

TRANSMISSION COMPANY OF NIGERIA

To: Head (ISO), TCN - Abuja

From: General Manager, NCC, Osogbo

DAILY OPERATIONAL REPORT OF FRIDAY 05/01/2018

FOR: EVENTS OF THURSDAY 04/01/2018

1.0 EXECUTIVE OPERATIONS SUMMARY:

1.1 GENERATION PROFILE: NATIONAL STATISTICS

DETAILS	MW	HRS	DATE
PEAK DEMAND FORECAST (CONNECTED + SUPPRESSED LOAD)	17,720	22:00	04/01/2018
GENERATION CAPABILITY	7896.5	-do-	-do-
UNITS ON BAR CAPABILITY AT PEAK	4302.5	-do-	-do-
PEAK GENERATION	3707.2	-do-	-do-
LOWEST GENERATION	2660.1	02:00	04/01/18
8-HOURLY DURATION PEAK	3183.7	0000-0800	-do-
	3224	0900-1600	-do-
	3707.2	1700-2300	-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	359	Birin Kebbi T/S	11:00
LOWEST VOLTAGE FOR THE DAY	279	Aja T/S	07:00

1.3 FREQUENCY RANGE

DETAILS	HZ	HRS
NOMINAL FREQUENCY	50	
STATUTORY LIMITS	49.75-50.25	
HIGHEST FREQUENCY	50.527	01:59
LOWEST FREQUENCY	49.772	21:27

1.4 SYSTEM COLLAPSE UP DATE

Date of last total collapse: 2nd Jan., 2018		No. of days since last total collapse: 03											
Date of last partial collapse: 17 th Oct., 2017		No. of days since last partial collapse: 78											
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	3	4	4	3	2	--	1	20
	Total	--	--	--	--	4	3	1	1	1	2	--	13
2011	Partial	--	1	1	--	--	--	1	--	1	2	--	6
	Total	--	--	2	1	5	2	1	--	2	2	1	16
2012	Partial	--	--	2	3	--	--	--	1	--	1	1	8
2013	Total	--	1	2	2	3	4	1	1	1	4	2	22
	Partial	--	--	--	--	--	--	--	--	2	1	0	3
2014	Total	2	--	2	0	3	1	0	0	1	0	0	9
	Partial	--	--	0	0	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	1	0	0	4
	Total	--	--	2	0	4	0	1	0	1	2	2	12
2016	Partial	--	--	1	0	1	3	1	0	0	0	0	6
	Total	5	3	0	3	1	1	0	0	1	1	0	15
2017	Partial	1	0	1	0	0	1	0	3	3			9
	Total	1											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	436	340
2 JEBBA	HYDRO	449	310
3 SHIRORO	HYDRO	438	337
4 EGBIN ST2 - 5	STEAM	0	0
5 SAPELE	STEAM	0	0
6 DELTA	GAS	616	367
7 AFAM IV-V	GAS	50	63
8 GEREGU GAS	GAS	180	357
9 OMOTOSHO GAS	GAS	0	0
10 OLORUNSOGO GAS	GAS	0	0
11 GEREGU NIPP	GAS	204	118
12 SAPELE NIPP	GAS	221.8	157.2
13 ALAOJI NIPP	GAS	0	0
14 OLORUNSOGO NIPP	GAS	0	0
15 OMOTOSHO NIPP	GAS	0	0
16 ODUKPANI NIPP	GAS	225.5	87.5
17 IHOBOR NIPP	GAS	99	87.7
18 OKPAI	GAS	256	266
19 AFAM VI	GAS	362	0
20 IRORI POWER	GAS	108.9	110.2
21 ASCO	GAS	0	0
22 A.E.S	GAS	0	0
23 OMOKU	GAS	61	59.5
24 TRANS AMADI	GAS	0	0
25 RIVERS IPP	(GAS)	0	0
26 AZURA - EDO IPP		0	0
27 EGBIN ST6	(GAS)	0	0
28 PARAS ENERGY	(GAS)	0	0
29 GBARAIN NIPP	GAS	0	0
TOTAL		3707.2	2660.1

