

TRANSMISSION COMPANY OF NIGERIA

To: Head (ISO), TCN - Abuja

From: General Manager, NCC, Osogbo

DAILY OPERATIONAL REPORT OF MONDAY 02/09/2019

FOR: EVENTS OF SATURDAY SUNDAY 01/09/2019

EXECUTIVE OPERATIONS SUMMARY:

1.1 GENERATION PROFILE: NATIONAL STATISTICS

DETAILS	MW	HRS	DATE
PEAK DEMAND FORECAST (CONNECTED + SUPPRESSED LOAD)	25,790	21:30	01/09/19
GENERATION CAPABILITY	6357.5	-do-	-do-
UNITS ON BAR CAPABILITY AT PEAK	5095.7	-do-	-do-
PEAK GENERATION	4214.4	-do-	-do-
LOWEST GENERATION	2450.8	10:00	01/09/19
8-HOURLY DURATION PEAK	3089.3	0100-0800	-do-
	3116.9	0900-1600	-do-
	4214.4	1700-2400	-do-
PEAK GENERATION TO DATE	5375	21:30	7/2/2019
MAXIMUM AVAILABLE CAPACITY TO DATE	7652.6	06:00	14/04/2014
MAXIMUM ENERGY GENERATED (MWH) TO DATE	111,004.89	0000-2400	03/04/2019

1.2 CRITICAL VOLTAGE

DETAILS	KV	STATION	HRS
NOMINAL VOLTAGE	330		
STATUTORY LIMITS	280.5 - 346.6		
HIGHEST VOLTAGE FOR THE DAY	354	New Haven & Sapele T/S	04:00 & 09:00
LOWEST VOLTAGE FOR THE DAY	300	Yola & Gombe T/S	06:00 & 10:00

1.3 FREQUENCY RANGE

DETAILS	HZ	HRS
NOMINAL FREQUENCY	50	
STATUTORY LIMITS	49.75-50.25	
HIGHEST FREQUENCY	50.876	04:16
LOWEST FREQUENCY	49.993	19:38

1.4 SYSTEM COLLAPSE UPDATE

Date of last total collapse: 30th June, 2019		No. of days since last total collapse: 02												
Date of last partial collapse: 12th April, 2018		No. of days since last partial collapse: 499												
Highest No of days ever attained in-between total collapses: 134		Highest No of days ever attained in-between partial collapses: 243												
	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	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	0	1	1	8
2013	Total	--	1	2	2	3	4	1	1	1	4	2	22	
	Partial	--	--	--	--	--	--	--	--	2	0	0	2	
2014	Total	2	--	--	2	0	3	1	0	0	1	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	1	0	6	
	Partial	--	--	1	0	2	0	0	0	0	1	0	4	
2016	Total	--	--	2	3	6	5	0	0	1	1	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	12	
	Partial	0	0	0	1	0			0				1	
2019	Total	4	1		1	1							7	
	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	296	171
2 JEBBA	HYDRO	375	145
3 SHIRORO	HYDRO	505	330
4 EGBIN ST2 - 5	STEAM	473	306
5 SAPELE	STEAM	0	0
6 DELTA	GAS	444	283
7 AFAM IV-V	GAS	30	31
8 GEREGU GAS	GAS	205	80
9 OMOTOSHO GAS	GAS	96.3	95.1
10 OLORUNSOGO GAS	GAS	157.50	103.1
11 GEREGU NIPP	GAS	128	75
12 SAPELE NIPP	GAS	86.5	72.3
13 ALAOJI NIPP	GAS	0	0
14 OLORUNSOGO NIPP	GAS	0	0
15 OMOTOSHO NIPP	GAS	82.2	75.5
16 ODUKPANI NIPP	GAS	184.6	89.9
17 IHOVBOR NIPP	GAS	83.9	81.1
18 OKPAI	GAS	180	104
19 AFAM VI	GAS	234	109
20 IBOM POWER	GAS	67.3	61.9
21 ASCO	GAS	0	0
22 A.E.S	GAS	0	0
23 OMOKU	GAS	75.4	40.4
24 TRANS AMADI	GAS	41.5	10.8
25 RIVERS IPP	(GAS)	144	70
26 AZURA - EDO IPP	(GAS)	204	75
27 EGBIN ST6	(GAS)	0	0
28 PARAS ENERGY	(GAS)	67	41.7
29 GBARAIN NIPP	GAS	72.7	0
TOTAL		4214.4	2450.8

