

TRANSMISSION COMPANY OF NIGERIA

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

DAILY OPERATIONAL REPORT OF THURSDAY 12/04/2018

FOR: EVENTS OF WEDNESDAY 11/04/2018.

1.0 EXECUTIVE OPERATIONS SUMMARY:

1.1 GENERATION PROFILE: NATIONAL STATISTICS

DETAILS	MW	HRS	DATE
PEAK DEMAND FORECAST (CONNECTED + SUPPRESSED LOAD)	23,030	20:15	11/04/2018
GENERATION CAPABILITY	7344.2	-do-	-do-
UNITS ON BAR CAPABILITY AT PEAK	5133.7	-do-	-do-
PEAK GENERATION	4564.3	-do-	-do-
LOWEST GENERATION	3533.6	08:00	11/04/2018
8-HOURLY DURATION PEAK	4143.9	0100-0800	-do-
	4132	0900-1600	-do-
	4564.3	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		Omotosho T/S	05:00
LOWEST VOLTAGE FOR THE DAY	300	Kumbotso, Gombe & Yola T/S	10:00, 14:00 & 21:00

1.3 FREQUENCY RANGE

DETAILS	HZ	HRS
NOMINAL FREQUENCY	50	
STATUTORY LIMITS	49.75 - 50.25	
HIGHEST FREQUENCY	50.58	02:18
LOWEST FREQUENCY	49.45	19:25

1.4 SYSTEM COLLAPSE UP DATE

Date of last total collapse: 1st Feb., 2018		No. of days since last total collapse: 63											
Date of last partial collapse: 17 th Oct., 2017		No. of days since last partial collapse: 165											
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	3	2	--	1	20
2011	Total	--	--	--	4	3	1	1	1	2	1	--	13
	Partial	--	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										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	391	207
2 JEBBA	HYDRO	334	211
3 SHIRORO	HYDRO	198	151
4 EGBIN ST2 - 5	STEAM	561	562
5 SAPELE	STEAM	50	54
6 DELTA	GAS	583	473
7 AFAM IV-V	GAS	0	0
8 GEREGU GAS	GAS	347	250
9 OMOTOSHO GAS	GAS	205.6	181.5
10 OLORUNSOGO GAS	GAS	165.5	123.4
11 GEREGU NIPP	GAS	110	100
12 SAPELE NIPP	GAS	215.2	152.2
13 ALAQJI NIPP	GAS	0	0
14 OLORUNSOGO NIPP	GAS	0	72.3
15 OMOTOSHO NIPP	GAS	108.6	87
16 ODUKPANI NIPP	GAS	224.8	82.6
17 IHOVBOR NIPP	GAS	107.5	80.3
18 OKPAI	GAS	133	97
19 AFAM VI	GAS	446	324
20 IBOM POWER	GAS	102.7	83.7
21 ASCO	GAS	0	0
22 A.E.S	GAS	0	0
23 OMOKU	GAS	76	63.8
24 TRANS AMADI	GAS	0	0
25 RIVERS IPP	(GAS)	135	110
26 AZURA - EDO IPP	(GAS)	0	0
27 EGBIN ST6	(GAS)	0	0
28 PARAS ENERGY	(GAS)	70.2	67.8
29 GBARAIN NIPP	GAS	0	0
TOTAL		4564.3	3533.6

