

# TRANSMISSION COMPANY OF NIGERIA

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

## DAILY OPERATIONAL REPORT OF SATURDAY 01/12/2018

### FOR: EVENTS OF FRIDAY 30/11/2018

#### 1.0 EXECUTIVE OPERATIONS SUMMARY:

##### 1.1 GENERATION PROFILE: NATIONAL STATISTICS

DETAILS	MW	HRS	DATE
PEAK DEMAND FORECAST (CONNECTED + SUPPRESSED LOAD)	23,000	19:00	30/11/2018
GENERATION CAPABILITY	7757.5	-do-	-do-
UNITS ON BAR CAPABILITY AT PEAK	5354.5	-do-	-do-
PEAK GENERATION	4667.0	-do-	-do-
LOWEST GENERATION	3695.2	08:00	30/11/2018
8-HOURLY DURATION PEAK	4216.6	0100-0800	-do-
	4221.6	0900-1600	-do-
	4667	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	351	Lokoja T/S	04:00
LOWEST VOLTAGE FOR THE DAY	300	Kumbotso & Gombe T/S	06:00 & 06:00

#### 1.3 FREQUENCY RANGE

DETAILS	HZ	HRS
NOMINAL FREQUENCY	50	
STATUTORY LIMITS	49.75-50.25	
HIGHEST FREQUENCY	50.64	03:15
LOWEST FREQUENCY	49.82	21:25

#### 1.4 SYSTEM COLLAPSE UP DATE

Date of last total collapse: 20th Sept, 2018		No. of days since last total collapse: 71													
Date of last partial collapse: 12th April, 2018		No. of days since last partial collapse: 232													
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	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						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	423	319
2 JEBBA	HYDRO	438	382
3 SHIRORO	HYDRO	446	242
4 EGBIN ST2 - 5	STEAM	344	344
5 SAPELE	STEAM	46	50
6 DELTA	GAS	454	383
7 AFAM IV-V	GAS	0	0
8 GEREGU GAS	GAS	404	327
9 OMOTOSHO GAS	GAS	130.1	120.9
10 OLORUNSOGO GAS	GAS	195.4	181.6
11 GEREGU NIPP	GAS	105	111
12 SAPELE NIPP	GAS	0	0
13 ALAOJI NIPP	GAS	0	0
14 OLORUNSOGO NIPP	GAS	0	0
15 OMOTOSHO NIPP	GAS	107.6	88
16 ODUKPANI NIPP	GAS	223.5	104.2
17 IHOVBOR NIPP	GAS	104.5	95.2
18 OKPAI	GAS	351	247
19 AFAM VI	GAS	0	0
20 IBOM POWER	GAS	93.8	87.3
21 ASCO	GAS	0	0
22 A.E.S	GAS	0	0
23 OMOKU	GAS	78.9	81.6
24 TRANS AMADI	GAS	0	0
25 RIVERS IPP	(GAS)	0	0
26 AZURA - EDO IPP	(GAS)	436	275
27 EGBIN ST6	(GAS)	116	116
28 PARAS ENERGY	(GAS)	63	63.8
29 GBARAIN NIPP	GAS	107.2	76.6
<b>TOTAL</b>		<b>4667</b>	<b>3695.2</b>