1.6 ENERGY GENERATED/ENERGY SENT OUT:		ENERGY GENERATED		ENERGY SENT OUT	
STATION	TURBINE	MWH	MWH/H	MWH	MWH/H
1 KAINJI	HYDRO	9367.00	390.29	9352.30	389.68
2 JEBBA	HYDRO	10307.00	429.46	10281.88	428.41
3 SHIRORO	HYDRO	10244.00	426.83	10216.59	425.69
4 EGBIN ST2 - 5	STEAM	0.00	0.00	0.00	0.00
5 SAPELE	STEAM	0.00	0.00	0.00	0.00
6 DELTA	GAS	11258.84	469.12	10999.40	458.31
7 AFAM IV-V	GAS	1274.00	53.08	1269.95	52.91
8 GEREGU GAS	GAS	6790.00	282.92	6781.80	281.73
9 OMOTOSHO GAS	GAS	0.00	0.00	0.00	0.00
10 OLORUNSOGO GAS	GAS	0.00	0.00	0.00	0.00
11 GEREGU NIPP	GAS	3649.50	152.06	3633.41	151.39
12 SAPELE NIPP	GAS	4497.26	187.39	4478.17	186.59
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	0.00	0.00	0.00	0.00
16 ODUKPANI NIPP	GAS	3017.15	125.71	2992.32	124.68
17 IHOBOR NIPP	GAS	2179.12	90.80	2162.16	90.09
18 OKPAI	GAS	6009.00	250.38	5945.40	247.73
19 AFAM VI	GAS	2123.84	88.49	2068.00	86.17
20 IRORI	GAS	2575.85	107.33	2567.00	106.96
21 ASCO	GAS	0.00	0.00	0.00	0.00
22 A.E.S	GAS	0.00	0.00	0.00	0.00
23 OMOKU	GAS	1488.20	62.01	1452.51	60.52
24 TRANS AMADI	GAS	0.00	0.00	0.00	0.00
25 RIVERS IPP	GAS	0.00	0.00	0.00	0.00
26 EGBIN ST6	STEAM	0.00	0.00	0.00	0.00
27 PARAS ENERGY	GAS	0.00	0.00	0.00	0.00
28 GBARAIN NIPP	GAS	0.00	0.00	0.00	0.00
TOTAL		74,780.76	3,115.87	74,180.69	3,090.86