STATION	TURBINE	ENERGY GENERATED	AV. POWER GENERATED	ENERGY SENT OUT	AV. POWER SENT OUT
		MWH	MWHH	MWH	MWHH
1 KAINJI	HYDRO	7233.00	301.38	7218.80	300.78
2 JEBBA	HYDRO	6244.00	260.17	6225.12	259.38
3 SHIRORO	HYDRO	10421.00	434.21	10391.76	432.99
4 EGBIN ST2 - 5	STEAM	8051.00	335.46	7562.90	315.12
5 SAPELE	STEAM	0.00	0.00	0.00	0.00
6 DELTA	GAS	7773.22	323.88	7590.10	316.25
7 AFAM IV-V	GAS	1026.67	42.78	1022.14	42.59
8 GEREGU GAS	GAS	3248.80	135.37	3226.21	134.43
9 OMOTOSHO GAS	GAS	2142.00	89.25	2122.80	88.45
10 OLORUNSOGO GAS	GAS	2722.06	113.42	2701.83	112.58
11 GEREGU NIPP	GAS	2235.62	93.15	2222.97	92.62
12 SAPELE NIPP	GAS	1822.07	75.92	1806.91	75.29
13 ALAOJI NIPP	GAS	489.37	20.39	487.25	20.30
14 OLORUNSOGO NIPP	GAS	0.00	0.00	0.00	0.00
15 OMOTOSHO NIPP	GAS	1983.00	82.63	1973.10	82.21
16 ODUKPANI NIPP	GAS	3565.68	148.57	3537.88	147.41
17 IHOVBOR NIPP	GAS	1850.00	77.08	1831.73	76.32
18 OKPAI	GAS	2733.00	113.88	2663.20	110.97
19 AFAM VI	GAS	3150.79	131.28	3040.70	126.70
20 IBOM	GAS	1530.90	63.79	1522.00	63.42
21 ASCO	GAS	0.00	0.00	0.00	0.00
22 AZURA - EDO IPP	GAS	2939.40	122.48	2914.90	121.45
23 A.E.S	GAS	0.00	0.00	0.00	0.00
24 OMOKU	GAS	1424.58	59.36	1391.61	57.98
25 TRANS AMADI	GAS	704.50	29.35	685.50	28.56
26 RIVERS IPP	GAS	2318.70	96.61	2307.20	96.13
27 EGBIN ST6	STEAM	0.00	0.00	0.00	0.00
28 PARAS ENERGY	GAS	1164.50	48.52	1159.30	48.30
29 GBARAIN NIPP	GAS	640.00	26.67	630.60	26.28
TOTAL		77,413.86	3,225.58	76,236.51	3,176.52