#### 1.6 ENERGY GENERATED/ENERGY SENT OUT:

STATION	TURBINE	ENERGY GENERATED	AV.ENERGY GENERATED	ENERGY SENT OUT	AV. ENERGY SENT OUT
		MWH	MWH/H	MWH	MWH/H
1 KAINJI	HYDRO	10254.00	427.25	10237.80	426.58
2 JEBBA	HYDRO	10176.00	424.00	10153.32	423.06
3 SHIRORO	HYDRO	7869.00	327.88	7839.13	326.63
4 EGBIN ST2 - 5	STEAM	8318.00	346.58	7852.10	327.17
5 SAPELE	STEAM	978.30	40.76	933.90	38.91
6 DELTA	GAS	10079.73	419.99	9905.20	412.72
7 AFAM IV-V	GAS	0.00	0.00	0.00	0.00
8 GEREGU GAS	GAS	8707.30	362.80	8676.03	361.50
9 OMOTOSHO GAS	GAS	3104.00	129.33	3080.50	128.35
10 OLORUNSOGO GAS	GAS	4546.95	189.46	4516.46	188.19
11 GEREGU NIPP	GAS	2703.30	112.64	2690.21	112.09
12 SAPELE NIPP	GAS	0.00	0.00	0.00	0.00
13 ALAOJI NIPP	GAS	0.00	0.00	0.00	0.00
14 OLORUNSOGO NIPP	GAS	0.00	0.00	0.00	0.00
15 OMOTOSHO NIPP	GAS	2375.40	98.98	2355.90	98.16
16 ODUKPANI NIPP	GAS	3824.10	159.34	3796.20	158.18
17 IHOVBOR NIPP	GAS	2360.00	98.33	2343.15	97.63
18 OKPAI	GAS	6503.00	270.96	6370.40	265.43
19 AFAM VI	GAS	0.00	0.00	0.00	0.00
20 IBOM	GAS	2145.65	89.40	2137.00	89.04
21 ASCO	GAS	0.00	0.00	0.00	0.00
22 AZURA - EDO IPP	GAS	9161.50	381.73	9131.00	380.46
23 A.E.S	GAS	0.00	0.00	0.00	0.00
24 OMOKU	GAS	1906.40	79.43	1864.32	77.68
25 TRANS AMADI	GAS	0.00	0.00	0.00	0.00
26 RIVERS IPP	GAS	0.00	0.00	0.00	0.00
27 EGBIN ST6	STEAM	2755.00	114.79	2626.30	109.43
28 PARAS ENERGY	GAS	1545.60	64.40	1537.50	64.06
29 GBARAIN NIPP	GAS	2078.50	86.60	2063.90	86.00
<b>TOTAL</b>		<b>101,391.73</b>	<b>4,224.66</b>	<b>100,110.32</b>	<b>4,171.26</b>

