TRANSMISSION COMPANY OF NIGERIA

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

DAILY OPERATIONAL REPORT OF FRIDAY 13/04/2018

FOR: EVENTS OF THURSDAY 12/04/2018

1.0 EXECUTIVE OPERATIONS SUMMARY: 1.1 GENERATION PROFILE: NATIONAL STATISTICS

DETAILS	MW	HRS	DATE
PEAK DEMAND FORECAST (CONNECTED + SUPPRESSED LOAD)	23,030	01:00	12/04/2018
GENERATION CAPABILITY	7222.4	-do-	-do-
UNITS ON BAR CAPABILITY AT PEAK	4990.9	-do-	-do-
PEAK GENERATION	4313.5	-do-	-do-
LOWEST GENERATION	351.3	16:00	12/04/2018
	4313.4	0100-0800	-do-
8-HOURLY DURATION PEAK	4307.3	0900-1600	-do-
	3540.5	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	363	Omotosho T/S	14:00
LOWEST VOLTAGE FOR THE DAY	300	Gombe & Kumbotso T/S	11:00 & 13:00

1.3 FREQUENCY RANGE

	ΠZ	СЯП
NOMINAL FREQUENCY	50	
STATUTORY LIMITS	49.75 - 50.25	
HIGHEST FREQUENCY	50.99	17:02
LOWEST FREQUENCY	47.60	15:19

1.4 SYSTEM COLLAPSE UP DATE Date of last total collapse: 1st Feb. 2018

	Date of last total collapse. 1st Feb., 2016						No. of days since last total collapse. 64							
Date of	last partial	collapse: 12	h April., 2	2018			No. of days sinc	e last partial o	collapse: 01					
Highest I	No of days e	ver attained in-	-between	total collapses: 1	34		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		1	4	22
2010	Partial	1		-	1	1	3	4	4	3		-	1	20
2011	Total			-	-	4	3	1	1	1	2	1		13
2011	Partial		1	1	-	-	-		1		1	2	-	6
2012	Total			2	1	5	2	1			2	2	1	16
20.2	Partial			2	3					1		1	1	8
2013	Total		1	2	2	3	4	1	1	1	1	4	2	22
2013	Partial				-			-		2			_	2
2014	Total	2			2	0	3	1	0	0	1	0	0	9
20	Partial			0	0	1	0	0	0	0	0	2	1	4
2015	Total	1	0	1	0	2	0	1	0	0	0	Oct Nov D 2 1	0	6
2015	Partial		-	1	0	2	0		0	0	1	0	0	4
2016	Total	-		2	3	6	5	0	0	1	1	2	2	22
2010	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
2017	Partial	1	0	1	0	0	0	1	0	3	3			9
2018	Total	5	1											6
20.0	Partial													0

