

TRANSMISSION COMPANY OF NIGERIA

To: Head (ISO), TCN - Abuja

From: General Manager, NCC, Osogbo

DAILY OPERATIONAL REPORT TUESDAY 08/08/2017

FOR: EVENTS OF MONDAY 07/08/2017

1.0 EXECUTIVE OPERATIONS SUMMARY:

1.1 GENERATION PROFILE: NATIONAL STATISTICS

DETAILS	MW	HRS	DATE
PEAK DEMAND FORECAST (CONNECTED + SUPPRESSED LOAD)	17,720	21:15	07/08/2017
GENERATION CAPABILITY	7595	-do-	-do-
UNITS ON BAR CAPABILITY AT PEAK	4508.2	-do-	-do-
PEAK GENERATION	4096.3	-do-	-do-
LOWEST GENERATION	2886.9	03:00	07/08/2017
	3292.8	0000-0800	-do-
	3246.6	0900-1600	-do-
	4096.3	1700-2400	-do-
PEAK GENERATION TO DATE	5074.7	21:30	02/02/2016
MAXIMUM AVAILABLE CAPACITY TO DATE	7492.6	06:00	14/04/2014
MAXIMUM PEAK GENERATION CAPABILITY TO DATE	7099	07:00	13/04/2014
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	364	Omotosho T/S	01:00
LOWEST VOLTAGE FOR THE DAY	300	Gombe, Yola & Kano T/S	05:00, 06:00 & 19:00

1.3 FREQUENCY RANGE

DETAILS	HZ	HRS
NOMINAL FREQUENCY	50	
STATUTORY LIMITS	49.75-50.25	
HIGHEST FREQUENCY	50.94	01:19
LOWEST FREQUENCY	49.86	19:48

1.4 SYSTEM COLLAPSE UP DATE

Date of last total collapse: 27th June, 2017		No. of days since last total collapse: 39												
Date of last partial collapse: 19 th July, 2017		No. of days since last partial collapse: 19												
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	
2009	Total	1	--	--	--	2	5	5	4	1	--	--	1	19
	Partial	--	5	4	3	3	--	--	1	--	2	1	1	20
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	3	1			1				9
	Partial													2
2015	Total	1		1		2	1				2	1	4	6
	Partial	--	--	1		2				1				4
2016	Total	--	--	2	3	6	5		1	1	2	2	2	22
	Partial	--	--	1		1	3	1						6
2017	Total	5	3		3	1	1							13
	Partial	1		1			1							3

1.5 BREAKDOWN OF PEAK & OFF PEAK GENERATION (NATIONAL PEAK & OFF PEAK)

STATION	TURBINE	PEAK GEN. (MW)	OFF-PEAK GEN(MW)
1 KAINJI	HYDRO	337	196
2 JEBBA	HYDRO	379	225
3 SHIRORO	HYDRO	554	393
4 EGBIN ST2 - 5	STEAM	343	338
5 SAPELE	STEAM	60	59
6 DELTA	GAS	462	357
7 AFAM IV-V	GAS	0	0
8 GEREGU GAS	GAS	293	160
9 OMOTOSHO GAS	GAS	76.4	76.9
10 OLORUNSOGO GAS	GAS	135.9	100.4
11 GEREGU NIPP	GAS	142	91
12 SAPELE NIPP	GAS	111.9	0
13 ALAOJI NIPP	GAS	50.1	0
14 OLORUNSOGO NIPP	GAS	111.2	78.3
15 OMOTOSHO NIPP	GAS	104.3	65.1
16 ODUKPAI NIPP	GAS	116.1	68.7
17 IHOVBOR NIPP	GAS	105.8	70.1
18 OKPAI	GAS	277	190
19 AFAM VI	GAS	130	102
20 IBOM POWER	GAS	0	0
21 ASCO	GAS	0	0
22 A.E.S	GAS	0	0
23 OMOKU	GAS	77	77.9
24 TRANS AMADI	GAS	0	0
25 RIVERS IPP	(GAS)	0	0
26 EGBIN ST6	(GAS)	162	168
27 PARAS ENERGY	(GAS)	68.6	70.5
28 GBARAIN NIPP	GAS	0	0
TOTAL		4096.3	2886.9