1.7A GENERATION POSITION AT 06:00HRS OF SATURDAY 01/12/2018

	STATIONS	NO OF UNITS INSTALLED	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 50.41Hz.	REMARKS
PRIVATISED COMPANIES	KAINJI HYDRO	8	1G5, 6, 11 & 12 4	440	420	1G5, 6, 11 & 12 4	420	386	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	476	470	2G1 - 5 5	470	393	2G6 - Out due to burnt generator winding and AVR.
	SHIRORO HYDRO	4	411G1, 2 & 4 3	450	450	411G1, 2 & 4 3	450	402	411G3 - Out on fault. Generation reduced due to water management.
	EGBIN STEAM	5	ST2, 4, 5 & 6 4	880	800	ST2, 4, 5 & 6 4	800	457	ST1 - Out due to undisclosed fault since 04/09/2018. ST3 - Out on high vibration since 19th June 2017. Generation reduced due to gas constraint.
	SAPELE (STEAM)	6	ST2 1	120	60	ST2 1	60	50	ST1 - Tripped on low drum level. ST3 - Out on loss of excitation. 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 & 20 10	545	453	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. GT17 - Tripped on bearing vibration more than maximum. GT18 - Out due to generator lockout problem. Generation reduced due to gas constraint.
	AFAM IV & V (GAS)	8	GT17 & 18 2	150	120	0 0	0	0	GT1 - 12 - De-commissioned and scrapped. GT13,14 & 16 - Out on blade failure. GT17 & 18 - Out due to maintenance of gas station. GT19 & 20 - Awaiting major overhaul.
	GEREGU GAS	3	GT11 - 13 3	435	435	GT11 - 13 3	435	360	GT13 - Generation reduced due to inlet gas valve controller problem.
	OMOTOSHO GAS	8	GT1 - 8 8	336	304	GT1, 4, 6 & 7 4	152	135.2	GT2, 3, 5 & 8 - Out due to gas constraint. Generation reduced due to gas constraint.
	OLORUNSOGO GAS	8	GT1 - 8 8	336	304	GT1, 2, 5 - 8 6	228	203.6	GT3 & 4 - Out due to gas constraint. Generation reduced due to gas constraint.
NIPP	GEREGU NIPP	3	GT22 & 23 2	290	290	GT22 1	145	127	GT21 - Out on maintenance. GT23 - Out due to gas constraint.
	SAPELE NIPP	4	GT1 & 3 2	225	225	0 0	0	0	GT1 & 3 - Out due to low gas pressure. GT2 - Out on maintenance. GT4 - Out due to high air filter differential pressure.
	ALAOJI NIPP GAS	4	GT2 1	120	120	0 0	0	0	GT1 - Out on maintenance. GT2 - Out due to low gas pressure. 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	0 0	0	0	GT1 & 2 - Shut down due to low gas pressure. GT3 - Out due to maintenance. GT4 - Out due to ignition failure and control relay failure alarm. ST13 & ST23 - Out on maintenance.
	OMOTOSHO NIPP GAS	4	GT1 - 4 4	500	480	GT2 1	120	96.3	GT11, 3 & 4 - Out due to gas constraint.
	ODUKPANI NIPP	5	GT2 1	120	115	GT2 1	115	114.2	GT1 - Out on fault. GT3 & 5 - Out due to gas leakage. GT4 - Tripped on generator stator winding temperature fault.
	IHOVBOR NIPP	4	GT1, 2 & 4 3	337.5	337.5	GT1 1	112.5	94.8	GT1 - On manual adjustment to frequency. GT2 & 4 - Out due to gas constraint. GT3 - Tripped on high vibration.
	GBARAIN NIPP GAS	1	GT2 1	120	120	GT2 1	112.5	85.1	GT2 - On manual adjustment to frequency.
IPP	OKPAI GAS/STEAM	3	GT11, 13 & ST18 3	370	370	GT11, 12 & ST18 3	370	151	ST18 - Tripped along with GT11 due to faulty radiation signal.
	AZURA - EDO	3	GT11 - 13 3	461	461	GT11 - 13 3	461	376	Available units on bar.
	AFAM VI GAS/STEAM	4	GT12, 13 & ST10 3	500	490	0 0	0	0	GT11 - Out on type C inspection. GT12, 13 & ST10 - Out due to maintenance at gas station.
	IBOM POWER GAS	3	GT3 1	115	115	GT3 1	115	93.8	GT1 & 2 - Out due to fire outbreak on the control panel.
	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, 3 & 5 4	100	80	GT1, 2, 3 & 5 4	80	79	GT4 - Out on major overhaul. GT6 - Out on maintenance.
	TRANS-AMADI	4	GT1, 2 & 4 3	75	70	0 0	0	0	GT1, 2 & 4 - Out due to gas constraint. GT3 - Out on fault.
	RIVERS	1	GT1 1	160	160	0 0	0	0	GT1 - Out due to gas constraint
	SUB TOTAL	140	82	7911.5	7581.5	56	5191	4057	Frequency = 50.41Hz.

1.7B **GENERATION POSITION AT 06:00HRS OF SATURDAY 01/12/2018 FOR UNITS ON BILATERAL AGREEMENT**

PARAS ENERGY	8	GT2 - 9 8	70	67.8	GT2 - 9 8	67.8	67.8	Available units on bar.
SUB TOTAL	8	8	70	67.8	8	67.8	67.8	
GRAND TOTAL	148	90	7981.5	7649.3	64	5,258.80	4,124.80	Frequency = 50.41Hz

