU GAS	112	435		145	290
GEREGU NIPP	0	435		0	435
OKPAI (GAS/STEAM)	178	480		370	110
ALAOJI NIPP	0	504		0	504
IHOVBOR NIPP	78.5	450		112.5	337.5
IBOM	62.9	198		115	83
ODUKPANI NIPP	0	625		0	625
TOTAL	1729.3	9234.80		2334	6900.8

1 MMSCF IS EQUIVALENT TO 3.75MW

3.0 SPINNING RESERVE FOR : FRIDAY 05/10/018

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

3.1 SYSTEM SPINNING RESERVE AS AT 0600HRS OF SATURDAY 06/10/2018 = 0MW. FREQUENCY Hz.

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 Saturday 06/10/2018 as at 0600Hrs was = 3566.7MW.

6	STATION	ACTUAL GENERATION CAPABILITY (MW)	GENERATION AT 0600HRS (MW)	UNAVAILABLE GENERATION CAPABILITY (MW)	SUB-TOTAL
4.1 DUE TO GAS CONSTRAINTS:					
1	Geregu Gas GT11 & 13	290	0	290	892.5
2	Afam VI ST10	200	0	200	
3	Geregu NIPP GT22 & 23	290	0	290	
4	Sapele NIPP GT4	112.5	0	112.5	
				0	
				0	
				0	
				0	
				0	
				0	
				0	
				0	
				0	
				0	
				0	
IT IS ENVISAGED WITH IMPROVED PLANT AVAILABILITY AND RELIEF FROM EXISTING POWER SYSTEM NETWORK RELATED CONSTRAINTS, ADDITIONAL 1840.21MMSCF OF GAS (EQUIVALENT TO 6900.8MW) WILL BE REQUIRED WHEN ALL THERMAL UNITS ARE ON BAR.					
4.2 DUE TO LINE CONSTRAINTS					
		0	0	0	0
		0	0	0	
		0	0	0	
4.3 DUE TO LOW LOAD DEMAND BY THE DISCOS					
1	Ihovbor GT1 & 2	225	0	225	2581.6
2	Azura Edo GT11 - 13	461	150	311	
3	Egbin ST2, 4 & 5	450	393	57	
4	Rivers IPP GT1	160	85	75	
5	Delta GT15, 16 & 19	315	0	315	
6	Alaoji NIPP GT1 & 2	240	80.4	159.6	
7	Omotosho NIPP GT1 & 2	240	0	240	
8	Olorunsogo NIPP GT2 & 3	240	0	240	
9	Omotosho Gas GT3, 4, 5 & 7	152	0	152	
10	Olorunsogo Gas GT1, 3, 5 & 8	152	0	152	
12	Afam VI GT11 & 12	300	0	300	
13	Sapele NIPP GT1 & 3	225	0	225	
14	Okpai GT11	150	20	130	
15	Gbarain GT2	112.5	72	40.5	
16	Ibom GT3	115	62.9	52.1	
				0	
				0	
4.1 DUE TO WATER MANAGEMENT:					
Grand Total					3566.7

5.0 OUTAGES:

5(A) FORCED OUTAGES (GENERATION):

- 1 12:20 – 14:42Hrs, Rivers GT1 tripped on system surge. LHR = 60MW.
- 2 14:15 through 24:00Hrs, Afam IV GT17 - Tripped on oil high bearing temperature. LHR = 30MW.

5(B) FORCED OUTAGES (TRANSMISSION):

- 1 01:38 – 02:07Hrs, Alaoji/Owerri 132kV line 1 CB tripped at Alaoji T/S on the following relay indications:
Optimho Relay: Z1, B -N, location = 43.08km, period = 60.5ms,
Siemens Relay: Instantaneous trip, ie>, l> Yellow Phase backup protection 2x3-Phases trip. LHR = 11MW.
- 2 01:38 – 02:11Hrs, Owerri/Ahoadia 132kV line 1 CB tripped at Owerri T/S on directional E/F. LHR = 11MW.
- 3 12:25 – 12:36Hrs, Afam/IPP 132kV line 2 CB tripped at Afam T/S on O/C and E/F. LHR = 50MW.
- 4 12:25 – 12:45Hrs, IPP/Elelenwo 132kV line CB tripped at IPP T/S on O/C & E/F. LHR = 24MW.
- 5 13:31 – 17:55Hrs, Shagamu T/S 30MVA 132/33kV primary CB tripped on bias differential relay. LHR = 3MW.
- 6 20:28 – 20:49Hrs, Adioror/Calabar 132kV line 1 CB tripped at Adioror T/S on distance protection. LHR = 30MW.
- 7 20:34 – 22:22Hrs, New Haven/Oji 132kV line CB tripped at New Haven T/S on stage 1 O/C, distance protection 3Phases and lockout, fault location = 87.4km. LHR = 12.2MW.