1.6 ENERGY GENERATED/ENERGY SENT OUT:

STATION	TURBINE	ENERGY GENERATED		ENERGY SENT OUT	
		MWH	MWH/H	MWH	MWH/H
1 KAINJI	HYDRO	6,379.00	265.79	6,361.70	265.07
2 JEBBA	HYDRO	8,109.00	337.88	8,084.80	336.87
3 SHIRORO	HYDRO	9,770.00	407.08	9,740.27	405.84
4 EGBIN ST2 - 5	STEAM	8,282.00	345.08	7,790.40	324.60
5 SAPELE	STEAM	1,309.50	54.56	1,307.00	54.46
6 DELTA	GAS	9,342.23	389.26	9,143.20	380.97
7 AFAM IV-V	GAS	-	0.00	-	0.00
8 GEREGU GAS	GAS	4,849.30	202.05	4,823.68	200.99
9 OMOTOSHO GAS	GAS	1,820.00	75.83	1,798.80	74.95
10 OLORUNSOGO GAS	GAS	2,690.63	112.11	2,662.33	110.93
11 GEREGU NIPP	GAS	2,691.37	112.14	2,678.93	111.62
12 SAPELE NIPP	GAS	499.20	20.80	496.00	20.67
13 ALAOJI NIPP	GAS	217.78	9.07	204.08	8.50
14 OLORUNSOGO NIPP	GAS	2,353.20	98.05	2,321.20	96.72
15 OMOTOSHO NIPP	GAS	2,007.50	83.65	1,991.40	82.98
16 ODUKPAI NIPP	GAS	1,214.70	50.61	1,201.90	50.08
17 IHOVBOR NIPP	GAS	2,290.00	95.42	2,272.20	94.68
18 OKPAI	GAS	5,077.00	211.54	4,920.70	205.03
19 AFAM VI	GAS	2,835.32	118.14	2,799.00	116.63
20 IBOM	GAS	-	0.00	-	0.00
21 ASCO	GAS	-	0.00	-	0.00
22 A.E.S	GAS	-	0.00	-	0.00
23 OMOKU	GAS	1,496.40	62.35	-	0.00
24 TRANS AMADI	GAS	-	0.00	1,459.80	60.83
25 RIVERS IPP	GAS	-	0.00	-	0.00
26 EGBIN ST6	STEAM	3,991.00	166.29	-	0.00
27 PARAS ENERGY	GAS	1,674.80	69.78	3,789.60	157.90
28 GBARAIN NIPP	GAS	0.00	0.00	1,667.00	69.46
TOTAL		78,899.93	3,287.50	77,513.99	3,229.75