1.6 ENERGY GENERATED/ENERGY SENT OUT:

STATION	TURBINE	ENERGY GENERATED		ENERGY SENT OUT	
		MWH	MWH/H	MWH	MWH/H
1 KAINJI	HYDRO	6243.00	260.13	6225.60	259.40
2 JEBBA	HYDRO	6333.00	263.88	6306.68	262.78
3 SHIRORO	HYDRO	4540.00	189.17	4506.85	187.79
4 EGBIN ST2 - 5	STEAM	12875.00	536.46	12194.10	508.09
5 SAPELE	STEAM	1132.90	47.20	1131.10	47.13
6 DELTA	GAS	13611.80	567.16	13292.00	553.83
7 AFAM IV-V	GAS	0.00	0.00	0.00	0.00
8 GEREGU GAS	GAS	7596.50	316.52	7566.12	315.26
9 OMOTOSHO GAS	GAS	4629.00	192.88	4594.60	191.44
10 OLORUNSOGO GAS	GAS	3331.81	138.83	3302.28	137.60
11 GEREGU NIPP	GAS	2635.37	109.81	2621.17	109.22
12 SAPELE NIPP	GAS	4155.34	173.14	4130.69	172.11
13 ALAQJI NIPP	GAS	0.00	0.00	0.00	0.00
14 OLORUNSOGO NIPP	GAS	1270.90	52.95	1224.60	51.03
15 OMOTOSHO NIPP	GAS	2372.20	98.84	2345.00	97.71
16 ODUKPANI NIPP	GAS	3111.84	129.66	3085.94	128.58
17 IHOVBOR NIPP	GAS	2260.00	94.17	2246.70	93.61
18 OKPAI	GAS	2763.00	115.13	2731.50	113.81
19 AFAM VI	GAS	9026.16	376.09	8921.67	371.74
20 IBOM	GAS	1996.97	83.21	1988.00	82.83
21 ASCO	GAS	0.00	0.00	0.00	0.00
22 AZURA - EDO IPP	GAS	819.90	34.16	819.10	34.13
23 A.E.S	GAS	0.00	0.00	0.00	0.00
24 OMOKU	GAS	1770.20	73.76	1731.14	72.13
25 TRANS AMADI	GAS	0.00	0.00	0.00	0.00
26 RIVERS IPP	GAS	2822.90	117.62	2816.71	117.36
27 EGBIN ST6	STEAM	0.00	0.00	0.00	0.00
28 PARAS ENERGY	GAS	1645.30	68.55	1634.50	68.10
29 GBARAIN NIPP	GAS	0.00	0.00	0.00	0.00
TOTAL		96,943.09	4,039.30	95,416.05	3,975.67

1.7A GENERATION POSITION AT 06:00HRS OF THURSDAY 12/04/2018

	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, 11 & 12 4	440	440	1G5, 6, 11 & 12 4	440	320	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 - 5 5	475	475	2G1, 3 & 5 3	285	241	2G2 & 4 - Out on water management. 2G6 - Out due to burnt generator winding and AVR.
	SHIRORO HYDRO	4	411G2 & 3 2	300	300	411G2 & 3 2	200	185	Available units on bar.
	EGBIN STEAM	5	ST1, 2, 4 & 5 4	880	580	ST2, 4 & 5 3	574	574	ST1 - Shut down on Egbin P/S management decision. ST3 - Tripped on high vibration since 19th June 2017.
	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, 15, 16 & 18 - 20 11	635	635	GT7, 9 - 13, 15, 16, 18 - 20 11	635	587	GT3 & 5 - Out due to generator winding fault. GT4 - Tripped on inner guard problem. 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. 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	330	Available units on bar.
	OMOTOSHO GAS	8	GT1 - 8 8	336	304	GT2 - 5, 7 & 8 6	228	211.9	GT1 & 6 - Out due to gas constraint.
	OLORUNSGO GAS	8	GT1 - 8 8	336	304	GT2, 4 - 6 & 8 5	190	165.4	GT1, 3 & 7 - Out due to gas constraint.
NIPP	GEREGU NIPP	3	GT22 & 23 2	290	290	GT22 1	145	110	GT21 - Out on maintenance. GT23 - Out due to gas constraint.
	SAPELE NIPP	4	GT1 & 4 2	225	225	GT1 & 4 2	225	168.5	GT2 & 3 - Out due to high air inlet differential pressure.
	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.
	OLORUNSGO NIPP	6	GT1 - 3 3	375	360	0 0	0	0	GT1, 2 & 3 - Out due to gas constraint. 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	GT2 1	120	96	GT1 & 4 - Out due to gas constraint. GT3 - Shut down due to oil leakage on the unit.
	ODUKPANI NIPP	5	GT4 & 5 2	240	230	GT4 & 5 2	230	179.6	GT1 - Out on fault. GT2 - Out due to malfunctioning gas regulating valve. GT3 - Tripped on high air inlet differential pressure.
	IHOVBOR NIPP	4	GT1 & 3 2	225	225	GT3 1	112.5	100.9	GT1 - Out due to gas constraint. GT2 - Out due to gas outlet 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	GT12 1	150	150	GT12 1	150	109	GT11 & ST18 - Out on maintenance.
	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	GT11 - 13 3	450	362	ST10 - Shut down on frequency management.
	IBOM POWER GAS	3	GT3 1	115	115	GT3 1	115	90.4	GT1 & 2 - Out on fault.
	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	GT1, 2, 5 & 6 4	80	75.9	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	147	Available unit on bar.
	SUB TOTAL	130	78	7607	7073	55	4829.5	4108.6	Frequency = 50.41Hz.