1.7A GENERATION POSITION AT 06:00HRS OF FRIDAY 05/01/2018

	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	440	440	1G5, 6, 11 & 12	440	411	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	475	475	2G1 - 5	475	440	2G6 - Out due to burnt generator winding and AVR.
	SHIRORO HYDRO	4	411G1 - 4	580	580	411G1 - 3	442	442	411G4 - Out on water management.
	EGBIN STEAM	5	ST2, 4 & 5	660	660	0	0	0	ST1 - Tripped on generator CB trouble. ST3 - Tripped on high vibration. ST2, 4 & 5 - Out due to gas constraint. Station out due to fire outbreak on gas pipeline.
	SAPELE (STEAM)	6	0	0	0	0	0	0	ST1 - Tripped on low drum level. ST2 - Out on maintenance. ST3 - Out on stator winding problem. ST4 & 5 - Awaiting major overhaul. ST6 - Tripped on gas control valve not following reference point.
	DELTA (GAS)	18	GT4, 7, 9 - 11, 13, 15, 16, 18, 19 & 20	645	645	GT4, 7, 9 - 11, 13, 15, 16, 18, 19 & 20	645	621	GT3 & 5 - Out due to generator winding fault. GT6 & 14 - Out on major overhaul. GT8 & 12 - Out on maintenance. GT17 - Out on excitation trouble.
	AFAM IV & V (GAS)	8	GT18	75	75	GT18	53	53	GT1 - 12 - De-commissioned and scrapped. GT13 - 16 - Out on blade failure. GT17 - Tripped on loss of excitation. GT19 & 20 - Awaiting major overhaul. Generation reduced due to gas constraint.
	GEREGU GAS	3	GT11 - 13	435	435	GT12 & 13	290	266	GT11 - Out due to gas constraint.
	OMOTOSHO GAS	8	GT1 - 8	336	304	0	0	0	GT1, 4 & 8 - Out due to gas constraint. Station shut down due to fire outbreak on gas pipeline.
	OLORUNSOGO GAS	8	GT1 - 8	336	304	0	0	0	GT1, 3 & 7 - Out due to gas constraint. Station shut down due to fire outbreak on gas pipeline.
NIPP	GEREGU NIPP	3	GT22 & 23	290	290	GT22	145	133	GT21 - Out on maintenance. GT23 - Out due to gas constraint.
	SAPELE NIPP	4	GT1 & 2	225	225	GT1 & 2	225	190.2	GT3 - Out on undisclosed fault. GT4 - Tripped on fire protection alarm.
	ALAOJI NIPP GAS	4	GT1 & 2	250	240	0	0	0	GT1 & 2 - Tripped due to low gas pressure. GT3 - Shut down due to generator air inlet filter trouble. GT4 - Out on maintenance.
	OLORUNSOGO NIPP GAS	6	GT1 - 3	360	360	0	0	0	GT1 - Shut down due to fire outbreak on gas pipeline. GT2 & 3 - Out due to gas constraint. GT4 - Out of production since 25/10/2016. ST13 & ST23 - Out on maintenance.
	OMOTOSHO NIPP GAS	4	GT1, 2 & 4	375	360	0	0	0	GT3 - Shut down due to oil leakage on the unit. GT1 & 4 - Out due to gas constraint. Station shut down due to fire outbreak on gas pipeline.
	ODUKPANI NIPP	5	GT3 & 5	240	230	GT3 & 5	230	214.2	GT1 - Out due to auxiliary loop oil problem. GT2 - Out due to control system problem. GT4 - Shut down to avoid fire outbreak.
	IHOVBOR NIPP	4	GT1 - 3	337.5	337.5	GT2	112.5	97.1	GT1 & 3 - Out due to gas constraint. GT4 - Out on maintenance.
	GBARAIN NIPP GAS	1	0	0	0	0	0	0	GT2 - Tripped on bearing vibration radial shaft displacement problem
IPP	OKPAI GAS/STEAM	3	GT11 & 12	300	300	GT11 & 12	300	231	GT11 & 12 - Generation reduced due to air inlet differential pressure. ST18 - Out on maintenance.
	AZURA - EDO	0	0	0	0	0	0	0	GT11 - Undergoing commissioning tests. GT12 & 13 - Awaiting commissioning.
	AFAM VI GAS/STEAM	4	GT11 - 13 & ST10	650	650	GT11 - 13 & ST10	650	246	GT12 & 13 - Generation reduced due to steam conditioning. ST10 - Still loading up.
	IBOM POWER GAS	3	GT3	115	115	GT3	115	112.3	GT1 & 2 - Out on fault.
	AES	0	0	0	0	0	0	0	Out of production since 27/09/2014.
	ASCO	0	0	0	0	0	0	0	GT1 - Shut down due to leakage in the furnace.
	OMOKU GAS	6	GT1, 2, 5 & 6	100	80	GT1, 2, 5 & 6	80	60.7	GT3 - Out due to gas leakage. GT4 - Awaiting major overhaul. Generation reduced due to gas constraint.
	TRANS-AMADI	4	GT1 & 4	50	40	0	0	0	GT1 & 4 - Out due to gas constraint.
	RIVERS	1	GT1	180	160	0	0	0	GT1 - Out due to gas constraint.
	SUB TOTAL	126	78	7454.5	7305.5	43	4202.5	3517.5	Frequency = 50.26Hz.

1.7B GENERATION POSITION AT 06:00HRS OF FRIDAY 05/01/2018 FOR UNITS ON BILATERAL AGREEMENT

FEEDER NAME	MAX. LOAD (MW)	ST6		HOURS IN SERVICE	REMARK
		TIME (HRS)	GENERATION (MW)		
EGBIN	1	0900HRS	220	220	ST6 - Out due to fire outbreak on gas pipe line.
		1	0		
PARAS ENERGY	8	0800HRS	71	71	Out due to fire outbreak on gas pipe line.
		GT2 - 9	0		
		8			
SUB TOTAL	9	9	291	291	
GRAND TOTAL	135	87	7745.5	7596.5	Frequency = 50.26Hz.