1.7A GENERATION POSITION AT 06:00HRS OF MONDAY 02/09/2019

	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 50.59Hz	REMARKS
PRIVATISED COMPANIES	KAINJI HYDRO	8	1G5, 6, 11 & 12 4	440	330	1G5, 6, 11 & 12 4	330	197	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	578.4	475	2G1, 3 & 5 3	275	230	2G2 & 4 - Out due to low load demand by the Discos. 2G6 - Out due to burnt generator winding and AVR.
	SHIRORO HYDRO	4	411G1 - 4 4	600	600	411G1 - 4 4	600	240	411G1 - 4 - Generation reduced due to low load demand by the Discos.
	EGBIN STEAM	6	ST1, 2, 5 & 6 4	880	477	ST1, 2 & 5 3	477	306	ST6 - Out due to low load demand by the Discos. ST3 - Tripped on suspected control valve abnormal. ST4 - Out due to boiler feed pump problem. Generation reduced due to low load demand by the Discos.
	SAPELE (STEAM)	6	0 0	0	0	0 0	0	0	ST1 - Tripped due to loss of control oil pump. ST2 & 4 - Out on fault. ST3 - Yet to be tied since collapse of 30/08/2019.
	DELTA (GAS)	18	GT6, 7, 10 - 13, 15 16, 19 & 20 10	575	513	GT6, 7, 10 - 13, 16, 19 & 20 9	388	247	GT3 & 5 - Out on generator winding fault. GT4 - Out on loss of excitation. GT8 & 14 - Out on major overhaul. GT15 - Out due to low load demand by the Discos. GT17 & 18 - Out due to generator lockout problem. Generation reduced due to low load demand by the Discos.
	AFAM IV & V (GAS)	8	GT18 1	120	50	GT18 1	50	30	GT11 - 12 - De-commissioned and scrapped. GT13, 14 & 16 - Out on blade failure. GT17 Out due to gas constraint. GT18 - Generation reduced due to low load demand by the Discos. GT19 & 20 - Awaiting major overhaul.
	GEREGU GAS	3	GT11 - 13 3	435	435	GT13 1	145	100	GT11 & 12 - Out due to low load demand by the Discos. GT13 - Generation reduced due to low load demand by the Discos.
	OMOTOSHO GAS	8	GT1, 4, 5, 7 & 8 5	210	190	GT4, 5 & 8 3	114	91.2	GT1 & 7 - Out due to low load demand by the Discos. GT2, 3 & 6 - On maintenance. Generation reduced due to low load demand by the Discos.
	OLORUNSOGO GAS	8	GT1 - 8 8	336	306	GT2, 4, 6 & 7 4	124.6	124.6	GT1, 3, 5 & 8 - Out due to low load demand by the Discos.
NIPP	GEREGU NIPP	3	GT21 1	145	145	GT21 1	145	80	GT21 - Generation reduced due to low load demand by the Discos. GT22 & 23- Out due to gas constraint.
	SAPELE NIPP	4	GT2 1	112.5	110	GT2 1	110	75.1	GT1 & 3 - Out due to gas constraint. GT4 - Out on maintenance.
	ALAOJI NIPP	4	GT1 1	120	112.5	0 0	0	0	GT1 - Out due to low load demand by the Discos. GT2 - Out due to high air inlet differential pressure. GT3 - Out due to lack of spare part. GT4 - Tripped on over voltage lockout relay trip.
	OLORUNSOGO NIPP	6	0 0	0	0	0 0	0	0	GT1 - 3 - Out due to gas constraint. GT4 - Out due to ignition failure and control relay failure alarm. ST13 & ST23 - Out on maintenance.
	OMOTOSHO NIPP	4	GT3 1	120	120	GT3 1	120	74.5	GT1 - Out on maintenance. GT2 - Out due to gas constraint. Generation reduced due to low load demand by the Discos
	ODUKPANI NIPP	5	GT1 - 4 4	480	440	GT1 1	110	85.1	GT1 - On manual adjustment. GT2, 3 & 4 - Out due to low load demand by the Discos. GT5 - Out on E/F.
	IHOVBOR NIPP	4	GT2 1	112.5	110	GT2 1	110	76	GT1 - On manual adjustment. GT3 & 4 - Out on maintenance.
	GBARAIN NIPP	1	GT2 1	112.5	112.5	GT2 1	112.5	71.8	GT2 - Generation reduced due to line constraint.
	OKPAI GAS/STEAM	3	GT11 & 12 2	300	300	GT11 & 12 2	300	104	GT11 & 12 - Generation reduced due to low load demand by the Discos. ST18 - Out on fault.
	AZURA - EDO	3	GT11 - 13 3	461	459	GT12 & 13 2	306	150	GT11 - Out due to low load demand by the Discos. Generation reduced due to low load demand by the Discos.
IPP	AFAM VI GAS/STEAM	4	GT12, 13 & ST10 3	500	470	GT13 1	150	102	GT11 - Tripped on undisclosed fault. GT12 & ST10 - Out due to low load demand by the Discos. Generation reduced due to low load demand by the Discos
	IBOM POWER GAS	3	GT3 1	112.5	110	GT3 1	110	68.9	GT1 & 2 - Out due to fire outbreak on the control panel. Generation reduced due to line constraint.
	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 - Out due to leakage in the furnace.
	OMOKU GAS	6	GT3 - 6 4	100	80	GT3 - 6 4	80	45.3	GT1 - Tripped on exhaust spread temperature high. GT2 - Out on high vibration. Generation reduced due to low load demand by the Discos.
	TRANS-AMADI	4	GT2 & 4 2	50	40	GT2 & 4 2	40	35	GT1 - Tripped on high voltage. GT3 - Out on generator transformer limitation. Generation reduced due to low load demand by the Discos.
	RIVERS	1	GT1 1	160	160	GT1 1	160	82	GT1 - Generation reduced due to low load demand by the Discos.
	SUB TOTAL	141	70	7060.4	6145	51	4357.1	2615.5	Frequency = 50.59Hz.