1.7B GENERATION POSITION AT 06:00HRS OF THURSDAY 12/04/2018 FOR UNITS ON BILATERAL AGREEMENT

EGBIN	1	0	0	0	0	0	0	ST6 - Shut down to clean condenser.	
		0			0				
PARAS ENERGY	8	GT2 - 9	67.8	67.8	GT2 - 9	67.8	67.8	Available units on bar.	
		8			8				
SUB TOTAL		9	67.8	67.8	8	67.8	67.8		
GRAND TOTAL		139	86	7674.8	7140.8	63	4,897.30	4,176.40	Frequency = 50.41Hz.

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1.7C BILATERAL AGREEMENT UNITS DISPATCH - WEDNESDAY 11/04/2018

FEEDERS NAME	MAX. LOAD (MW)	TIME (HRS)		REMARK
Egbin ST6 120MW GENERATION TO IKEJA ELECTRICITY DISTRIBUTION COMPANY				
OGBA	U-STEEL			
	PTCEXPRESS			
	SANKYO			
	FEEDER 8			
IKORODU	PULK IT			
	INDUSTRIAL			
	SPINTEX			
	DANGOTE			
	LAND CRAFT			
ALAJISA	TR4 15MVA			
	TR5 -15MVA			
	ALAUISA			
MLAND	PTC (MARYLAND)			
TOTAL LOAD		125.2		

BILATERAL AGREEMENT LOAD DISPATCH
60MW PARAS ENERGY GENERATION TO CEB

FEEDER	MAX	TIME	HOURS IN SERVICE	REMARK
Ikeja West/Sakete 330kV line	70.2	21:00	24:00	NIL

1.8 HYDROLOGICAL DATA: THURSDAY 12/04/2018

	KAINJI	JEBBA	SHIRORO
HEAD WATER ELEVATION (METERS)	136.42	99.91	369.92
TAIL WATER ELEVATION (METERS)	102.1	74.1	270.20
GROSS OPERATING HEAD (METERS)	34.32	25.81	99.72
AVERAGE TURBINE DISCHARGE (M3/SEC)	840.00	1147.00	222.00
AVERAGE SPILLAGE (M3/SEC)	210.00	0.00	0.00
AVERAGE TOTAL STATION DISCHARGE (M3/SEC)	1050	1147	222
COMPUTED INFLOW (M3/SEC)	26.00	1112.00	0.00
STORAGE DIFFERENTIAL	-1024.00	-35	-222
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 WEDNESDAY 11/04/2018

DISCO	MAXIMUM LOAD(MW)	TIME(HRS)	ALLOCATED LOAD (MW)	MINIMUM LOAD(MW)	TIME(HRS)
ABUJA	533.70	14:00	517.71	415	18:00
EKO	489.6	17:00	595.2	343	22:00
IKEJA	540.0	20:00	540	371.9	09:00

2.0 GAS POSITION: THURSDAY 12/04/2018

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	574	574	526
DELTA (GAS)	402	915	635	635	280
OMOTOSHO GAS	177.9	336.8	228	228	108.8
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	225	225	275
SAPELE STEAM	0	720	55	55	665
AFAM IV-V	0	300	0	0	300
AFAM VI	350	650	450	450	200
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	0	504
IHOVBOR NIPP	0	450	112.5	112.5	337.5
IBOM	72.7	198	115	115	83
ODUKPANI NIPP	285.1	625	230	230	395
TOTAL	2737.3	9236.34	3746.5	3746.5	5488.3

1 MMSCF IS EQUIVALENT TO 3.75MW

3.0 SPINNING RESERVE FOR : WEDNESDAY 11/04/2018

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

3.1 SYSTEM SPINNING RESERVE AS AT 0600HRS OF THURSDAY 12/04/2018 = 0MW. FREQUENCY 50.41Hz.

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 Thursday 12/04/2018 as at 0600Hrs was = 1837.5MW.