5(C) PLANNED OUTAGES:-

- 1 10:51 – 13:02Hrs, Aja/Lekki 330kV line (cct J1E) was taken out to enable LMD crew and PPC contractor install 2 Nos wave traps on Lekki/Alagbon 330kV line (cct E1B) terminal at Lekki T/S. Load loss = 65MW.

5(D) URGENT OUTAGES:-

- 1 13:35 – 18:57Hrs, Iseyin T/S 45MVA 132/33kV transformer T1 was taken out to build up low SF6 gas pressure of the secondary GCB to normal, seal point of oil leakage on Red Phase secondary C.T and also top up its low oil to normal. Load loss = 5.5MW.
- 2 15:15 – 15:55Hrs, Itu T/S 60MVA 132/33kV transformer T1A was taken out to treat hot spot on the secondary Yellow Phase bushing. Load loss = 0.5MW.
- 3 15:35 – 18:21Hrs, Shiroro 411G4 was shut down to carry out maintenance on instrument brushes. Load loss = 150MW.

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 ODUKPAI, 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

5 (E) EMERGENCY OUTAGES:- Nil.

5 (F) AUTOMATIC UNDER FREQUENCY OPERATION:- NIL

5 (G) 330KV LINES THAT ARE OUT ON VOLTAGE CONTROL:- ccts K4U, L7G, U1A & A1S.

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

5 (J) 330KV LINES THAT ARE OUT ON LINE FAULT:- cct J2H.

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

6 WEATHER REPORT:- Rainfall reported at Olorunsogo, Lagos & New Haven.

7 INTERNATIONAL LINES:-

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

Maximum load - 254MW at 20:00Hrs.
Minimum load - 194MW at 18:00Hrs.

B BIRNIN KEBBI/NIAMEY 132KV LINE

Maximum load - 103MW at 23:00Hrs.
Minimum load - 87MW at 16:00Hrs.

C KATSINA/GAZAOU/MARADI 132KV LINE

Maximum load - 39.5MW at 21:00Hrs.
Minimum load - 26.5MW at 04:00Hrs.

8 MISCELLANEOUS:-

1 00:50 – 18:34Hrs, Azura-Edo GT11 was shut down due to low load demand by Discos. Load loss = 75MW.

2 05:52Hrs, Sapele NIPP GT3 was tied. The unit was out on fault.

3 07:57Hrs, Olorunsogo Gas GT5 was shut down due to low load demand by Discos. Load loss = 29.4MW.

4 19:26Hrs, Sapele NIPP GT1 was tied. The unit was out due to low load demand by Discos.

5 20:35Hrs, Delta GT20 was tied. The unit was out due to low load demand by Discos.

6 23:27Hrs, Delta GT19 was shut down due to low load demand by Discos. Load loss = 85MW.

**** 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.

PLS	14	4
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11 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	83	19

12(A) UNAVAILABLE TRANSFORMERS/REACTORS:

SHIRORO REGION:

- 1 Birnin Kebbi 75MX Reactor R1.

ABUJA REGION

- 1 Apo T/S 60MVA 132/33kV transformer TR3 - Burnt.

KADUNA REGION:

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

BAUCHI REGION:

- 1 Gombe T/S -30MX Reactor R2A.

ENUGU REGION:

- 1 Onitsha T/S 90MVA 330/132/13.8kV transformer 9T2 - Out due to differential fault.

LAGOS REGION:

- 1 Oke-Aro T/S: 75MX Reactor R1.

PORT HARCOURT REGION

- 1 Ikot-Ekpene T/S: No available reactor.

12 (B) UNAVAILABLE BREAKERS/ISOLATORS

LAGOS REGION:

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