1.7C BILATERAL AGREEMENT UNITS DISPATCH - FRIDAY 30/11/2018								
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	0100HRS			24		NIL
	PTCEXPRESS	ON	0100HRS			24		NIL
	SANKYO	ON	0100HRS			17		OUT ON PLANNED JOB BY IE
	FEEDER 8	17	0900HRS			24		NIL
IKORODU	PULK IT	1	1500hrs			24		NIL
	INDUSTRIAL	9	0800hrs			24		NIL
	SPINTEX	8	24000hrs			15		TR4 SEC. CB WAS OPENED ON EMERGENCY DUE TO AGBOWA 33KV CB THAT LOCKED OUT.
	DANGOTE	ON	0100hrs			24		NIL
	LAND CRAFT	41	1400hrs			24		NIL
ALAUUSA	TR4 15MVA	6,7	11,00hrs			24		STATION LOSS SUPPLY ON LOAD SHEDDING.
	TR5 -15MVA	5.5	14,00hrs			24		STATION LOSS SUPPLY ON LOAD SHEDDING.
	ALAUUSA	14.7	08,00hrs			24		STATION LOSS SUPPLY ON LOAD SHEDDING.
M/LAND	PTC (MARYLAND)	17	1600hrs			22HRS		TRIPPED ON E/F
	<b>TOTAL LOAD</b>	<b>113.2</b>						

BILATERAL AGREEMENT LOAD DISPATCH 60MW PARAS ENERGY GENERATION TO CEB OF FRIDAY 30/11/2018							
FEEDER	MAX LOAD (MW)	TIME (HRS)	MIN LOAD (MW)	TIME (HRS)	HOURS IN SERVICE	TOTAL (MWH)	REMARK
Ikeja West/Sakete 330kV line	65.4	02:00	56.7	09:00	24	1534	NIL

BILATERAL AGREEMENT MAIN STREAM ENERGY KAINJI LOAD DISPATCH TO THE FOLLOWING COMPANIES OF: FRIDAY 30/11/2018									
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	52	01:00	28	17:00	24	<b>842</b>	SUPPLY NOT INTERRUPTED
KAM STEEL		25.0	1.3	12:00	0.2	01:00	24	<b>9.8</b>	SUPPLY NOT INTERRUPTED
ASAKA CEMENT		0	13.1	24:00	5.9	14:00	24	<b>213.2</b>	SUPPLY NOT INTERRUPTED
XING 1	33kV feeder	0	17.5	01:00	10.2	07:00	24	<b>352.9</b>	SUPPLY NOT INTERRUPTED
XING 2		0	28.4	20:00	15	11:00	24	<b>467.2</b>	SUPPLY NOT INTERRUPTED
KAM INTEGRATED		15	4	15:00	1.2	01:00	24	<b>55.5</b>	SUPPLY NOT INTERRUPTED
OLAM FLOUR MILLS		3	0.5	11:00	0.1	01:00	24	<b>4.7</b>	SUPPLY NOT INTERRUPTED
LORDSMITH		3	0.5	01:00	0.5	24:00	24	<b>12</b>	

**1.8 HYDROLOGICAL DATA: SATURDAY 01/12/2018**

	KAINJI	JEBBA	SHIRORO
HEAD WATER ELEVATION (METERS)	141.56	102.03	378.89
TAIL WATER ELEVATION (METERS)	104.3	74.8	270.5
GROSS OPERATING HEAD (METERS)	<b>37.26</b>	<b>27.23</b>	<b>108.39</b>
AVERAGE TURBINE DISCHARGE (M3/SEC)	1274.00	1739.00	350.00
AVERAGE SPILLAGE (M3/SEC)	201.00	0.00	0.00
AVERAGE TOTAL STATION DISCHARGE (M3/SEC)	<b>1475.00</b>	<b>1739.00</b>	<b>350.00</b>
COMPUTED INFLOW (M3/SEC)	1475.00	1519.00	63.00
STORAGE DIFFERENTIAL	<b>0.00</b>	<b>-220</b>	<b>-287</b>
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 30/11/2018**