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	1407.5
2	Ihobor GT1	112.5	0	112.5	
3	Alaqji NIPP GT1, 2 & 4	360	0	360	
4	Olorunsogo Gas GT1, 3 & 7	114	0	114	
5	Olorunsogo NIPP GT1 - 3	360	0	360	
6	Omotosho gas GT1 & 6	76	0	76	
7	Geregu NIPP GT23	145	0	145	
				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 1463.55MMSCF OF GAS (EQUIVALENT TO 5488.3MW) WILL BE REQUIRED WHEN ALL THERMAL UNITS ARE ON BAR.					
4.2 DUE TO LINE CONSTRAINTS					
1	Trans-Amadi GT1 & 2	40	0	40	40
				0	
				0	
4.3 DUE TO FREQUENCY MANAGEMENT OCCASIONED BY DISCOS' LOAD DEMAND					
1	Alam ST10	200	0	200	200
				0	
				0	
				0	
				0	
				0	
				0	
4.4 DUE TO WATER MANAGEMENT					
1	Jebba 2G2 & 4	190	0	190	190
Grand Total					1837.5

5.0 **OUTAGES:**

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

- 00:31 through 24:00Hrs, Gbarain NIPP GT2 tripped on reverse power due to the tripping of Owerri/Ahoada 132kV lines 1 & 2. LHR = 86.9MW.
- 04:46 through 24:00Hrs, Odukpiani NIPP GT3 tripped on air inlet differential pressure. LHR = 79.3MW.
- 09:06 through 24:00Hrs, Egbin ST1 tripped on loss of 66kV. LHR = 142MW.
- 14:55 – 15:24Hrs, Odukpiani NIPP GT4 tripped due to low gas pressure. LHR = 96MW.
- 15:16Hrs, Kainji 1G5, 6 & 12 tripped on reverse power during restoration of 1G11 transformer. LHR = 85MW, 85MW & 62MW respectively. 15:54Hrs - 1G6 was tied. 15:59Hrs - 1G12 was tied. 16:06Hrs - 1G5 was tied.
- 20:43 through 24:00Hrs, Odukpiani GT3 tripped on gas leak test failure while on run up. No load loss as the unit was yet to be tied.
- 23:54 through 24:00Hrs, Delta P/S GT4 tripped on inner guard vane problem. LHR = 15MW.

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

- 00:31 – 00:50Hrs, Owerri/Ahoada 132kV line 1 CB tripped at Owerri T/S on DEF. LHR = 6.7MW.
- 00:31 – 00:53Hrs, Owerri/Ahoada 132kV line 2 CB tripped at Ahoada T/S on DEF. LHR = 11.1MW.
- 03:44 - 16:35Hrs, Okenne T/S 60MVA 132/33kV transformer T2 primary & secondary CBs tripped on the following relay indications:
Primary CB: Standby and REF.
Secondary CB: O/C Blue Phase. LHR = 30MW.
- 03:58 - 13:53Hrs, Shagamu T/S 30MVA 132/33kV transformer T1 primary & secondary CBs tripped on the following relay indications:
Primary CB: Bias differential Red Phase.
Secondary CB: O/C Yellow & Blue Phases. LHR = 11MW.
- 04:05 – 06:52Hrs, Ilupeju T/S 2 x 15MVA 132/33kV transformer T1 & T2 secondary CBs tripped on SBEF. LHR = 3.2MW each.
- 07:26 through 24:00Hrs, Akangba/Isolo 132kV line 1 CB tripped at Akangba T/S on O/C ABC, fault location 11.7km. LHR = 69MW.
- 07:26 - 11:27Hrs, Ilupeju T/S 30MVA 132/33kV transformer T4 primary & secondary CBs tripped without relay indication. LHR = 7.4MW.

- 07:26 - 12:25Hrs, Ilupeju T/S 45MVA 132/33kV transformer T2 primary & secondary CBs tripped without relay indication. LHR = 7.4MW.

- 09:13 – 16:03Hrs, Shagamu/Ayede 132kV line CB at Shagamu tripped on low gauge pressure. LHR = 8.0MW.