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

STAT	TION	TURBINE	PEAK GEI	N. (MW)	OFF-PEAK GEN	I.(MW)
1	KAINJI	HYDRO	320)		0
2	JEBBA	HYDRO	325	i		0
3	SHIRORO	HYDRO	200)		0
4	EGBIN ST2 - 5	STEAM	571			0
5	SAPELE	STEAM	55			0
6	DELTA	GAS	556	i .		99
7	AFAM IV-V	GAS	0	<u> </u>		0
8	GEREGU GAS	GAS	322	2		0
9	OMOTOSHO GAS	GAS	210.	7		0
10	OLORUNSOGO GAS	GAS	165.			0
11	GEREGU NIPP	GAS	109			0
12	SAPELE NIPP	GAS	185.	9		0
13	ALAOJI NIPP	GAS	0			0
14	OLORUNSOGO NIPP	GAS	0 104.			0
15	OMOTOSHO NIPP	GAS				0
16	ODUKPANI NIPP	GAS	203.			0
17	IHOVBOR NIPP OKPAI	GAS	109. 121		ļ	0
18 19	AFAM VI	GAS	375		—	113
20	IBOM POWER	GAS GAS	90.3			55.8
21	ASCO	GAS	0		<u> </u>	0
22	A.E.S	GAS	0		1	0
23	OMOKU	GAS	75.4	1	 	73.5
24	TRANS AMADI	GAS	73	•	 	0
25	RIVERS IPP	(GAS)	145	5		0
26	AZURA - EDO IPP	(GAS)	0			0
27	EGBIN ST6	(GAS)	0			0
28	PARAS ENERGY	(GAS)	69.4	1		Ō
	GBARAIN NIPP	GAS	0			0
-29				_	 	
29			4313	.5		51.3
	TOTAL		4313 NT OUT:	.5] 3	51.3
.6	TOTAL ENERGY GENERATED	/ENERGY SE				SENT OUT
	TOTAL		NT OUT:			
.6	TOTAL ENERGY GENERATED STATION	/ENERGY SE	ENT OUT: ENERGY GE MWH	NERATED MWH/H	ENERGY MWH	SENT OUT
.6	TOTAL ENERGY GENERATED STATION KAINJI	TURBINE HYDRO	ENT OUT: ENERGY GE MWH 7169.00	NERATED MWH/H 298.71	ENERGY MWH 7151.80	'SENT OUT MWH/H 297.99
1 2	TOTAL ENERGY GENERATED STATION KAINJI JEBBA	TURBINE HYDRO HYDRO	ENT OUT: ENERGY GE MWH 7169.00 5721.00	NERATED MWH/H 298.71 238.38	ENERGY MWH 7151.80 5696.64	YSENT OUT MWH/H 297.99 237.36
.6 1 2 3	TOTAL ENERGY GENERATED STATION KAINJI JEBBA SHIRORO	TURBINE HYDRO HYDRO HYDRO	ENT OUT: ENERGY GE MWH 7169.00 5721.00 4263.00	NERATED MWH/H 298.71 238.38 177.63	ENERGY MWH 7151.80 5696.64 4232.63	SENT OUT MWH/H 297.99 237.36 176.36
.6 1 2 3 4	TOTAL ENERGY GENERATED STATION KAINJI JEBBA SHIRORO EGBIN ST2 - 5	HYDRO HYDRO HYDRO STEAM	NT OUT: ENERGY GE MWH 7169.00 5721.00 4263.00 11055.00	NERATED MWH/H 298.71 238.38 177.63 460.63	ENERGY MWH 7151.80 5696.64 4232.63 10522.50	7 SENT OUT MWH/H 297.99 237.36 176.36 438.44
1 2 3 4 5	TOTAL ENERGY GENERATED STATION KAINJI JEBBA SHIRORO EGBIN ST2 - 5 SAPELE	TURBINE HYDRO HYDRO HYDRO STEAM	NT OUT: ENERGY GE MWH 7169.00 5721.00 4263.00 11055.00 731.70	NERATED MWH/H 298.71 238.38 177.63 460.63 30.49	ENERGY MWH 7151.80 5696.64 4232.63 10522.50 720.20	MWH/H 297.99 237.36 176.36 438.44 30.01
1 2 3 4 5	TOTAL ENERGY GENERATED STATION KAINJI JEBBA SHIRORO EGBIN ST2 - 5 SAPELE DELTA	TURBINE HYDRO HYDRO HYDRO STEAM STEAM GAS	NT OUT: ENERGY GE MWH 7169.00 5721.00 4263.00 11055.00 731.70 11520.53	NERATED MWH/H 298.71 238.38 177.63 460.63 30.49 480.02	ENERGY MWH 7151.80 5696.64 4232.63 10522.50 720.20 11396.80	WHY 297.99 237.36 176.36 438.44 30.01 474.87