	MAXIMUM LOAD (MW)	TIME (HRS)	ALLOCATED LOAD (MW)	MINIMUM LOAD (MW)	TIME (HRS)
ABUJA	468.7	22:00	479.69	322.8	05:00
EKO			558.83		
IKEJA			625.68		

**2.0 GAS POSITION: SATURDAY 01/12/2018**

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	457	1100		800	300
DELTA (GAS)	453	915		545	370
OMOTOSHO GAS	135.2	336.8		152	184.8
OMOTOSHO NIPP	96.3	500		120	380
OLORUNSOGO (GAS)	203.6	336		228	108
OLORUNSOGO NIPP	0	750		0	750
SAPELE NIPP	0	500		0	500
SAPELE STEAM	50	720		60	660
AFAM IV-V	0	300		0	300
AFAM VI	0	650		0	650
GEREGU GAS	360	435		435	0
GEREGU NIPP	127	435		145	290
OKPAI (GAS/STEAM)	151	480		370	110
ALAOJI NIPP	0	504		0	504
IHOVBOR NIPP	94.8	337.5		112.5	225
IBOM	93.8	198		115	83
ODUKPANI NIPP	0	625		115	510
<b>TOTAL</b>	<b>2221.7</b>	<b>9122.30</b>		<b>3197.5</b>	<b>5924.8</b>

0 1 MMSCF IS EQUIVALENT TO 3.75MW

**3.0 SPINNING RESERVE FOR : FRIDAY 30/11/2018**

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

**3.1 SYSTEM SPINNING RESERVE AS AT 0600HRS OF SATURDAY 01/12/2018 = 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	
		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	
<b>TOTAL (MW)</b>			<b>295</b>	<b>0</b>	<b>0</b>

**4.0 UNAVAILABLE GENERATION CAPABILITY**

The unavailable generation capability for Saturday 01/12/2018 as at 0600Hrs was = 2672.2MW.

S/N	STATION	ACTUAL GENERATION CAPABILITY (MW)	GENERATION AT 0600HRS (MW)	UNAVAILABLE GENERATION CAPABILITY (MW)	SUB-TOTAL
<b>4.1 DUE TO GAS CONSTRAINTS:</b>					
1	Afam IV GT17 & 18	120	0	120	2624.2
2	Delta GT15, 16, 19 & 20	425	333	92	
3	Geregu NIPP GT23	145	0	145	
4	Alaoji NIPP GT2	120	0	120	
5	Omotosho GT1 - 8	304	135.2	168.8	
6	Olorunsogo GT1 - 8	304	203.6	100.4	
7	Afam VI GT12, 13 & ST10	490	0	490	
8	Olorunsogo NIPP GT1 & 2	240	0	240	
9	Trans-Amadi GT1, 2 & 4	60	0	60	
10	Egbin ST2, 4, 5 & 6	800	457	343	
11	Rivers GT1	160	0	160	
12	Omotosho NIPP GT1, 3 & 4	360	0	360	
13	Ihovbor GT2 & 4	225	0	225	
				0	
IT IS ENVISAGED WITH IMPROVED PLANT AVAILABILITY AND RELIEF FROM EXISTING POWER SYSTEM NETWORK RELATED CONSTRAINTS, ADDITIONAL 1579.94MMSCF OF GAS (EQUIVALENT TO 5924.8MW) WILL BE REQUIRED WHEN ALL THERMAL UNITS ARE ON BAR.					
<b>4.2 DUE TO LINE CONSTRAINTS</b>					
			0	0	0
			0	0	
			0	0	
			0	0	
			0	0	
<b>4.3 DUE TO LOW LOAD DEMAND BY THE DISCOS</b>					
			0	0	0
			0	0	
			0	0	
			0	0	
			0	0	
			0	0	
			0	0	
			0	0	
			0	0	
			0	0	
			0	0	
			0	0	
			0	0	
			0	0	
<b>4.1 DUE TO WATER MANAGEMENT:</b>					
1	Shiroro 411G1, 2 & 4	450	402	48	48
				0	
<b>Grand Total</b>					<b>2672.2</b>