1.7B GENERATION POSITION AT 06:00HRS OF MONDAY 02/09/2019 FOR UNITS ON BILATERAL AGREEMENT									
	PARAS ENERGY	8	GT4 - 6, 8 - 10	48.9	48.9	GT4 - 6, 8 - 10	48.9	48.9	GT3 & 7 - Tripped due to gas pressure.
			6			6			
	SUB TOTAL	8	6	48.9	48.9	6	48.9	48.9	
	GRAND TOTAL	149	76	7109.3	6193.9	57	4,406.00	2664.4	Frequency = 50.59Hz.

1.7C BILATERAL AGREEMENT UNITS DISPATCH - SUNDAY 01/09/2019								
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
	PTC EXPRESS	ON	0100HRS			24		NIL
	SANKYO	8	1400HRS			24		NIL
	FEEDER 8	9	0800HRS			24		NIL
IKORODU	PULK IT	7	2100HRS			24		NIL
	INDUSTRIAL	ON	0100HRS			24		NIL
	SPINTEX	3	1000HRS			24		NIL
	DANGOTE	30	0200HRS			24		NIL
	LAND CRAFT	3.9	2000HRS			24		NIL
ALAUUSA	TR4 - 15MVA	3.5	1400HRS			24		NIL
	TR5 -15MVA	9.5	1400HRS			24		NIL
	ALAUUSA	16	1600HRS			22		OUT DUETO LOSS OF RED PHASE
M/LAND	PTC (MARYLAND)							
	TOTAL LOAD	89.9						

BILATERAL AGREEMENT LOAD DISPATCH							
60MW PARAS ENERGY GENERATION TO CEB OF MONDAY 01/09/2019							
	MAX LOAD (MW)	TIME (HRS)	MIN LOAD (MW)	TIME (HRS)	HOURS IN SERVICE	TOTAL (MWH)	REMARK
	68.1	21:00	40.7	07:00	24	1161	NIL

BILATERAL AGREEMENT MAIN STREAM ENERGY KAINJI MONDAY 01/09/2019										
COMPANY NAME	VOL-TAGE LEVEL	CON-TRAC-TUAL LOAD (MW)	MAX LOAD (MW)	TIME	MIN LOAD (MW)	TIME	HOURS IN SERVICE	TOTAL (MWH)	REMARK	
INNER GALAXY	132kV line 2	0	24	22:00	0.1	01:00	24	105.8	NO TIME OUT	
KAM STEEL 2		25.0	6.2	05:00	0.1	24:00	24	32.3	NO TIME OUT	
ASHAKA CEMENT		0	8.8	04:00	0	14:00	23	123.7		
XING 1	33kV feeder	0	19.8	04:00	7.2	09:00	24	381.6	NO TIME OUT	
XING 2		0	23.6	23:00	0.75	07:00	24	445.8	NO TIME OUT	
KAM INTEGRATED		15	3.4	17:00	1.2	23:00	24	51.9	NO TIME OUT	
OLAM FLOUR MILLS		3	2.3	01:00	0.1	24:00	22	16.4	10:00HRS, O/C & E/F	
LORDSMITH		3	0.4	01:00	0.3	20:00	24	9.3	NO TIME OUT	
KAM STEEL LINE 1		0	4	06:00	0.2	0.63	24	22.9	NO TIME OUT	