NB: Observation shows that many stations remove their units from frequency response at 06:00Hrs without instruction from NCC.

1.7C

BILATERAL AGREEMENT UNITS DISPATCH - THURSDAY 04/01/2018					
FEEDERS NAME	MAX. LOAD (MW)	TIME (HRS)	HOURS IN SERVICE	REMARK	
Egbin ST6 120MW GENERATION TO IKEJA ELECTRICITY DISTRIBUTION COMPANY					
OGBA	U-STEEL	1	0900HRS	23HRS	STATION WAS OPEN
	PTCEXPRESS	8	0800HRS	20HRS	STATION WAS OPEN
	SANKYO	ON	0100HRS	23HRS	STATION WAS OPEN
	FEEDER 8	12	0800HRS	20HRS	STATION WAS OPEN
IKORODU	PULK IT	1	0800	19	SYSTEM COLLAPSE
	INDUSTRIAL	8	2200	12	SYSTEM COLLAPSE
	SPINTEX	4	1100	23	SYSTEM COLLAPSE
	DANGOTE	3	2200	20	SYSTEM COLLAPSE AND TRIPPED ON EF
	LAND CRAFT	35	2200	24	Nil
ALAUISA	TR4 15MVA	5.3	1800HRS	22HRS	Station was on L/S
	TR5 -15MVA	5.2	1400HRS	22HRS	Station was on L/S
	ALAUISA	11.2	1500HRS	22HRS	Station was on L/S
MLAND	PTC (MARYLAND)	11	22:00	2400HRS	Nil
	TOTAL LOAD	104.7			

BILATERAL AGREEMENT LOAD DISPATCH
60MW PARAS ENERGY GENERATION TO CEB

FEEDER	MAX	TIME	HOURS IN SERVICE	REMARK
Ikeja West/Sakete 330kV line	Nil	Nil	Nil	Out due to fire outbreak on gas pipe line.

1.8 HYDROLOGICAL DATA: FRIDAY 05/01/2018

	KAINJI	JEBBA	SHIRORO
HEAD WATER ELEVATION (METERS)	141.69	102.22	375.01
TAIL WATER ELEVATION (METERS)	104.25	74.60	271.00
GROSS OPERATING HEAD (METERS)	37.44	27.62	104.01
AVERAGE TURBINE DISCHARGE (M3/SEC)	1158.00	1736.00	454.00
AVERAGE SPILLAGE (M3/SEC)	342.00	0.00	0.00
AVERAGE TOTAL STATION DISCHARGE (M3/SEC)	1500	1736	454
COMPUTED INFLOW (M3/SEC)	1367.00	1597.00	92.00
STORAGE DIFFERENTIAL	-133	-139	-362
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 THURSDAY 04/01/2018

DISCO	MAXIMUM LOAD(MW)	TIME(HRS)	ALLOCATED LOAD (MW)	MINIMUM LOAD(MW)	TIME(HRS)
ABUJA					
EKO	266.7	13:00	344.39	70.1	01:00
IKEJA	271.8	24:00	499.62	116.7	01:00

2.0 GAS POSITION: FRIDAY 05/01/2018

STATION	SIGNED ACO Annual Contracted Quantity MMSCFD	NGC DECLARED QUANTITY (MMS317.576CF/D)	INSTALLED CAPACITY OF THERMAL STATIONS (MW)	PREVIOUS DAY OFF-TAKE (MMSCFD)	CAPABILITY OF UNITS ON BAR OF THERMAL STATIONS (MW)	DIFFERENCE (MW)
EGBIN P/S	0		1100		0	1100
DELTA (GAS)	621		765		645	120
OMOTOSHO GAS	0		336.8		0	336.8
OMOTOSHO NIPP	0		500		0	500
OLORUNSOGO (GAS)	0		336		0	336
OLORUNSOGO NIPP	0		750		0	750
SAPELE NIPP	190.2		500		225	275
SAPELE STEAM	0		720		0	720
AFAM IV-V	53		300		53	247
AFAM VI	246		650		650	0
GEREGU GAS	266		435		290	145
GEREGU NIPP	133		435		145	290
OKPAI (GAS/STEAM)	231		480		300	180
ALAOJI NIPP	0		504		0	504
IHO/BOX NIPP	97.1		450		112.5	337.5
IBOM	112.3		198		115	83
ODUKPANI NIPP	214.2		625		230	395
TOTAL	2163.8		9084.80		2765.5	6319.3