GENERATION POSITION AT 06:00HRS OF TUESDAY 08/08/2017

	STATIONS	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	1G5, 6, 11 & 12	440	440	1G5, 6, 11 & 12	440	284	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.
		4			4			
	JEBBA HYDRO	2G2 - 5	386	380	2G2 - 5	300	300	2G1 - Out on maintenance. 2G6 - Out due to burnt generator winding and AVR.
		4			4			
	SHIRORO HYDRO	411G1 - 4	600	600	411G1, 3 & 4	375	340	411G1 - Load reduced due to high frequency. 411G2 - Out for frequency management.
		4			3			
	EGBIN STEAM	ST2, 4 & 5	660	660	ST2 & 4	440	320	ST1 - Tripped on generator CB trouble. ST3 - Tripped on high vibration. ST5 - Out for frequency management.
		3			2			
	SAPELE (STEAM)	ST2	120	59	ST 2	59	59	ST1 - Tripped on low drum level. ST4 & 5 - Awaiting major overhaul. ST6 - Tripped on gas control valve not following reference point.
	DELTA (GAS)	GT4, 7, 10 - 13, 15, 16, 18 & 19	565	535	GT4, 7, 10 - 13, 15, 16, 18 & 19	535	516	GT3 & 5 - Out due to generator winding fault. GT6 & 8 - Out on maintenance. GT9 - Tripped on excitation system major trouble. GT14 - Out on major overhaul. GT17 - Out on excitation trouble. GT20 - Out on major inspection.
10		10						
AFAM IV & V (GAS)	0	0	0	0	0	0	GT1 - 12 - De-commissioned and scrapped. GT13 - 16 - Out on blade failure. GT17 & 18 - Out due to burnt generator transformer. GT19 & 20 - Awaiting major overhaul.	
	0			0				
GEREGU GAS	GT11	145	145	GT11	145	129	GT12 - Out on maintenance. GT13 - Tripped on fire protection alarm.	
OMOTOSHO GAS	GT1 - 8	336	304	GT1, 5 & 7	114	77.4	GT2, 3, 4, 6 & 8 - Out for frequency management.	
	8			3				
OLORUNSOGO GAS	GT1 - 8	336	304	GT1, 2, 6 & 7	152	103.8	GT3 - 5 & 8 - Out for frequency management.	
	8			4				
GEREGU NIPP	GT21 & 22	290	290	GT22	145	100	GT21 - Out due to gas constraints. GT23 - Tripped on ventilation system trip.	
	2			1				
SAPELE NIPP	GT4	112.5	112.5	GT4	112.5	89.2	GT1 - Out on undisclosed fault. GT2 - Out due to auxiliary oil pump problem. GT3 - Out on bearing lift pump trouble.	
	1			1				
ALAOJI NIPP GAS	GT1, 2 & 4	375	360	GT2	120	60.2	GT1 & 4 - Out due to gas constraints. GT3 - Shut down due to generator air inlet filter trouble.	
OLORUNSOGO NIPP GAS	GT1 - 3	375	360	GT1	120	88.7	GT2 & 3 - Out for frequency management. GT4 & ST2 - Out of production since 25/10/2016.	
	3			1				
OMOTOSHO NIPP GAS	GT1, 2 & 4	375	360	GT1	120	96.2	GT2 - Out for frequency management. GT3 - Out of production since 02/08/2016. GT4 - Out due to gas constraints.	
	3			1				
ODUKPANI NIPP	GT1, 3 & 5	375	360	GT1	110.8	110.8	GT2 - Tripped on busbar 1 under voltage. GT3 - Out on frequency management. GT3 & 5 - Out for frequency management. GT4 - Out on unit transformer problem.	
	3			1				
IHOVBOR NIPP	GT1 - 3	337.5	337.5	0	0	0	GT1 & 2 - Out for frequency management. GT3 - Out due to tripping of ccts H7V & V7B.	
	3			0				
GBARAIN NIPP GAS	GT2	112.5	112.5	0	0	0	GT2 - Out due to tripping of Alaoji/Owerri 132kV lines 1 & 2.	
	1			0				
OKPAI GAS/STEAM	GT11, 12 & ST18	450	305	GT11, 12 & ST18	305	190	Generation limited to 190MW due to high system frequency	
	3			3				
AFAM VI GAS/STEAM	GT11, 13 & ST10	433.3	433.3	GT11	150	130	GT12 - Shut down due to power oil pump system fault. GT13 & ST10 - Out for frequency management.	
	3			1				
IBOM POWER GAS	0	0	0	0	0	0	GT2 - Out due to the fire outbreak on the control panel. GT3 - Out on maintenance work. Generation reduced due to high air inlet differential pressure.	
	0			0				
AES	0	0	0	0	0	0	Out of production since 27/09/2014.	
ASCO	0	0	0	0	0	0	GT1 - Shut down due to leakage in the furnace.	
OMOKU GAS	GT1, 2, 5 & 6	100	80	GT1, 2, 5 & 6	80	77.6	GT3 - Tripped on generator differential lockout. GT4 - Out for overhaul.	
	4			4				
TRANS-AMADI	0	0	0	0	0	0	GT4 - Out due to faulty breaker.	
RIVERS	0	0	0	0	0	0	Out of production since 16/09/2016.	
	0			0				
	SUB TOTAL	74	6923.8	6537.8	46	3823.3	3071.9	Frequency = 50.24Hz.

1.7B GENERATION POSITION AT 06:00HRS OF TUESDAY 08/08/2017 FOR UNITS ON BILATERAL AGREEMENT

GENERATOR	UNIT	MAX. LOAD (MW)	TIME (HRS)	HOURS IN SERVICE	REMARK			
EGBIN	ST6	220	220	161	161	Available unit on bar.		
	1							
PARAS ENERGY	GT2 - 9	68.8	68.8	68.8	68.8	Available units on bar.		
	8							
	9							
SUB TOTAL		288.8	288.8	229.8	229.8			
GRAND TOTAL		83	7212.6	6826.6	55	4,053.10	3,301.70	Frequency = 50.24Hz.