1.8 HYDROLOGICAL DATA: MONDAY 02/09/2019

	KAINJI	JEBBA	SHIRORO
HEAD WATER ELEVATION (METERS)	136.81	102.72	375.70
TAIL WATER ELEVATION (METERS)	104.7	74.0	271.0
GROSS OPERATING HEAD (METERS)	32.11	28.72	104.70
AVERAGE TURBINE DISCHARGE (M3/SEC)	1053.00	1013.00	477.00
AVERAGE SPILLAGE (M3/SEC)	0.00	480.00	0.00
AVERAGE TOTAL STATION DISCHARGE (M3/SEC)	1053.00	1493.00	477.00
COMPUTED INFLOW (M3/SEC)	4004.00	1829.00	1046.00
STORAGE DIFFERENTIAL	2951.00	336	569
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 SUNDAY 01/09/2019

	MAXIMUM LOAD (MW)	TIME (HRS)	ALLOCATED LOAD (MW)	MINIMUM LOAD (MW)	TIME (HRS)
ABUJA	495.5	22:00	499.92	328.4	01:00
EKO	449.8	22:00	578.18	296.6	09:00
IKEJA	593.6	22:00	752.07	396.1	11:00

2.0 GAS POSITION: MONDAY 02/09/2019

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	265	1100		477	623
DELTA (GAS)	305	915		310	605
OMOTOSHO GAS	100.4	336.8		114	222.8
OMOTOSHO NIPP	104.3	500		120	380
OLORUNSOGO (GAS)	233.4	336		124.8	211.4
OLORUNSOGO NIPP	0	750		0	750
SAPELE NIPP	87.2	500		110	390
SAPELE STEAM	47	720		0	720
AFAM IV-V	50	300		50	250
AFAM VI	220	650		150	500
GEREGU GAS	216	435		145	290
GEREGU NIPP	80	435		145	290
OKPAI (GAS/STEAM)	170	480		300	180
ALAOJI NIPP	0	504		0	504
IHOVOR NIPP	114	337.5		110	227.5
IBOM	88.9	198		110	88
ODUKPANI NIPP	206.4	625		110	515
TOTAL	2287.6	9122.30		2375.6	6746.7

1 MMSCF IS EQUIVALENT TO 3.75MW

3.0 SPINNING RESERVE FOR : SUNDAY 01/09/2019

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

3.1 SYSTEM SPINNING RESERVE AS AT 0600HRS OF MONDAY 02/09/2019 = FREQUENCY = 50.55Hz.

SN	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
		GT1		0	
5	Omotosho NIPP	GT2	40	0	0
		GT3		0	
		GT4		0	
		GT4		0	
TOTAL (MW)			295	0	0

4.0 UN-UTILIZED GENERATION CAPABILITY

The un-utilized generation capability for Monday 02/09/2019 as at 0600Hrs = 3237.8MW

SN	STATION	ACTUAL GENERATION CAPABILITY (MW)	GENERATION AT 0600HRS (MW)	UNAVAILABLE GENERATION CAPABILITY (MW)	SUB-TOTAL
4.1 DUE TO LINE CONSTRAINTS					
1	Gbarain NIPP GT2	110	71.8	38.2	83.8
2	Ibom Power GT3	110	64.4	45.6	
4.2 DUE TO LOW LOAD DEMAND BY THE DISCS					
1	Jebba 2G2 & 4	190	0	190	3108.5
2	Olorunsogo gas GT1 - 8	306	124	182	
3	Geregu Gas GT11 - 13	435	100	335	
4	Odukpani NIPP GT2, 3 & 4	330	0	330	
5	Azura-Edo GT11 - 13	459	150	309	
6	Egbin ST1, 2, 4 & 6	850	306	544	
7	Shiroto 411G1 - 4	600	240	360	
8	Okpai GT11 & 12	300	104	196	
9	Afam VI GT12, 13 & ST10	470	102	368	
10	Delta GT15, 16, 19 & 20	360	167	193	
11	Omotosho Gas GT1, 4, 5, 7 & 8	190	91.2	98.8	
12	Afam IV GT18	50	30	20	
13	Geregu NIPP GT21	145	80	65	
14	Trans-Amadi GT2 & 4	40	35	5	
15	Omoku GT3 - 6	80	45.3	34.7	
16	Rivers IPP GT1	160	82	78	
17	Omotosho NIPP GT3	120	74.5	45.5	
				0	
				0	
4.3 DUE TO WATER MANAGEMENT					
			0	0	0
			0	0	
Grand Total					3237.8

