

TRANSMISSION COMPANY OF NIGERIA

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

DAILY OPERATIONAL REPORT OF TUESDAY 07/08/2018

FOR: EVENTS OF MONDAY 06/08/2018

1.0 EXECUTIVE OPERATIONS SUMMARY:

1.1 GENERATION PROFILE: NATIONAL STATISTICS

DETAILS	MW	HRS	DATE
PEAK DEMAND FORECAST (CONNECTED + SUPPRESSED LOAD)	22,560	21:30	06/08/2018
GENERATION CAPABILITY	8105.6	-do-	-do-
UNITS ON BAR CAPABILITY AT PEAK	4955.4	-do-	-do-
PEAK GENERATION	4576.5	-do-	-do-
LOWEST GENERATION	2929.0	04:00	06/08/2018
8-HOURLY DURATION PEAK	3462.5	0100-0800	-do-
	3694.5	0900-1600	-do-
	4576.5	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	366	Jos T/S	05:00
LOWEST VOLTAGE FOR THE DAY	300	Gombe, Yola & Kumbotso T/S	04:00, 07:00 & 20:00

1.3 FREQUENCY RANGE

DETAILS	HZ	HRS
NOMINAL FREQUENCY	50	
STATUTORY LIMITS	49.75 - 50.25	
HIGHEST FREQUENCY	50.82	04:07
LOWEST FREQUENCY	49.95	14:42

1.4 SYSTEM COLLAPSE UP DATE

Date of last total collapse: 8th July, 2018		No. of days since last total collapse: 20													
Date of last partial collapse: 12 th April, 2018		No. of days since last partial collapse: 112													
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	0	3			9	
2018	Total	5	1	0	0	0	1	1						8	
	Partial	0	0	0	1	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	299	190
2 JEBBA	HYDRO	413	97
3 SHIRORO	HYDRO	577	140
4 EGBIN ST2 - 5	STEAM	476	470
5 SAPELE	STEAM	0	44
6 DELTA	GAS	405	273
7 AFAM IV-V	GAS	62	62
8 GEREGU GAS	GAS	0	70
9 OMOTOSHO GAS	GAS	137.7	141
10 OLORUNSOGO GAS	GAS	171.4	138.4
11 GEREGU NIPP	GAS	0	80
12 SAPELE NIPP	GAS	89.1	66.9
13 ALAOJI NIPP	GAS	84.5	84.4
14 OLORUNSOGO NIPP	GAS	216.5	114.3
15 OMOTOSHO NIPP	GAS	102.1	73.6
16 ODUKANI NIPP	GAS	0	0
17 IHOVBOR NIPP	GAS	99.8	79
18 OKPAI	GAS	349	269
19 AFAM VI	GAS	262	103
20 IBOM POWER	GAS	80.6	45.5
21 ASCO	GAS	0	0
22 A.E.S	GAS	0	0
23 OMOKU	GAS	55.5	54.2
24 TRANS AMADI	GAS	0	51.9
25 RIVERS IPP	(GAS)	140	6
26 AZURA - EDO IPP	(GAS)	393	150
27 EGBIN ST6	(GAS)	0	0
28 PARAS ENERGY	(GAS)	68.6	66.2
29 GBARAIN NIPP	GAS	94.7	59.6
TOTAL		4576.5	2929