**5.0 OUTAGES:**

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

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

- 1 03:39 – 14:30Hrs, Akangba T/S 60MVA 132/33kV transformer 10T3A primary CB tripped on differential relay. LHR = 7MW.
- 2 07:21 - 14:31Hrs, Delta T/S 60MVA 132/33kV transformer T1 primary & secondary CBs tripped:  
On Primary CB: O/C Red, Yellow & Blue Phases.  
On Secondary CB: O/C Yellow & Blue Phases. LHR = 11.5MW.
- 3 08:35 – 08:53Hrs, New Haven/Yandev 132kV line CB tripped at New Haven T/S on distance protection O/C JR, auxiliary R, neutral M, zone 1, Backup relay – O/C, instantaneous E/F Red & Blue Phases. LHR = 22MW.
- 4 14:59 – 15:37Hrs, Egbin/Ikeja West 330kV line (cct N6W) CB tripped at Ikeja West T/S on Micom Relay – E/F, tripped ELTS – NO, fault duration = 496.6ms relay trip time = 0.000ms. No load loss as ccts N7K, N8K & M5W were in service
- 5 15:05 through 24:00Hrs, Amuwo T/S 60MVA 132/33kV transformer TR1 primary CB tripped without relay indication. LHR = 19MW.

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

- 1 11:32 – 12:47Hrs, Ilorin T/S 45MVA 132/33kV transformer T2A was taken out to top up low oil level in the conservator tank to normal. Load loss = 4.6MW

**5 (D) URGENT OUTAGES:-**

- 1 12:23 – 13:47Hrs, Jebba/Osogbo 330kV line 1 (cct J1H) was taken out to build low SF6 gas pressure to normal at Osogbo T/S. No load loss as cct J3G & H3G were in service.
- 2 13:33 – 13:54Hrs, Ajaokuta T/S 60MVA 132/33kV transformer T2 primary CB was taken out to build up low SF6 pressure on the Yellow Phase to normal. Load loss = 11.8.
- 3 14:15 – 15:45Hrs, Abakaliki T/S 30MVA 132/33kV transformer T1A was taken out to treat hot spot on secondary Red Phase bushing of the transformer. Load loss = 8.7MW.

**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

**11 SCADA RTU STATUS**

STATIONS	NO. INSTALLED	NO OF RTU DISTURBED	NO OF RTU WORKING
POWER STATIONS	8	5	3
330kV	19	6	13
132kV	102	82	20

**5 (E) EMERGENCY OUTAGES:-** Nil.

**5 (F) AUTOMATIC UNDER FREQUENCY OPERATION:-** Nil.

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

**5 (H) 330KV LINES THAT ARE OUT ON BREAKER PROBLEM:-** 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, K3U & K4U

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

**6 WEATHER REPORT:-** NIL.

**7 INTERNATIONAL LINES:-**

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

Maximum load - 276MW at 17:00Hrs.

Minimum load - 219MW at 01:00Hrs.

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

Maximum load - 95MW at 19:00Hrs.

Minimum load - 62MW at 08:00Hrs.

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

Maximum load - 29.4MW at 20:00Hrs.

Minimum load - 13.8MW at 11:00Hrs.

**8 MISCELLANEOUS:-**

1 10:02Hrs, Yandev T/S 45MVA 132/33kV transformer T3 was restored. The transformer was taken out for maintenance at 12:00Hrs of 28/11/2018.

2 11:32Hrs, Odukpani NIPP GT2 was tied. The unit was out on fault.

3 15:05Hrs, Benin/Ajaokuta 330kV line 2 was restored. The line tripped at 14:39Hrs of 29/11/2018

\*\*\*\*\* 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.

**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/ltire 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