1.7C BILATERAL AGREEMENT UNITS DISPATCH - MONDAY 07/08/2017

FEEDERS NAME	MAX. LOAD (MW)	TIME (HRS)	HOURS IN SERVICE	REMARK	
Egbin ST6 120MW GENERATION TO IKEJA ELECTRICITY DISTRIBUTION COMPANY					
OGBA	U-STEEL	ON	1:00	23	132kV LINE OPENED
	PTCEXPRESS	10	16:00	10	Tripped on O/C & E/F
	SANKYO	ON	1:00	23	132kV LINE OPENED
	FEEDER 8	6	22:00	23	132kV LINE OPENED
IKORODU	PULK IT	ON	1:00	23	PLANNED OUTAGE
	INDUSTRIAL	20	20:00	24	NIL
	SPINTEX	O4	10:00	24	NIL
	DANGOTE	3	18:00	23	PLANNED OUTAGE
	LAND CRAFT	ON	1:00	24	NIL
ALAUUSA	TR4 15MVA	4.1	13:00	24	NIL
	TR5 -15MVA	4.6	11:00	24	NIL
	ALAUUSA	12.4	15:00	24	NIL
MLAND	PTC (MARYLAND)	14	9:00	24	NIL
TOTAL LOAD		74.1			

BILATERAL AGREEMENT LOAD DISPATCH
60MW PARAS ENERGY GENERATION TO CEB

FEEDER	MAX	TIME	HOURS IN SERVICE	REMARK
IKEJA WEST/SAKATE 330kV LINE	71.8	04:00	24	NIL

1.8 HYDROLOGICAL DATA: TUESDAY 08/08/2017

	KAINJI	JEBBA	SHIRORO
HEAD WATER ELEVATION (METERS)	136.87	103.04	367.4
TAIL WATER ELEVATION (METERS)	105.06	74.90	271
GROSS OPERATING HEAD (METERS)	31.81	28.14	96.4
AVERAGE TURBINE DISCHARGE (M3/SEC)	939	1306	484
AVERAGE SPILLAGE (M3/SEC)	0	525	0
AVERAGE TOTAL STATION DISCHARGE (M3/SEC)	939	1831	484
COMPUTED INFLOW (M3/SEC)	2432	1519	878
STORAGE DIFFERENTIAL	1493	-312	394
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 MONDAY 07/08/2017

DISCO	MAXIMUM LOAD(MW)	TIME(HRS)	ALLOCATED LOAD (MW)	MINIMUM LOAD(MW)	TIME(HRS)
ABUJA	431	14:00	550.48	351.1	07:00
EKO	367.9	07:00	479.59	294.7	17:00
IKEJA	478.5	23:00	686.71	331.5	04:00

2.0 GAS POSITION: TUESDAY 08/08/2017

STATION	SIGNED ACQ Annual Contracted Quantity MMSCF/D	NGC DECLARED QUANTITY (MMS317.578CF/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	320		1100		440	660
DELTA (GAS)	516		765		535	230
OMOTOSHO GAS	77.4		336.8		114	222.8
OMOTOSHO NIPP	96.2		500		120	380
OLORUNSOGO (GAS)	103.8		336		152	184
OLORUNSOGO NIPP	88.7		750		120	630
SAPELE NIPP	89.2		500		112.5	387.5
SAPELE STEAM	59		720		59	661
AFAM IV-V	0		300		0	300
AFAM VI	130		650		150	500
GEREGU GAS	129		435		145	290
GEREGU NIPP	100		435		145	290
OKPAI (GAS/STEAM)	190		480		305	175
ALAOJI NIPP	60.2		504		120	384
IHOVBOR NIPP	0		450		0	450
IBOM	0		198		0	198
ODUKPANI NIPP	110.8		625		110.8	514.2
TOTAL	2070.3		9085.76		2628.3	6456.5

1 MMSCF IS EQUIVALENT TO 3.75MW

SYSTEM BLACK START CAPABILITY

Delta, Shiroro & Egbin - Available.

SPINNING RESERVE FOR : MONDAY 07/08/2017

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

3.0 SYSTEM SPINNING RESERVE AS AT 0600HRS OF TUESDAY 08/08/2017 = 0MW. FREQUENCY 50.24Hz.

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	
3	Delta	GT16	40	0	0
		GT17	40	0	
4	Olorunsogo NIPP	GT1	40	0	0
		GT2		0	
		GT3		0	
		GT4		0	
5	Geregu NIPP	GT22	35	0	0
6	Omotosho 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 Tuesday 08/08/2017 as at 0600Hrs was = 1865.3MW.