1.6 ENERGY GENERATED/ENERGY SENT OUT:						
STATION	TURBINE	ENERGY GENERATED		ENERGY SENT OUT		
		MWH	MWH/H	MWH	MWH/H	
1 KAINJI	HYDRO	6650.00	277.08	6634.60	276.44	
2 JEBBA	HYDRO	7129.00	297.04	7105.88	296.08	
3 SHIRORO	HYDRO	8502.00	354.25	8482.48	353.44	
4 EGBIN ST2 - 5	STEAM	11236.00	468.17	10585.90	441.08	
5 SAPELE	STEAM	718.90	29.95	625.10	26.05	
6 DELTA	GAS	12316.95	513.21	12077.00	503.21	
7 AFAM IV-V	GAS	1468.00	61.17	1426.50	59.44	
8 GEREGU GAS	GAS	459.00	19.13	439.86	18.33	
9 OMOTOSHO GAS	GAS	3339.00	139.13	3315.50	138.15	
10 OLORUNSOGO GAS	GAS	3430.69	142.95	3401.58	141.73	
11 GEREGU NIPP	GAS	478.26	19.93	467.44	19.48	
12 SAPELE NIPP	GAS	2264.79	94.37	2247.70	93.65	
13 ALAOJI NIPP	GAS	2031.94	84.66	2011.49	83.81	
14 OLORUNSOGO NIPP	GAS	2991.50	124.65	2943.40	122.64	
15 OMOTOSHO NIPP	GAS	2182.40	90.93	2162.40	90.10	
16 ODUKANI NIPP	GAS	0.00	0.00	0.00	0.00	
17 IHOVBOR NIPP	GAS	2186.69	91.11	2168.89	90.37	
18 OKPAI	GAS	6845.00	285.21	6674.40	278.10	
19 AFAM VI	GAS	3497.76	145.74	3449.50	143.73	
20 IBOM	GAS	1607.60	66.98	1599.00	66.63	
21 ASCO	GAS	0.00	0.00	0.00	0.00	
22 AZURA - EDO IPP	GAS	5580.90	232.54	5564.90	231.87	
23 A.E.S	GAS	0.00	0.00	0.00	0.00	
24 OMOKU	GAS	1336.50	55.69	1305.70	54.40	
25 TRANS AMADI	GAS	558.00	23.25	546.80	22.78	
26 RIVERS IPP	GAS	1656.80	69.03	1650.60	68.78	
27 EGBIN ST6	STEAM	0.00	0.00	0.00	0.00	
28 PARAS ENERGY	GAS	1659.20	69.13	1653.70	68.90	
29 GBARAIN NIPP	GAS	1556.60	64.86	1541.70	64.24	
TOTAL		91,683.48	3,820.15	90,082.02	3,753.42	