- 12:36 – 13:13Hrs, Ayede T/S 40MVA 132/33kV transformer T1 primary & secondary CBs tripped on general trip relay. LHR = 0.1MW.
- 15:16 - 16:03Hrs, Kainji/Birin-Kebbi 330kV line (cct K3R) CB tripped at Kainji P/S during restoration of 1G11 transformer on bus bar trip supervision. LHR = 220MW.

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

- 11:31 – 15:43Hrs, Afam/IPP 132kV line 1 was taken out to carry out annual preventive maintenance on the line at IPP T/S. No load loss as line 2 was in service.

5(D) **URGENT OUTAGES:**

- 09:40 – 12:07Hrs, Dan-Agundi T/S 60MVA 132/33kV transformer T2 was taken out for maintenance crew to carry out test on the transformer. No load loss as the transformer was on soak.
- 11:42 – 12:05Hrs, Ayede/Shagamu 132kV line was taken out to isolate Shagamu/Ayede line CB and close by pass isolator to the station 132kV bus at Shagamu T/S. Load loss = 0.1MW.
- 12:17 – 13:24Hrs, Alaoji/Owerri 132kV line 1 was taken out to treat hot spot on the down dropper to the CT at Alaoji T/S. No load loss as line 2 was in service.
- 13:48 – 14:31Hrs, Maryland/Ilupeju 132kV lines 1 & 2 were taken out to replace glowing bolts and nuts on the line wave trap at Maryland T/S. Load loss = 26MW.
- 15:48 – 16:02Hrs, Ayede/Shagamu 132kV line was taken out to close Shagamu/Ayede 132kV line CB after repair work on it was completed at Shagamu T/S. Load loss = 16.39 through 24:00Hrs, Olorunsogo NIPP GT1 was shut down due to low gas pressure. Load loss = 56MW.

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.

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

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

5 (G) **330KV LINES THAT ARE OUT ON VOLTAGE CONTROL:-** ccts A2K & 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 & S5B.

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

6 **WEATHER REPORT:-** Rainfall was reported in Okenne

7 **INTERNATIONAL LINES:-**

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

Maximum load - 251MW at 21:00Hrs.
Minimum load - 171MW at 07:00Hrs.

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

Maximum load - 105MW at 12:00Hrs.
Minimum load - 90MW at 07:00Hrs.

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

Maximum load - 40.9MW at 21:00Hrs.
Minimum load - 27.3MW at 05:00Hrs.

8 **MISCELLANEOUS:-**

- 00:28 - 14:36Hrs, Jebba 2G3 was shut down on frequency management. Load loss = 75MW.
 - 02:32 - 14:31Hrs, Delta GT16 was shut down on frequency management. Load loss = 72MW.
 - 06:30Hrs, Jebba T/S 330kV 75MX Reactor 2R1 was placed in service on voltage control. V/P: 340/339kV.
 - 06:32Hrs, Jebba T/S 330kV 75MX Reactor 2R2 was placed in service on voltage control. V/P: 339/338kV.
 - 06:57 - 18:31Hrs, Shiroro T/S placed Hold Off Tag (OF12) on cct J7R for the continuation of Optic Fibre work.
 - 09:24Hrs, Azura-Edo GT12 was tied for test.
 - 12:00Hrs, Ijora T/S 30MVA 132/33kV transformer T1A was restored. The transformer tripped at 20:30Hrs of 09/04/2018.
 - 14:37 - 16:56Hrs, Jebba 2G1 was shut down. No load loss as 83MW was transferred to 2G3.
 - 15:46Hrs, Olorunsogo gas GT2 was tied. The unit was out due to gas constraint.
 - 15:50Hrs, Azura GT12 was shut down after completion of test. Load loss = 75MW.
 - 16:19Hrs, Kainji P/S 1G11 was tied. The unit tripped on governor fault.
 - 18:32Hrs, Odukpiani GT5 was tied. The unit was out on frequency management.
 - 20:40Hrs, Benin/Onitsha 330kV line 2 (cct B2T) was restored. The line was out on voltage control.

 - 20:42Hrs, Ikot-Ekpene/Uquwaji 330kV line 3 (cct K3U) was restored. The line was out on voltage control. V/P = 334/337kV.
 - 22:05Hrs, Delta GT4 was tied. The unit was out due to vibration problem.
- ***** **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.**

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	32
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	6	2
330KV	19	6	13
132KV	102	78	24

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 Egbir/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/Osobgo 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