S/NO	STATION	ACTUAL GENERATION CAPABILITY (MW)	GENERATION AT 0600HRS (MW)	UNUTILIZED GENERATION CAPABILITY (MW)	SUB-TOTAL
4.1 DUE TO GAS CONSTRAINTS:					
1	Geregu NIPP GT21	145	0	145	505
2	Alaoji NIPP GT1 & 4	240	0	240	
3	Omotosho NIPP GT4	120	0	120	
				0	
				0	
				0	
				0	
				0	
				0	
				0	
IT IS ENVISAGED WITH IMPROVED PLANT AVAILABILITY AND RELIEF FROM EXISTING POWER SYSTEM NETWORK RELATED CONSTRAINTS, ADDITIONAL 1721.73MMW/SCF OF GAS (EQUIVALENT TO 6456.5MW) 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					
1	Afam VI GT13 & ST10	283.3	0	283.3	1360.3
2	Ihovbor GT1 & 2	225	0	225	
3	Olorunsogo NIPP GT2 & 3	240	0	240	
4	Omotosho Gas GT2, 3, 4, 6 & 8	190	0	190	
5	Shiroro 411GT1	125	50	75	
6	Olorunsogo Gas GT3 - 5 & 8	152	0	152	
7	Omotosho NIPP GT2	120	0	120	
8	Shiroro 411GT1	125	50	75	
				0	
				0	
				0	
				0	
4.4 DUE TO WATER MANAGEMENT					
				0	1865.3
Total					

5.0 OUTAGES:

5 (A) FORCED OUTAGES (GENERATION):-

- 00:03Hrs, Omoku GT1, 2, 5 & 6 tripped due to tripping of Afam/IPP 132kV line 2. LHR = 69.4MW.
02:03Hrs, 02:06Hrs & 02:07Hrs, GTs 1 & 5, GTs 6 & 2 were tied respectively.
- 01:10 – 03:59Hrs, Delta GT10 tripped on excitation system major trouble. LHR = 26MW.
- 00:45 through 24:00Hrs, Trans –Amadi GT4 tripped due to system surge. LHR = 16.2MW.
- 06:10 - 14:02Hrs, Delta GT15 tripped on loss of flame. LHR = 88MW.

5 (B) FORCED OUTAGES TRANSMISSION:-

- 00:03Hrs, Afam/IPP 132kV line 2 CB tripped at both ends as follows:
At Afam T/S: Micom relay – I>, IE>, IE>>, 1>>, O/C T/D, E/F T/D, E/F instantaneous, O/C instantaneous. LHR = 85MW.
At IPP T/S: E/F pickup, PU time = 70ms.
00:44Hrs, Trial restoration failed on the same relay indication and inter- tripped 132kV line 1 on the following relay:
Micom relay – I>, IE>, O/C T/D, E/F T/D.
At IPP T/S: 132kV line 2 tripped on E/F pickup, PU time = 310ms, trip time = 298ms, distance = 4.4km, trip relay L1 – 3, trip O/C.
01:14Hrs, Afam/IPP 132kV line 1 was restored while 132kV line 2 was left out for patrol.
- 00:04 – 16:19Hrs, Afam/IPP 132kV line 2 CB tripped at Afam T/S on E/F relay. Defective silicon composite insulators were replaced on tower #5 and Afam/IPP 132kV line 1 was taken out for safe working space. LHR = 74MW.
- 14:01 – 14:15Hrs, Ikeja West/Sakate 330kV line (cct NWIBS) CB tripped at Ikeja West T/S on Siprotec relay – General trip, Blue Phase, zone 1 trip, PU time = 75ms, trip time = 11ms, distance = 11.8km. LHR = 124MW.
- 11:41 – 12:04Hrs, Ayede/Mcpherson/Sagamu 132kV line CB tripped at Ayede T/S on distance protection relay – Optimho – DEF delay.
Micom relay – Instantaneous O/C Blue phase and Instantaneous E/F = LHR = 45MW.
- 11:44 – 11:48Hrs, New Haven/Nkalagu 132kV line 2 CB tripped at New Haven T/S on instantaneous O/C 3-Phases and lockout relay. LHR = 9.4MW.
- 17:58 – 20:30Hrs, Osogbo/Ikeja West 330kV line (cct H1W) CB tripped at both ends on the following relay indications:
At Ikeja-West T/S: Micom Relay: General trip, Blue Phase fault, distance zone 1, started Phase A-N, tripped Phase A, distance = 190.6km.
Siprotec Relay: General trip, Red Phase fault, zone 1 trip, P. U time = 65ms, trip time = oms, distance = 90.9km.
At Osogbo T/S: Siprotec relay: Relay trip Red Phase, zone 1 trip, E/F instantaneous pick up L1E, P U time = 109ms, trip time 50ms, distance = 173.4km.
Ohmega Relay: Zone 1 Phase A, earth. No load loss as ccts R1W,R2A & H2A were in service.