1.7A GENERATION POSITION AT 06:00HRS OF TUESDAY 07/08/2018

	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 50.32Hz.	REMARKS
PRIVATISED COMPANIES	KAINJI HYDRO	8	1G5, 6, 11 & 12 4	440	440	1G5, 6, 11 & 12 4	316	301	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 - 3 & 5 4	352	346	2G 4 - Out on frequency management. 2G6 - Out due to burnt generator winding and AVR.
	SHIRORO HYDRO	4	411G1 - 4 4	600	600	411G1 - 4 4	600	376	411G1 - 3 - Generation reduced on frequency management.
	EGBIN STEAM	5	ST1, 2, 4 & 5 4	880	572	ST1, 2, 4 & 5 4	481	476	ST3 - Out on high vibration since 19th June 2017.
	SAPELE (STEAM)	6	0 0	0	0	0 0	0	0	ST1 - Shut down due to alarm on inlet gas guide control trouble. ST2 - Tripped without relay indication. ST3 - Out on stator winding problem. 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	615	615	GT9 - 13, 15 & 18 7	315	308	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. GT16, 19 & 20 - Out on frequency management. GT17 - Tripped on bearing vibration than maximum.
	AFAM IV & V (GAS)	8	GT18 1	75	62	GT18 1	62	62	GT1 - 12 - De-commissioned and scrapped. GT13 -16 - Out on blade failure. GT17 - Out due to technical issues. GT19 & 20 - Awaiting major overhaul.
	GEREGU GAS	3	GT11 - 13 3	435	435	0 0	0	0	GT11 - 13 - Out due to low gas pressure.
	OMOTOSHO GAS	8	GT1 - 8 8	336	304	GT1, 6 - 8 4	152	134.6	GT2 - 5 - Out due to gas constraint.
	OLORUNSOGO GAS	8	GT1 - 4, 6 - 8 7	294	266	GT1, 2, 4 & 8 4	152	113	GT3, 6 & 7 - Out due to gas constraint. GT5 - Tripped due to system surge. Generation reduced on frequency management.
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, 3 & 4 3	337.5	337.5	GT3 1	112.5	87.3	GT1 & 4 - Out on frequency management. GT2 - Out due to high air inlet differential pressure.
	ALAOJI NIPP GAS	4	GT1, 2 & 4 3	375	360	GT2 1	87.1	87.1	GT1 & 4 - Out due to gas constraint. GT3 - Shut down due to lack of spare parts.
	OLORUNSOGO NIPP	6	GT1 - 3 3	375	360	GT1 1	109	109	GT2 & 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	102.1	GT1 - Out due to gas constraint. GT2 - On frequency response. GT3 - Out due to oil leakage on the unit. GT4 - Out on frequency management.
	ODUKPANI NIPP	5	GT4 & 5 2	240	230	0 0	0	0	GT1 - Out on fault. GT2 - Out due to malfunctioning gas regulating valve. GT3 - Out on high air inlet differential pressure. GT4 & 5 - Shut down due to work on gas pipe line equipment.
	IHOVBOR NIPP	4	GT1 & 2 2	225	225	GT2 1	96.2	96.2	GT1 - Out on frequency management. GT2 - On manual frequency adjustment. GT3 - Tripped on high vibration. GT4 - Out on maintenance.
	GBARAIN NIPP GAS	1	GT2 1	112.5	112.5	GT2 1	112.5	95.1	GT2 - On frequency response.
IPP	OKPAI GAS/STEAM	3	GT11, 12 & ST18 3	450	427	0 0	0	0	The station was taken out of the grid for non compliance to NCC's instruction.
	AZURA - EDO	3	GT11 - 13 3	461	461	GT12 & 13 2	307	203	GT11 - Out on frequency management. GT13 - Generation reduced on frequency management.
	AFAM VI GAS/STEAM	4	GT11 - 13 & ST10 4	650	640	GT11 1	150	110	GT11 - Generation reduced on frequency management. GT12 & ST10 - Out due to gas constraint. GT13 - Out on frequency management.
	IBOM POWER GAS	3	GT3 1	115	115	GT3 1	115	50.6	GT3 - Generation reduced due to line constraint.
	AES	0	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	58.2	58.2	GT3 - Out due to gas leakage. GT4 - Awaiting major overhaul. GT6 Out on maintenance.
	TRANS-AMADI	4	GT1, 2 & 4 3	75	65	0 0	0	0	GT1, 2 & 4 - Out due to low gas pressure. GT3 - Out on fault.
	RIVERS	1	GT1 1	180	160	GT1 1	160	90	GT1 - Generation reduced on frequency management.
	SUB TOTAL	131	83	8486	7947	46	3857.5	3205.2	Frequency = 50.32Hz.

1.7B GENERATION POSITION AT 06:00HRS OF TUESDAY 07/08/2018 FOR UNITS ON BILATERAL AGREEMENT

EGBIN	1	0	0	0	0	0	0	ST6 - Shut down on Egbin management decision.
		0						
PARAS ENERGY	8	GT2 - 9	70.2	70.2	GT2 - 9	70.2	70.2	Available units on bar.
		8			8			
SUB TOTAL	9	8	70.2	70.2	8	70.2	70.2	
GRAND TOTAL	140	91	8556.2	8017.2	54	3,927.70	3,275.40	Frequency = 50.32Hz.

1.7C

BILATERAL AGREEMENT UNITS DISPATCH - MONDAY 06/08/2018.								
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	OUT	OUT		OUT		TRIPPED ON E/F	
	PTCEXPRESS	OUT	OUT		OUT		TRIPPED ON O/C AND INST. O/C	
	SANKYO	ON	0100HRS		24		NIL	
	FEEDER 8	13	1800HRS		24		NIL	
IKORODU	PULK IT	3	1000HRS		24		NIL	
	INDUSTRIAL	9	2100HRS		24		NIL	
	SPINTEX	4	0900HRS		24		NIL	
	DANGOTE	2	2000HRS		24		NIL	
	LAND CRAFT	13	0700HRS		24		NIL	
ALAUSA	TR4 15MVA	7.2	1100HRS		24		NIL	
	TR5 -15MVA	5.2	0900HRS		24		NIL	
	ALAUSA	15.5	1400HRS		24		NIL	
M/LAND	PTC (MARYLAND)	17	1400HRS		24		NIL	
	TOTAL LOAD	88.9						