1 2 3 4 5 6	TOTAL ENERGY GENERATED STATION KAINJI JEBBA SHIRORO EGBIN ST2 - 5 SAPELE DELTA AFAMIV-V	HYDRO HYDRO STEAM STEAM GAS GAS	NT OUT: ENERGY GE MWH 7169.00 5721.00 4263.00 11055.00 731.70 11520.53 0.00	MWH/H 298.71 238.38 177.63 460.63 30.49 480.02 0.00	ENERGY MWH 7151.80 5696.64 4232.63 10522.50 720.20 11396.80 0.00	SENT OUT MWH/H 297.99 237.36 176.36 438.44 30.01 474.87 0.00
1 2 3 4 5 6 7	TOTAL ENERGY GENERATED STATION KAINJI JEBBA SHIRORO EGBIN ST2 - 5 SAPELE DELTA AFAM IV-V GEREGU GAS	HYDRO HYDRO HYDRO HYDRO STEAM STEAM GAS GAS GAS GAS	ENT OUT: ENERGY GE MWH 7169.00 5721.00 4263.00 11055.00 731.70 11520.53 0.00 5971.40	MWH/H 298.71 238.38 177.63 460.63 30.49 480.02 0.00 248.81	ENERGY MWH 7151.80 5696.64 4232.63 10522.50 720.20 11396.80 0.00 5942.47	SENT OUT MWH/H 297.99 237.36 176.36 438.44 30.01 474.87 0.00 247.60
1 2 3 4 5 6 7 8	TOTAL IENERGY GENERATEL STATION IKAINJI JEBBA SHIRORO EGBIN ST2 - 5 SAPPLE DELTA AFAM IV-V GEREGU GAS OMOTOSHO GAS	WENERGY SE TURBINE HYDRO HYDRO HYDRO STEAM STEAM GAS GAS GAS GAS GAS	ENT OUT: ENERGY GE MWH 7169.00 5721.00 4263.00 11055.00 731.70 11520.53 0.00 5971.40 3743.00	NERATED MWH/H 298.71 238.38 177.63 460.63 30.49 480.02 0.00 248.81 155.96	ENERGY MWH 7151.80 5696.64 4232.63 720.20 11396.80 0.00 0.90 5942.47 3715.40	SENT OUT MWH/H 297.99 237.36 176.36 438.44 30.01 474.87 0.00 247.60 154.81
1 2 3 4 5 6 7 8 9	TOTAL IENERGY GENERATED STATION IKAINJI JEBBA SHIRORO EGBIN ST2 - 5 SAPELE DELTA AFAMIV-V GEREGU GAS OMOTOSHO GAS OLORUNSOGO GAS	HYDRO HYDRO HYDRO HYDRO HYDRO STEAM STEAM GAS GAS GAS GAS GAS GAS	ENT OUT: ENERGY GE MWH 7169.00 5721.00 4263.00 11055.00 731.70 11520.53 0.00 5971.40 3743.00 2836.50	NERATED MWH/H 298.71 238.38 177.63 460.63 30.49 480.02 0.00 248.81 155.96 118.19	ENERGY MWH 7151.80 5696.64 4232.63 10522.50 720.20 11396.80 0.00 5942.47 3715.40 2811.31	SENT OUT MWH/H 297.99 237.36 176.36 438.44 30.01 474.87 0.00 247.60 154.81 117.14
1 2 3 4 5 6 7 8 9	TOTAL IENERGY GENERATEC STATION KAINJI JEBBA SHIRORO EGBIN ST2 - 5 SAPELE DOLLTA AFAM IV-V GEREGU GAS OLORUNSOGO GAS OLORUNSOGO GAS GEREGU INPP	HYDRO HYDRO HYDRO HYDRO STEAM STEAM GAS GAS GAS GAS GAS GAS GAS	ENT OUT: ENERGY GE MWH 7169.00 5721.00 4263.00 11055.00 731.70 11520.53 0.00 5971.40 3743.00 2836.50 2114.25	NERATED MWH/H 298.71 238.38 177.63 460.63 30.49 480.02 0.00 248.81 155.96 118.19 88.09	ENERGY MWH 7151.80 5696.64 4232.63 10522.50 720.20 11396.80 0.00 5942.47 3715.40 2811.31 2098.89	SENT OUT MWH/H 297.99 237.36 176.36 438.44 30.01 474.87 0.00 247.60 154.81 117.14 87.45