5 (C) PLANNED OUTAGES:

- 09:50 - 20:36Hrs, Odukanl NIPP GT1 was shut down in continuation of breakers & isolators replacement at Ikot - Ekpen T/S. Load loss = 111MW.
- 09:52 - 20:10Hrs, Odukanl/Ikot-Ekpen 330kV line 1 (cct D1K) was taken out for safe working space for continuation of job at Ikot-Ekpen T/S. No load loss as the line was on soak.
- 09:53- 20:10Hrs, Alaoji/Ikot-Ekpen 330kV line 1 (cct A1K) was taken out for safe working space for continuation of job at Ikot-Ekpen T/S. Load loss = 5MW.
- 09:56 - 20:40Hrs, Ikot-Ekpen/Ugwuaji 330kV line 3 (cct K3U) was taken out for safe working space for continuation of job at Ikot-Ekpen T/S. No load loss as the line was on soak.

5(D) URGENT OUTAGES:

- 13:07 – 15:12Hrs, Odukanl/Adiabor 330kV line 1 was released for maintenance crew to check why the line isolator failed to operate at Adiabor T/S and rectify same.

6 GENERATOR MERIT ORDER BASED ON SYSTEM RESPONSE AND GRID RELIABILITY

GROUP 1 - ALL UNITS OFFERING FREE GOVERNOR FREQUENCY RESPONSE.

GROUP 2 - ALL UNITS OFFERING REGULATING RESERVE.

5 (E) EMERGENCY OUTAGES:-

The under mentioned line was opened on frequency control:-

- 20:35 – 20:39Hrs, Osogbo/Offa/Omuaran 132kV line. LHR = 18MW.

5 (F) AUTOMATIC UNDER FREQUENCY OPERATION: NIL

5 (G) 330KV LINES THAT ARE OUT ON VOLTAGE CONTROL:- cct U2A.

5 (I) 330KV LINES THAT ARE OUT ON BREAKER PROBLEM:- ccts K1J, A2K & N4J.

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

5 (K) 330KV LINES THAT ARE OUT ON LINE FAULT:- NIL

9 WEATHER REPORT: Rainfall was reported in Kano, Benin & Jebba.

10 INTERNATIONAL LINES:-

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

Maximum load - 190MW at 20:00Hrs.

Minimum load - 95MW at 04:00Hrs.

B BIRNIN KEBBI/NIAMEY 132KV LINE

Maximum load - 79MW at 15:00Hrs.

Minimum load - 67MW at 07:00Hrs.

C KATSINA/GAZAOUA/MARADI 132KV LINE

Maximum load - 33.9MW at 22:00Hrs.

Minimum load - 5.9MW at 08:00Hrs.

11 MISCELLANEOUS:-

- 04:54Hrs, Jebba 2G5 was tied to swap with 2G2.
- 04:54Hrs, Jebba 2G2 was shut down and its load was transferred to 2G5.
- 05:30Hrs, Egbin ST5 was shut down due to high frequency of 50.57Hz. LHR = 116MW.
- 06:12Hrs, Jebba 2G2 was tied to the grid. The unit was shut down for frequency management.
- 14:19Hrs, Sapele NIPP GT4 tripped during synchronization

GROUP 3 - ALL UNITS OFFERING SPINNING RESERVE.

GROUP 4 - HYDRO IN HIGH FLOOD PERIOD SEASON, KAINJI, JEBBA AND SHIRORO.

GROUP 5 - ALL UNITS USED TO AVOID OVERLOADING TRANSMISSION LIMITS.

GROUP 6 - ALL UNITS OFFERING VOLTAGE SUPPORT OUTSIDE NORMAL LEVEL.