BILATERAL AGREEMENT LOAD DISPATCH
60MW PARAS ENERGY GENERATION TO CEB OF MONDAY 06/08/018

FEEDER	MAX LOAD (MW)	TIME (HRS)	MIN LOAD (MW)	TIME (HRS)	HOURS IN SERVICE	TOTAL (MWH)	REMARK
Ikeja West/Sakete 330kV line	71	10:00	66.2	04:00	24	865.4	NIL

BILATERAL AGREEMENT MAIN STREAM ENERGY KAINJI LOAD DISPATCH TO THE FOLLOWING COMPANIES OF: MONDAY 06/08/2018

COMPANY NAME	VOL-TAGE LEVEL	CON-TRAC-TUAL LOAD (MW)	MAX LOAD (MW)	TIME (HRS)	MIN LOAD (MW)	TIME (HRS)	HOURS IN SERVICE	TOTAL (MWH)	REMARK
INNER GALAXY	132kV line 2	ON	40	10:00	20	12:00	12	3.4	NIL
KAM STEEL		15.0	1.2	17:00	0.2	01:00	24	16.0	SUPPLY NOT INTERRUPTED
ASAKA CEMENT		0	8.7	19:00	0	01:00	24	104.4	NIL
KAM INTEGRATED	33kV feeder	15.0	4.3	21:00	1.5	10:00	24	59.4	SUPPLY NOT INTERRUPTED
OLAM FLOUR MILLS		3.0	2.0	15:00	0.5	01:00	24	26.8	SUPPLY NOT INTERRUPTED
LORDSMITH		0	0.4	14:00	0.2	09:00	24	5.2	ON SOAK

1.8 HYDROLOGICAL DATA: TUESDAY 07/08/2018

	KAINJI	JEBBA	SHIRORO
HEAD WATER ELEVATION (METERS)	133.78	101.45	370.77
TAIL WATER ELEVATION (METERS)	103.54	74.20	271
GROSS OPERATING HEAD (METERS)	30.24	27.25	99.77
AVERAGE TURBINE DISCHARGE (M3/SEC)	990.00	1248.00	408.00
AVERAGE SPILLAGE (M3/SEC)	0.00	0.00	0.00
AVERAGE TOTAL STATION DISCHARGE (M3/SEC)	990.00	1248.00	408.00
COMPUTED INFLOW (M3/SEC)	2321.00	1213.00	1155.00
STORAGE DIFFERENTIAL	1331.00	-35	747.00
MAXIMUM LEVEL FOR SPILLAGE COMMENCEMENT	141.73	103	388.50
MINIMUM LEVEL BELOW WHICH NO GENERATION	129	99	355

1.9 MAXIMUM/ALLOCATED LOAD/MINIMUM LOADS FOR ABUJA AND LAGOS AS AT MONDAY 06/08/2018

	MAXIMUM LOAD(MW)	TIME(HRS)	ALLOCATED LOAD (MW)	MINIMUM LOAD(MW)	TIME(HRS)
ABUJA	476.1	21:00	522.98	239.8	05:00
EKO	410.1	15:00	600.24	305.4	08:00
IKEJA	593.1	21:00	682.14	421.3	05:00

2.0 GAS POSITION: TUESDAY 07/08/2018

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	476	1100		481	619
DELTA (GAS)	405	915		315	600
OMOTOSHO GAS	137.7	336.8		152	184.8
OMOTOSHO NIPP	102.1	500		120	380
OLORUNSOGO (GAS)	171.4	336		152	184
OLORUNSOGO NIPP	216.5	750		109	641
SAPELE NIPP	89.1	500		112.5	387.5
SAPELE STEAM	0	720		0	720
AFAM IV-V	62	300		62	238
AFAM VI	262	650		150	500
GEREGU GAS	0	435		0	435
GEREGU NIPP	0	435		0	435
OKPAI (GAS/STEAM)	349	480		0	480
ALAOJI NIPP	84.5	504		87.1	416.9
IHOVBOR NIPP	99.8	450		96.2	353.8
IBOM	80.6	198		115	83
ODUKPANI NIPP	0	625		0	625
TOTAL	2535.7	9234.80		1951.8	7283

1 MMSCF IS EQUIVALENT TO 3.75MW

3.0 SPINNING RESERVE FOR : MONDAY 06/08/2018

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

3.1 SYSTEM SPINNING RESERVE AS AT 0600HRS OF TUESDAY 07/08/2018 = 0MW. FREQUENCY 50.32Hz.

0	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 Tuesday 07/08/2018 as at 0600Hrs was = 3556.9MW.