5.0 **OUTAGES:**

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

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

- 1 00:41 - 01:02Hrs, Adiabbor/Calabar 132kV line 1 CB tripped at Adiabbor T/S on E/F. LHR = 21.9MW
- 2 00:41 - 01:06Hrs, Calabar T/S 60MVA 132/33kV Transformer T1 primary CB tripped on O/C Blue phase while the secondary CB flagged on O/C Yellow phase but did not trip. LHR = 8MW
- 3 09:19 - 17:01Hrs, Ijora T/S 30MVA 132/33kV Transformer T1A primary CB tripped on bias differential Red & Yellow phases. Simultaneously, Ijora cause way 33kV feeder tripped on O/C Red & Yellow phases & E/F. LHR = 4.4MW
- 4 11:25 - 11:37Hrs, Uyo T/S 60MVA 132/33kV Transformer T3 secondary CB tripped on SBEF. LHR = 6MW
- 5 11:55 - 12:24Hrs, Uyo T/S 60MVA 132/33kV Transformer T3 secondary CB tripped on SBEF. LHR = 5MW
- 6 13:20 - 13:54Hrs, Makurdi/Jos 330kV line 2 (cct A2S) CB tripped at Jos T/S on high voltage (367kV). LHR = 124MW
- 7 13:20 - 13:45Hrs, Jos/Gombe 330kV line (cct S1E) CB tripped at Gombe T/S on phases not together & lockout relay. LHR = 244MW
- 8 13:26 - 18:49Hrs, Okpai/Onitsha 330kV line 1 (cct K2T) CB tripped at Onitsha T/S on high voltage (348kV). No load loss as line 1 was in service
- 9 14:21 - 15:29Hrs, Benin/Onitsha 330kV line 2 (cct B2T) CB tripped at both ends on the following relay indications:
At Onitsha T/S:
 Reyrolle relay: zone 1 Yellow trip, E/F, carrier trip, main 1 carrier relay failed.
 Auxiliary relay for CB trouble 52AB, Auxiliary relay for CB trouble 52CB
At Benin T/S:
 SEL relay: Zone 1 B-N, 54MW was diverted to line 1.
- 10 19:18 through 24:00hrs, Gusau T/S 30MVA 132/33kV Transformer T1A primary CB tripped on differential while the secondary tripped on Transformer trip relay. LHR = 2.2MW

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

- 1 13:40 - 15:12Hrs, Alaoji/Afam 132kV line 1 was taken out to allow maintenance crew carry out annual preventive maintenance on the line CB. No load loss as line 2 was in service.

5 (D) **URGENT OUTAGES**

- 1 13:20 - 16:41Hrs, Gombe T/S 150MVA 330/132/33kV Transformer T2A was taken out to allow maintenance crew treat hot spot on the secondary Blue phase isolator. Load loss = 23MW

6 **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 WITH EFFECTIVE POWER PURCHASE AGREEMENT (PPA)
 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).

11A **COMMUNICATION MEDIA**

STATIONS	NO INSTALLED	NO. WORKING
PLC/PAX	38	33
OPTIC FIBRE	13	10
PLS	14	4

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

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

5 (G) **330KV LINES THAT ARE OUT ON VOLTAGE CONTROL:-** ccts U1A,K3U, B11J & K1U.

5 (H) **330KV LINES THAT ARE OUT DUE TO DEFECTIVE CIRCUIT BREAKER:-** cct A2K.

5 (I) **330KV LINES THAT ARE OUT ON PLANNED OUTAGE:-** NIL

5 (J) **330KV LINES THAT ARE OUT ON LINE FAULT:-** ccts A2K & K4U

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

5 (L) **330KV LINES THAT ARE OUT ON PLANNED OUTAGE:-** NIL

6 **WEATHER REPORT:-** Rainfall was reported at Osogbo, Ayede, Kano.