1 2 3 4 5 6 7 8 9	TOTAL IENREGY GENERATED STATION KAINJI JEBBA SHIRORO EGBIN ST2 - 5 SAPELE DELTA AFAM IVAY GENEGU GAS OMOTOSHO GAS OLORUMSOGO GAS GEREGU NIPP	HYDRO HYDRO HYDRO HYDRO HYDRO STEAM STEAM GAS GAS GAS GAS GAS GAS	ENT OUT: ENERGY GE MWH 7169.00 5721.00 4263.00 11055.00 731.70 11520.53 0.00 5971.40 3743.00 2836.50	NERATED MWH/H 298.71 238.38 177.63 460.63 30.49 480.02 0.00 248.81 155.96 118.19 88.09	ENERGY MWH 7151.80 5696.64 4232.63 10522.50 720.20 11396.80 0.00 5942.47 3715.40 2811.31	SENT OUT MWH/H 297.99 237.36 176.36 438.44 30.01 474.87 0.00 247.60 154.81 117.14 87.45
1 2 3 4 5 6 7 8 9	TOTAL IENERGY GENERATEC STATION KAINJI JEBBA SHIRORO EGBIN ST2 - 5 SAPELE DOLLTA AFAM IV-V GEREGU GAS OLORUNSOGO GAS OLORUNSOGO GAS GEREGU INPP	HYDRO HYDRO HYDRO HYDRO STEAM STEAM GAS GAS GAS GAS GAS GAS GAS	ENT OUT: ENERGY GE MWH 7169.00 5721.00 4263.00 11055.00 731.70 11520.53 0.00 5971.40 3743.00 2836.50 2114.25	NERATED MWH/H 298.71 238.38 177.63 460.63 30.49 480.02 0.00 248.81 155.96 118.19 88.09	ENERGY MWH 7151.80 5696.64 4232.63 10522.50 720.20 11396.80 0.00 5942.47 3715.40 2811.31 2098.89	SENT OUT MWH/H 297.99 237.36 176.36 438.44 30.01 474.87 0.00 247.60 154.81 117.14 87.45
.6 1 2 3 4 5 6 7 8 9 10 11	TOTAL IENREGY GENERATED STATION KAINJI JEBBA SHIRORO EGBIN ST2 - 5 SAPELE DELTA AFAM IVAY GENEGU GAS OMOTOSHO GAS OLORUMSOGO GAS GEREGU NIPP	HYDRO HYDRO STEAM GAS	ENT OUT: ENERGY GE MWH 7169.00 5721.00 4263.00 11055.00 731.70 11520.53 0.00 5971.40 3743.00 2836.50 2114.25 3024.18	NERATED MWH/H 298.71 238.38 177.63 460.63 30.49 480.02 0.00 248.81 155.96 118.19 88.09	ENERGY MWH 7151.80 7599.64 4232.63 10522.50 720.20 11396.80 0.00 5942.47 3712.40 2811.31 2098.89 3003.58	SENT OUT MWH/H 297.99 237.36 176.36 438.44 30.01 474.87 0.00 247.60 154.81 117.14 87.45
1 2 3 4 5 6 7 8 9 10 11 12 13 14	TOTAL IENERGY GENERATED STATION KAINJI JEBBA SHIRORO EGBIN ST2 - 5 SAPELE DELTA AFAMIV-V GEREGU GAS OMOTOSHO GAS OLORUNSOGO GAS GEREGU NIPP SAPELE NIPP ALAOJI NIPP	WENERGY SE TURBINE HYDRO HYDRO HYDRO HYDRO STEAM GAS	ENT OUT: ENERGY GE MWH 7169.00 5721.00 4263.00 11655.00 731.70 11520.53 0.00 5971.40 3743.00 2836.50 2314.25 3024.18 0.00 279.40	NERATED MWH/H 298.71 238.38 177.63 460.63 30.49 480.02 0.00 248.81 155.96 118.19 88.09 126.01 0.00	ENERGY MWH 7151.80 5696.64 4232.63 10522.50 11396.80 0.00 5942.47 3715.40 2811.31 2098.89 3003.58	SENT OUT MWH/H 297.99 237.36 176.36 438.44 30.01 474.87 0.00 247.60 154.81 117.14 87.45 125.15 0.00