GROUP 7 - ALL UNITS IN LOCATION TO DIMINISH LOSSES

GROUP 8 - ALL UNITS NOT OFFERING ANY SERVICES.

8 (A) COMMUNICATION MEDIA

STATIONS	NO. INSTALLED	NO. WORKING
PLC/PAX	37	30
OPTIC FIBRE	13	8
PLS	14	4

8 (B) SCADA RTU STATUS

STATIONS	TOTAL NO OF STATIONS	NO OF RTU INSTALLED	NO OF RTU WORKING
POWER STATIONS	23	8	3
330kV	41	17	11
132kV	119	103	14

12.0 UNAVAILABLE EQUIPMENTS

12(A) UNAVAILABLE TRANSFORMERS/REACTORS:

SHIRORO REGION:

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

KADUNA REGION:

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

ENUGU REGION:

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

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.

- 6 16:40Hrs, Oji River/Nsukka 66kV line was restored. Note the line tripped at 09:40hrs of 06/08/2017.
- 7 17:19Hrs, Restoration failed on Osogbo/Ikeja-West 330kV line (cct H1W) at Ikeja West T/S after MBH contractor had completed transferring of control and protection circuits from old panel to new panel on the following relay indications.
Siprotec Relay: Red Phase fault, PSB detected.
Micom Relay: General trip, Red Phase fault Yellow Phase fault and DEF Ikeja West PC & M suggested that the line should be restored from Osogbo T/S.
- 8 17:42Hrs, Sapele NIPP GT4 was tied. The unit had been out on fault.
- 9 17:46Hrs, Osogbo/Ikeja-West 330kV line (cct H1W) was restored and it stayed.
- 10 18:06Hrs, Delta P/S was instructed to increase generation by 30MW. Frequency was 49.92Hz
- 11 18:48Hrs, Olorunsogo was instructed to increase generation to base load and remain on free governor control.
- 12 18:56Hrs, Geregu P/S was instructed to increase generation on its unit to base load and keep same on free governor control.
- 13 19:11Hrs, Okpai P/S was instructed to increase generation by 80MW.
- 14 19:47Hrs, Alaoji NIPP GT2 was tied. The unit was out for frequency management.
- 15 20:19Hrs, Alaoji 75MX Reactor was taken out of service to improve voltage in the areas (315/325kV).
- 16 20:19Hrs, Adiabior T/S 75MX Reactor was taken out for voltage improvement for Odukpani P/S (302/321kV).
- 17 20:37Hrs, Shiroro P/S 411G2 was synchronized to the grid on trial
- 18 22:49Hrs, Geregu NIPP was instructed to reduce generation and maintain 100MW.
- 19 20:55Hrs, Afam/Ikot-Ekpene 330kV line was placed on soak up to tower #140.
23:05Hrs, Olorunsogo P/S was instructed to reduce generation by 35MW. Frequency was 50.41Hz.
- 21 23:22Hrs, Olorunsogo NIPP was instructed to reduce generation by 20MW. Frequency was 50.42Hz.
- 22 23:26Hrs, Okpai P/S was instructed to reduce generation by 80MW. Frequency was 50.42Hz.

12(D) LAGOS REGION

- 1 Egbin/Aja 330kV line 2 (cct N4J) - faulty breaker at Aja T/S.
- 2 Agbara/Ojo line 1 on soak.

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.

12 (F) LINES WITH MISSING SKY WIRE

LAGOS REGION

- 1 Omotosho/Ikeja West line (M5W) and Egbin/Ikeja West line 3 (N6W) - 21 spans.

- 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.
- 2 Jebba/Osogbo 330kV line 1 (cct J1H) - Defective line isolator mechanism at Osogbo T/S

ENUGU REGION:

- 1 New Haven/Yendev 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/Yendev 132kV By pass isolator - Canibalized to repair the line isolator.

SHIRORO REGION

- 1 Kainji/Jebba 330kV line 1 - CB problem at Kainji T/S.
- 2 Jebba T/S 75MX reactor 2R2 CB - exploded.

PORT HARCOURT REGION

- 1 Alaoji/Ikot-Ekpene 330KV line 2 (cct A2K) Yellow Phase isolator not latching properly.

12 (C) UNAVAILABLE/DEFECTIVE GROUND SWITCHES

Benin Region

- 1 Irrua T/S: Benin/Irrua 132kV line Earth Switch - faulty.

ENUGU REGION:

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

- 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 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