1 MMSCF IS EQUIVALENT TO 3.75MW

3.0 SPINNING RESERVE FOR : THURSDAY 04/01/2018

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

3.1 SYSTEM SPINNING RESERVE AS AT 0600HRS OF FRIDAY 05/01/2018 0MW. FREQUENCY 50.26Hz

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	
				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	Ormosho NIPP	GT1	40	0	0
		GT2		0	
		GT3		0	
		GT4		0	
TOTAL (MW)			295	0	0

4.0 UNUTILIZED GENERATION CAPABILITY

The unutilized generation capability for Friday 05/01/2018 as at 0600Hrs was = 3283.3MW.

S/NO	STATION	ACTUAL GENERATION CAPABILITY (MW)	GENERATION AT 0600HRS (MW)	UNUTILIZED GENERATION CAPABILITY (MW)	SUB-TOTAL
4.1 DUE TO GAS CONSTRAINTS:					
1	Ihobor GT1 & 3	225	0	225	3133.3
2	Alaaji NIPP GT1 & 2	240	0	240	
3	Trans-Amadi GT1 & 4	40	0	40	
4	Ormosho Gas GT1 - 8	304	0	304	
5	Olorunsogo Gas GT1-8	304	0	304	
6	Rivers IPP GT1	160	0	160	
7	Geregu NIPP GT123	145	0	145	
8	Omoku GT1, 2, 5 & 6	80	60.7	19.3	
9	Olorunsogo NIPP GT1 - 3	360	0	360	
10	Egbin ST2, 4, 5 & 6	880	0	880	
11	Ormosho NIPP GT1 & 4	240	0	240	
12	Paras GT2-9	71	0	71	
13	Geregu Gas GT11	145	0	145	
IT IS ENVISAGED WITH IMPROVED PLANT AVAILABILITY AND RELIEF FROM EXISTING POWER SYSTEM NETWORK RELATED CONSTRAINTS, ADDITIONAL 1685.14MMSCF OF GAS (EQUIVALENT TO 6319.3MW WILL BE REQUIRED WHEN ALL THERMAL UNITS ARE ON BAR.					
4.2 DUE TO LINE CONSTRAINTS					
			0		0
			0		
			0		
4.3 DUE TO FREQUENCY MANAGEMENT OCCASIONED BY DISCOS' LOAD DEMAND					
			0		0
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
			0		
4.4 DUE TO WATER MANAGEMENT					
1	Shiroro 411G4	150	0	150	150
Total					3283.3

5.0 **OUTAGES:**

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

- 1 04:13 - 08:24Hrs, Geregu Gas GT11 tripped on fire protection alarm. LHR = 130MW.
- 2 13:38 through 24:00Hrs, Odukpani NIPP GT1 tripped on main transformer neutral O/C. LHR = 112.9MW.
- 3 13:38 - 16:30Hrs, Odukpani NIPP GT3 tripped on main transformer neutral O/C. LHR = 107.4MW.
- 4 15:41 - 16:16Hrs, Ihovbor NIPP GT2 Tripped on generator RTD fault. LHR = 99.7MW.