7 **INTERNATIONAL LINES:-**

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

Maximum load - 74MW at 21:00Hrs.
 Minimum load - 42.0MW at 07:00Hrs.

B **BIRNIN KEBBWIAMEY 132KV LINE**

Maximum load - 115MW at 24:00Hrs.
 Minimum load - 92.0MW at 09:00Hrs.

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

Maximum load - 39.7MW at 22:00Hrs.
 Minimum load - 28.3MW at 09:00Hrs.

8 **MISCELLANEOUS**

- 1 00:42 - 20:15Hrs, Olorunsogo gas GT5 was shut down due to low load demand by the Discos. Load loss = 34.1MW
- 2 02:14 - 19:33Hrs, Azura GT12 was shut down due to low load demand by the Discos. Load loss = 75MW
- 3 02:32Hrs, 02:35Hrs & 02:38Hrs, Paras Energy GTs 3-5 were shut down due to load reduction observed on Ikeja-West/Sakete 330kV line. Load loss = 16.4MW
- 4 03:27 - 05:41Hrs, Jebba 2G2 was shut down due to low load demand by the Discos. Load loss = 69MW
- 5 05:00Hrs, Ikaje-West T/S 75MX 330kV Reactor R1 was placed in service for voltage control. V/P: 331/329KV
- 6 05:44 - 19:21Hrs, Trans-Amadi GT4 was shut down due to low load demand by the Discos. Load loss = 12.2MW

11B 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	83	19

12(A) UNAVAILABLE TRANSFORMERS/REACTORS:

SHIRORO REGION:

- Birin Kebbi 75MX Reactor R1.

ABUJA REGION

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

KADUNA REGION:

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

BAUCHI REGION:

- Gombe T/S - 30MX Reactor R2A.

ENUGU REGION:

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

LAGOS REGION:

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

PORT HARCOURT REGION

- Ikot-Ekpene T/S: No reactor installed.

12 (B) UNAVAILABLE BREAKERS/ISOLATORS

LAGOS REGION:

- Akangba T/S. 132kV Bus Coupler CB - Serious Air leakage.(Undergoing repair)
- Egbin/Aja 330kV line 2 (cct N4J) - faulty breaker at Aja T/S
- Otta/Ogba 132kV line isolator - defective control shaft.
- Osogbo/Ikeja West and Olorunsogo/Ikeja West tie CB at Ikeja West T/S - defective pole .
- Oke-Aro/Ikeja West 330kV lines 1 & 2 tie CB at Ikeja West T/S - Defective pole.
- Egbin/Oke-Aro 330kV line 2 (N8K) Defective. Needs replacement.
- Egbin/Ikeja-West Tie CB Defective. Needs replacement.
- Egbin/Aja 330kV line 3 (cct N3J) - Tie CB defective.Needs replacement.

BENIN REGION:

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

PORT HARCOURT REGION:

- cct A1K CB

ENUGU REGION:

- New Haven/Yandev 132kV line CB - Faulty Red phase CB pole. Protection is transferred to the bus coupler CB.
- 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.
- 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.
- Oturkpo/Yandev 132kV By pass isolator - Canibalized to repair the line isolator.
- New Haven/Nkalagu 132kV line 2 ground switch - Canibalized Red phase female contact and canibalized Yellow phase male contact.

SHIRORO REGION

- 07:00 - 19:32Hrs, Geregu Gas GT12 was shut down due to low load demand by the Discos. Load loss = 80MW

- 07:46 - 12:47Hrs, Jebba 2G2 was shut down due to low load demand by the Discos. Load loss = 71MW

- 15:01Hrs, Gbarain GT2 was tied. The unit was out due to line constraint.

- 17:05Hrs, Paras Energy GT5 was tied. The unit was out due to low load demand by the Discos.

- 18:01Hrs, Odukpani GT2 was tied. The unit was out due to low load demand by the Discos.

- 18:54Hrs, Ikeja-West T/S 75MX 330kV Reactor R1 was taken out of service for voltage control. V/P: 318/321kV

- 18:55Hrs, Jebba 2G5 was tied. The unit was out due to low load demand by the Discos.

- 19:22Hrs, Delta GT15 was tied. The unit was out due to low load demand by the Discos.