1 2 3 4 5 6 7 8 9 10 11 12 13	TOTAL IENERGY GENERATEC STATION KAINJI JEBBA SHIRORO EGBIN ST2 - 5 SAPELE DOLLTA AFAM IV-V GEREGU GAS OLORUNSOGO GAS GEREGU JINEP SAPELE NIPP ALAOJI NIPP OLORUNSOGO IPP	VENERGY SE TURBINE HYDRO HYDRO HYDRO HYDRO STEAM GAS	ENT OUT: ENERGY GE MWH 71(69.00 5721.00 4263.00 17055.00 731.70 11520.53 0.00 5971.40 3743.00 2836.50 2114.25 3024.18 0.00 279.40 1933.60	NERATED MWH/H 298.71 238.38 177.63 460.63 30.49 480.02 0.00 248.81 155.96 118.19 88.09 126.01 0.00 11.64	ENERGY MWH 7151.80 5696.64 4232.63 4232.63 720.20 11396.80 0.00 5942.47 3715.40 2811.31 2098.89 0.00 243.60 1908.00	SENT OUT MWH/H 297.99 297.36 176.36 438.44 30.01 474.87 0.00 247.60 154.81 117.14 87.45 125.15 0.00 10.15
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	TOTAL IENERGY GENERATED STATION KAINJI JEBBA SHIRORO EGBIN ST2 - 5 SAPELE DELTA AFAMIV-V GEREGU GAS OMOTOSHO GAS OLORUNSOGO GAS GEREGU NIPP SAPELE NIPP ALAOJI NIPP OLORUNSOGO NIPP OMOTOSHO NIPP	VENERGY SE TURBINE HYDRO HYDRO HYDRO HYDRO STEAM STEAM GAS	ENT OUT: ENERGY GE MWH 7169.00 5721.00 4263.00 11055.00 731.70 11520.53 0.00 5971.40 3743.00 2836.50 2114.25 3024.18 0.00 279.40 1933.80	NERATED MWH/H 298.71 238.38 177.63 460.63 30.49 480.02 0.00 248.81 155.96 118.19 88.09 126.01 0.00 11.64 80.57	ENERGY MWH 7151.80 5696.64 4292.63 720.20 11396.80 0.00 5942.47 2011.31 2098.89 3003.58 0.00 243.60	SENT OUT MWH/H 297.99 297.36 176.36 438.44 30.01 474.87 0.00 247.60 154.81 117.14 87.45 125.15 0.00 10.15 79.50
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	TOTAL IENERGY GENERATED STATION KAINJI JEBBA SHIRORO EGBIN ST2 - 5 SAPELE DELTA AFAMIY-V GEREGU GAS OLORUNSOGO GAS GEREGU NIPP ALAOJI NIPP ODUKFANI NIPP ODUKFANI NIPP IHOYBOR NIPP ODUKFANI NIPP IHOYBOR NIPP	VENERGY SE TURBINE HYDRO HYDRO HYDRO HYDRO STEAM STEAM GAS	ENT OUT: ENERGY GE MWH 7169.00 5721.00 4263.00 11055.00 731.70 11520.53 0.00 5971.40 3743.00 2836.50 2034.18 0.00 279.40 1933.60 3085.56 2170.00	NERATED MWH/H 298.71 238.38 177.63 460.63 30.49 480.02 0.00 248.81 155.96 118.19 88.09 126.01 0.00 0.164 80.57 128.57	ENERGY MWH 7151.80 5696.64 4232.63 10522.50 720.20 11396.80 0.00 5942.47 2811.31 2811.31 2813.80 0.00 243.60 1396.80 1396.80 1396.80	SENT OUT MWH/H 297.99 297.36 176.36 176.36 438.44 30.01 474.87 0.00 247.80 154.81 117.14 87.45 0.00 10.15 79.50 127.72