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

- 1 10:23 - 11:05Hrs, Alaoji/Ikot-Ekpene 330kV line 2 (cct A2K) tripped at Ikot-Ekpene T/S on SEL Relay, zone 2, Phase AB & C, distance = 63.87km. LHR = 73MW.
- 2 12:27 - 12:42Hrs, Onitsha/New Haven 330kV line (cct T3H) CB tripped at Onitsha T/S on Optimho Relay; Zone 1, B-N, location = 51.72km, period = 78ms. No load loss as cct H1U was in service.
- 3 12:27 - 12:44Hrs, New Haven/Ugwuaji 330kV line 2 (cct H2U) tripped at Ugwuaji T/S without relay indication. No load loss as cct H1U was in service.
- 4 12:27 - 13:21Hrs, Ugwuaji T/S 150MVA 330/132kV transformer T01 primary and secondary CBs tripped on differential and lockout relays. LHR = 8.9MW.
- 5 13:09 - 14:05Hrs, Alaoji/Ikot-Ekpene 330kV line 2 (cct A2K) CB tripped at Ikot-Ekpene T/S on SEL Relay; Zone 3 Phases ABC, Distance = 16.6km. LHR = 2MW.
- 6 13:38 - 14:05Hrs, Ikot-Ekpene/Ugwuaji 330kV line 3 (cct K3U) CB tripped at Ugwuaji T/S on SEL Relay; directional O/C & E/F. LHR = 88MW.
- 7 14:33 - 14:42Hrs, Ugwuaji/Makurdi 330kV line 2 (cct U2A) CB tripped at Ugwuaji T/S on distance protection O/C 3Phases, zone 1. LHR = 107MW.
- 8 14:33 - 16:15Hrs, Ugwuaji T/S 150MVA 330/132/33kV transformer T1 primary and secondary CBs tripped on differential relay. LHR = 6MW.
- 9 19:04 - 19:16Hrs, Alaoji/Ikot-Ekpene 330kV line 1 (cct A1K) CB Q01 tripped at Ikot-Ekpene T/S on zone 3 Phases B & C, location = 101km. LHR = 19MW.
- 10 19:18 through 24:00Hrs, Alaoji/Ikot-Ekpene 330kV line 1 (cct A1K) CB Q01 tripped at Ikot-Ekpene T/S on zone 3 Phases B & C, location = 101km. The line was on soak.

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

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

- 1 00:59 - 06:35Hrs, Akangba 132kV T/S was shut down due to low DC level. No load loss as the station was out due to system collapse of 03/01/2018.
- 2 11:15 - 13:39Hrs, Kainji 1G12 was shut down due to oil leakages on the unit transformer. Load loss = 68MW.
- 3 11:57 - 18:44Hrs, Delta P/S GT18 was shut down due to high hydrogen leakages. Load loss = 86MW.
- 4 22:20 through 24:00Hrs, Geregu Gas GT11 was shut down due to gas constraint. Load loss = 60MW.

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 2 - OTHER 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 CONTACTED FOR THE ANCILLARY SERVICE)

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

The under mentioned lines were opened on frequency control:-

- 1 04:13 - 04:27Hrs, Osogbo/Ilesha/Ife 132kV line. Load loss = 37MW. Frequency was 49.25Hz.
- 2 07:14 - 07:38Hrs, Osogbo/Akure/Ado-Ekiti 132kV line Load loss = 45MW. Frequency was 49.25Hz.
- 3 07:40 - 08:12Hrs, Osogbo/Ife/Ilesha/Ondo 132kV line. LHR = 56MW. Frequency was 49.88Hz.
- 4 13:38Hrs, Ayede/Ibadan North/Iwo/Iseyin 132kV line. Load loss = 25MW. Frequency was 49.38Hz.

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

5 (G) **330KV LINES THAT ARE OUT ON VOLTAGE CONTROL:-** ccts A1S, U1A, D2K & K4U.

5 (H) **330KV LINES THAT ARE OUT ON BREAKER PROBLEM:-** cct N4J (on soak at Egbin T/S)

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

5 (J) **330KV LINES THAT ARE OUT ON LINE FAULT:-** cct S5B

6 **WEATHER REPORT:-** NIL

7 **INTERNATIONAL LINES:-**

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

Maximum load - 135MW at 20:00Hrs.
Minimum load - 35MW at 01:00Hrs.

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

Maximum load - 85MW at 20:00Hrs.
Minimum load - 46MW at 0:00Hrs.

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

Maximum load - 28.4MW at 20:00Hrs.
Minimum load - 12.0MW at 03:00Hrs.