S/NO	STATION	ACTUAL GENERATION CAPABILITY (MW)	GENERATION AT 0600HRS (MW)	UNAVAILABLE GENERATION CAPABILITY (MW)	SUB-TOTAL
4.1 DUE TO GAS CONSTRAINTS:					
1	Alaoji NIPP GT1 & 4	240	0	240	2231
2	Omotosho NIPP GT1	120	0	120	
3	Geregu NIPP GT22 & 23	290	0	290	
4	Omotosho Gas GT2 - 5	152	0	152	
5	Olorunsogo NIPP GT2 & 3	240	0	240	
6	Odukpani NIPP GT4 & 5	230	0	230	
7	Olorunsogo Gas GT3, 6 & 7	114	0	114	
8	Afam VI GT12 & ST10	350	0	350	
9	Geregu Gas GT11 - 13	435	0	435	
10	Trans - Amadi GT1, 2 & 4	60	0	60	
				0	
				0	
				0	

IT IS ENVISAGED WITH IMPROVED PLANT AVAILABILITY AND RELIEF FROM EXISTING POWER SYSTEM NETWORK RELATED CONSTRAINTS, ADDITIONAL 1942.13MMSCF OF GAS (EQUIVALENT TO 7283MW WILL BE REQUIRED WHEN ALL THERMAL UNITS ARE ON BAR.

4.2 DUE TO LINE CONSTRAINTS					
1	Ibom Power GT3	115	50.6	64.4	64.4
				0	
				0	

4.3 DUE TO FREQUENCY MANAGEMENT OCCASIONED BY DISCOS' LOAD DEMAND					
1	Jebba 2G4	85	0	85	1261.5
2	Azura Edo GT11 & 13	307	75	232	
3	Shiroro 411G1, 2 & 4	450	233	217	
4	Sapele NIPP GT1 & 4	225	0	225	
5	Delta GT16, 19 & 20	280	0	280	
6	Ihovbor NIPP GT1	112.5	0	112.5	
7	Rivers IPP GT1	160	90	70	
8	Afam VI GT11	150	110	40	
				0	
				0	
				0	
				0	
				0	
				0	
				0	

4.1 DUE TO WATER MANAGEMENT:					
Grand Total					3556.9

5.0 OUTAGES:

5 (A) FORCED OUTAGES (GENERATION):-

- 1 14:42 – 19:32Hrs, Gbarain GT2 tripped on low heat vent gas pressure. LHR = 82.4MW.
- 2 15:58 through 24:00Hrs, Sapele ST2 tripped without relay indication. LHR = 50MW.

5(B) FORCED OUTAGES (TRANSMISSION):-

- 1 03:35 – 04:31Hrs, Shiroro/Tegina 132kV line CB tripped at Shiroro T/S on instantaneous E/F, O/C Yellow and Blue phases and back up trip relay. Auxiliary relay 86BU and Neutral O/C start also flagged. LHR = 7.2MW
- 2 20:54 through 24:00Hrs, Papalanto T/S 30MVA 132/33kV transformer TR3 primary & secondary CBs tripped. The primary CB tripped on VAJ relay while there was no relay indication on the secondary. LHR = 21.2MW.

5 (C) PLANNED OUTAGES:-

- 1 09:30 – 10:42Hrs, Ikeja West T/S 300MVA 330/132/33kV transformer T4 was taken out to disconnect the supply taken from 500KVA 33/0.415kV Earthing Transformer GT4 that was used for filtration machine. No load interrupted as the transformer was on soak.
- 2 09:42 - 16:25Hrs, Mando/Jos 330kV line (cct M2S) was released to replace the line isolator with new one at Jos T/S. No load loss as the line was on soak.