- 19:32Hrs, Jebba/Shiroro 330kV line 2 (cct J7R) was restored on voltage control. V/P: 340/340kV

- 19:37Hrs, Jebba 2G5 was tied. The unit was out due to low load demand by the Discos.

- 19:39Hrs, Olorunsogo gas GT7 was tied. The unit was out due to low load demand by the Discos.

- 19:04Hrs, Paras Energy GT4 was tied. The unit was out due to low load demand by the Discos.

- 19:40Hrs, Paras Energy GT3 was tied. The unit was out due to low load demand by the Discos.

- 20:25Hrs, Afam VI GT2 was tied. The unit was out due to low load demand by the Discos.

- 22:21 through 24:00Hrs, Jebba 2G4 was shut down due to low load demand by the Discos. Load loss = *****

- 22:54 through 24:00Hrs, Jebba 2G2 was shut down due to low load demand by the Discos. Load loss = 73MW

**** THE SCADA COVERAGE OF ONLY LIMITED AREAS IS NOT GOOD FOR THE SMOOTH OPERATION OF THE GRID.

**** LACK OF REACTOR AND UNRELIABLE STATION SERVICE SUPPLY AT IKOT-EKPENE T/S ARE HINDERING SMOOTH OPERATION.

12(D) 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.

12(E) UNAVAILABLE SKYWIRES

LAGOS REGION

- Omotosho/Ikeja West line (M5W) and Egbin/Ikeja West line 3 (N6W) - 21 spans.
- Ikeja West/Olorunsogo line (cct R11W) - 80 spans.
- 330kV Ikeja West/Osogbo line. - 95 spans.
- Ikeja West/Alimosho/Ogba 132kV lines 1 & 2 - 15 spans.
- Ikeja West/Akangba 330kV line 2 - 1 span.
- Ikeja West/ Ilupeju 132kV lines 1 & 2 - 8 spans.
- Akangba/Itire 132kV lines 1 & 2 - 1 span.
- Ikeja West/Agbara 132kV lines 1 & 2 - 61 spans.
- Ikeja West/Otta 132kV lines 1 & 2- 17 spans.

SHIRORO REGION

- Jebba T/S 330kV Osogbo lines 1 & 2 and Ganmo line - 9 spans
- Minna T/S 132kV Bida line - 32 spans
- Shiroro T/S 330kV Jebba line 2 - 28 spans

ABUJA REGION

- Apo T/S 132kV Keffi line - 36 spans

12 (F) UNAVAILABLE SYNCHROSCOPES :

- Ikeja West, Onitsha, Egbin, Ugwuaji, Jos, Gwagwalada & Alaoji T/S.

FOR MORE INFORMATION: NCC Telephone Lines -

- Ikeja West, Onitsha, Egbin, Ugwuaji, Jos, Gwagwalada & Alaoji T/S.

FOR MORE INFORMATION: NCC Telephone Lines -

- PAX 09/300, 309, 303 & 305.
- NCC GSM - 08074888524, 08069379367, 08023572651 & 08051401331. CUG Nos. 08129458488, 08129458489, 08129929806; 08036665323.
- PLS - 622
- GM (NCC) - 08036744641.
- AGM (S/O) - 08105894708, CUG: 07016228668
- NCC e-mail address - nationalcontrol@gmail.com
- SYSTEM OPERATIONS WEB SITE: www.nigeriasystemoperator.org.

1 Jebba T/S 75MX reactor 2R2 CB - exploded.

ABUJA REGION

1 Gwagwalada/Katampe 330kV line CB cct J5B - Faulty breaker at Gwagwalada T/S

CRITICAL VOLTAGE NODES IN THE GRID

S/N	NODE	VOLTAGE	REMARKS
1	Lokoja T/S	352kV	One Reactor in service.
2	Ugwuaji T/S	353kV	No Reactor
3	Ajaokuta T/S	349kV	Low VAR absorption by Geregu Gas/NIPP.
4	New Haven T/S	354kV	No Reactor
5	Makurdi T/S	349kV	One Reactor in service. 2nd not yet installed
6	Sapele T/S	354kV	Low VAR absorption by Sapele P.S/NIPP/Delta.