8 **MISCELLANEOUS:-**

- 1 02:27Hrs, Ikeja West 330kV 75MX Shunt Reactor was taken out on voltage control. Voltage profile: 295/302kV.
- 2 06:07Hrs, Osogbo/Ganmo 330kV line (cct H3G) was restored on voltage control. Voltage profile: 312/318kV.
- 3 07:12Hrs, Benin/Egbin 330kV line cct B6N was restored.
- 4 07:28Hrs, Benin/Asaba 330kV line cct B3D was restored.
- 5 07:40Hrs, Afam/Ikot-Ekpene 330kV line cct F1K was restored on soak at Ikot-Ekpene T/S.
- 6 09:23Hrs, Oromotosho/Ikeja West 330kV line cct M5W was restored.
- 7 09:36Hrs, Jebba T/S 330kV 75MX Shunt Reactor 2R2 was taken out due to auxiliary fault alarm. Voltage profile: 336/337kV.
- 8 09:50Hrs, Odukpani NIPP GT1 was tied.

GROUP 5 - ALL PLANTS DISPATCHED SUBJECT TO TRANSMISSION CONSTRAINT (NOT YET IDENTIFIED)

GROUP 6 - ALL PLANTS PROVIDING VOLTAGE SUPPORT ABOVE STATUTORY LIMIT.

GROUP 7 - ALL OTHER PLANTS.

10 SYSTEM BLACK START CAPABILITY

Delta, Shiroro & Egbin - Available.

11 (A) COMMUNICATION MEDIA

STATIONS	NO. INSTALLED	NO. WORKING
PLC/PAX	37	31
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	7	1
330kV	19	11	8
132kV	102	92	10

12(A) UNAVAILABLE TRANSFORMERS/REACTORS:

SHIRORO REGION:

- 1 Apo T/S 60MVA 132/33kV transformer TR3 - Burnt.
- 2 Birnin Kebbi 75MX Reactor R1.

KADUNA REGION:

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

9 10:29Hrs, Alaoji/Ikot-Ekpene 330kV line (cct A1K) was taken out on voltage control. Voltage profile: 348/338kV. (The line had been on soak from Alaoji T/S).

10 10:51Hrs, Benin T/S 330kV 75MX Shunt Reactor 6R2 was placed in service on voltage control. Voltage profile: 348/345kV.

11 11:17 - 21:45Hrs, Afam/Ikot-Ekpene 330kV line 1 (cct F1K) was taken out of service on voltage control. Voltage profile: 345/341kV.

12 11:39Hrs, Delta GT19 was tied. The unit was out due to gas constraint.

13 15:29Hrs, Geregu NIPP GT23 was tied. The unit was out due to gas constraint.

14 16:57Hrs, Afam VI GT12 was tied. The unit was out due to gas constraint

15 17:58Hrs Afam VI GT13 was tied. The unit was out due to gas constraint

16 18:08Hrs, Afam VI GT11 was tied. The unit was out due to gas constraint

17 18:20Hrs, Jebba 2G2 was tied.

18 19:40Hrs, Odukpani NIPP GT5 was tied.

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

12(D) LAGOS REGION

- 1 Agbara/Ojo 132kV line 1 on soak from Agbara end.

SHIRORO REGION:- Nil

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.

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/SOLATORS

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.

OSOGBO 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 NIL

- 1 New Haven/Nkalagu 132kV line 2 ground switch - Canibalized Red phase female contact and canibalized Yellow phase male contact.

12 (F) LINES WITH MISSING SKY WIRE

LAGOS REGION

- 1 Omotosho/Ikeja West line (M5W) and Egbin/Ikeja West line 3 (N6W) - 21 spans.
- 2 Ikeja West/Olorunsogo line (cct R1W) - 80 spans.
- 3 330kV Ikeja West/Osogbo line. - 95 spans.
- 4 Ikeja West/Alimosho/Ogba 132kV lines 1 & 2 - 15 spans.
- 5 Ikeja West/Akangba 330kV line 2 - 1 span.
- 6 Ikeja West/ Ilupeju 132kV lines 1 & 2 - 8 spans.
- 7 Akangba/Itire 132kV lines 1 & 2 - 1 span.
- 8 Ikeja West/Agbara 132kV lines 1 & 2 - 61 spans.
- 9 Ikeja West/Otta 132kV lines 1 & 2- 17 spans.

SHIRORO REGION

- 1 Jebba T/S 330kV Osogbo lines 1 & 2 and Ganmo line - 9 spans
- 2 Minna T/S 132kV Bida line - 32 spans
- 3 Apo T/S 132kV Keffi line - 36 spans
- 4 Shiroro T/S 330kV Jebba line 2 - 28 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