5(D) URGENT OUTAGES:-

- 1 06:01 through 24:00Hrs, Geregu NIPP GT23 was shut down due to low gas pressure. Load loss = 64MW.
- 2 06:38 through 24:00Hrs, Geregu Gas GT11 was shut down due to low gas pressure. Load loss = 53MW.
- 3 09:13 through 24:00Hrs, Trans-Amadi GTs 1, 2 & 4 were shut down due to low gas pressure. Load loss = 9.8MW, 10.1MW and 10.2MW respectively
- 4 11:53 – 14:48Hrs, Shiroro 411G3 was released to replace pressure switch on the unit intake gate. No load loss as the unit was not on bar.
- 5 18:51 – 19:11Hrs, Alaoji/Afam 132kV line 1 was taken out for installation of energy meter at Inner Galaxy Steel Company. Load loss = 30MW.

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	33
OPTIC FIBRE	13	10
PLS	14	2

11 SCADA RTU STATUS

5 (E) EMERGENCY OUTAGES:- NIL

5 (F) AUTOMATIC UNDER FREQUENCY OPERATION:- NIL

5 (G) 330KV LINES THAT ARE OUT ON VOLTAGE CONTROL:- ccts A1K, U1A, K4U & A1S.

5 (H) 330KV LINES THAT ARE OUT ON BREAKER PROBLEM:- NIL.

5 (I) 330KV LINES THAT ARE OUT ON PLANNED OUTAGE:- cct B1T

5 (J) 330KV LINES THAT ARE OUT ON LINE FAULT:- ccts J2H & S5B.

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

6 WEATHER REPORT:- Rainfall was reported at Shiroro.

7 INTERNATIONAL LINES:-

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

Maximum load - 267MW at 21:00Hrs.

Minimum load - 181MW at 07:00Hrs.

B BIRNIN KEBBI/NIAMEY 132KV LINE

Maximum load - 103MW at 01:00Hrs.

Minimum load - 74MW at 18:00Hrs.

C KATSINA/GAZAOUA/MARADI 132KV LINE

Maximum load - 32.9MW at 21:00Hrs.

Minimum load - 22.1MW at 04:00Hrs.

8 MISCELLANEOUS:-

- 1 00:19 - 19:20Hrs, Olorunsogo Gas GT8 was shut down on frequency management. Load loss = 32.MW
- 2 00:25 through 24:00Hrs, Omotosho Gas GT5 was shut down on frequency management.
- 3 00:40 - 18:45Hrs, Afam VI GT11 was shut down on frequency management. Load loss = 110MW.
- 4 02:02 – 14:57Hrs, Jebba 2G4 was shut down on frequency management. Load loss = 65MW.
- 5 04:14 - 14:48Hrs, Shiroro 411G3 was shut down on frequency management. Load loss = 40MW.
- 6 06:09Hrs, Jebba 2G2 was tied. The unit was out on frequency management.
- 7 06:23Hrs, Jebba 2G3 was tied. The unit was out on frequency management.
- 8 06:23Hrs, Shiroro 411G2 was tied. The unit was out on frequency management.
- 9 14:38Hrs, Delta GT20 was tied. The unit was out on frequency management.
- 10 18:31Hrs, Azura –Edo GT11 was tied. The unit was out on frequency management.
- 11 20:44Hrs, Olorunsogo NIPP GT2 was tied. The unit was out on gas constraint.
- 12 21:16 through 24:00Hrs, Jebba 2G2 was shut down for frequency management. Load loss = 78MW.
- 13 23:33 through 24:00Hrs, Delta GT20 was shut down for frequency management. Load loss = 98MW.
- 14 23:43 through 24:00Hrs, Azura-Edo GT11 was shut down for frequency management. Load loss = 75MW.

**** 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.

STATIONS	NO. INSTALLED	NO OF RTU DISTURBED	NO OF RTU WORKING
POWER STATIONS	8	6	2
330kV	19	12	7
132kV	102	84	18

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 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 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.

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) 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/tire 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 Benin, 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