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	TOTAL IENERGY GENERATED STATION KAINJI JEBBA SHIRORO EGBIN ST2 - 5 SAPELE DELTA AFAMIV-V GEREGU GAS OMOTOSHO GAS OLORUNSOGO GAS GEREGU NIPP OLORUNSOGO NIPP OMOTOSHO NIPP ODUKPANI NIPP IHOVBOR NIPP OKPAI	VENERGY SE TURBINE HYDRO HYDRO HYDRO HYDRO STEAM STEAM GAS	ENT QUT: ENERGY GE MWH 7169.00 5721.00 4263.00 11055.00 731.70 11520.53 0.00 5971.40 3743.00 2836.50 2114.25 3024.18 0.00 279.40 1933.60 3085.66 2170.00 2325.00	NERATED MWH/H 298.71 298.38 177.63 460.63 30.49 480.02 0.00 11.64 80.57 128.57 90.42	ENERGY MWH 7151.80 5696.64 4232.63 720.20 11396.80 5942.47 2911.31 2098.89 3003.58 0.00 243.60 1908.00 1908.00 1908.00 1908.00	YSENT OUT MWH/H 297.99 237.36 176.36 176.36 438.44 30.01 474.87 0.00 247.60 154.81 117.14 87.45 125.15 0.00 10.15 0.72.72 89.87
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19	TOTAL IENREGY GENERATED STATION KAINJI JEBBA SHIRORO EGBIN ST2 - 5 SAPELE DELTA AFAM IVAY GEREGU GAS OMOTOSHO GAS OLORUMSOGO GAS GEREGU NIPP ALAOJI NIPP OMOTOSHO NIPP OMOTOSHO NIPP OMOTOSHO NIPP IHOVBOR NIPP IHOVBOR NIPP OKPAI AFAM VI	VENERGY SE TURBINE HYDRO HYDRO HYDRO HYDRO HYDRO GAS	ENT OUT: ENERGY GE MWH 7169.00 5721.00 4263.00 11635.00 731.70 11520.53 0.00 5971.40 3743.00 2836.50 2014.25 3024.18 0.00 279.40 1933.60 210.25 2170.00 2325.00 2325.00 7222.61	NERATED MWH/H 299.71 299.71 238.38 177.63 460.63 30.49 480.00 248.91 18.19 126.01 0.00 11.64 80.57 128.57 90.42 96.88	ENERGY MWH 7151.80 5696.64 4232.63 10522.65 720.20 11396.80 0.00 5942.47 2811.31 2098.89 3003.58 0.00 243.60 1908.00 1508.00 1	Y SENT OUT MWH/H 297.99 297.36 176.36 176.36 1438.44 30.01 474.87 0.00 247.60 154.81 117.14 87.45 125.15 0.00 10.15 79.50 127.72 89.87 94.78 94.78
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	TOTAL IENERGY GENERATED STATION KAINJI JEBBA SHIRORO EGBIN ST2 - 5 SAPELE DELTA AFAMIV-V GEREGU GAS OMOTOSHO GAS OLORUNSOGO GAS GEREGU NIPP ALAOJI NIPP ALAOJI NIPP OLORUNSOGO NIPP OMOTOSHO NIPP ODUKPANI NIPP IHOVBOR NIPP OKPAI AFAM VI IBOM	VENERGY SE TURBINE HYDRO HYDRO HYDRO HYDRO HYDRO HYDRO GAS GAS GAS GAS GAS GAS GAS GAS GAS GAS	NT QUT: ENERGY GE MWH 7169.00 5721.00 4263.00 11055.00 731.70 11520.53 0070 3743.00 2816.25 3024.18 0.00 279.40 1933.80 3085.66 2170.00 2325.00 72325.00 72322.61	NERATED MWHH 298.71 298.71 298.73 238.38 177.63 460.63 30.49 480.02 0.00 248.30 115.39 115.39 116.01 0.00 11.64 80.57 128.57 90.42 96.88 300.94 74.43	ENERGY MWH 7151.80 5696.64 4232.63 720.20 11396.80 0.00 5942.47 3715.40 2013.37 2098.89 3003.58 0.00 243.60 1908.00 3065.16 2156.94 2274.60 7120.80	SENT OUT MWH/H 297.99 297.36 176.36 176.36 438.44 30.01 474.87 0.00 247.60 154.81 171.14 87.45 125.15 125.15 125.15 79.50 127.72 294.78 296.70 73.88
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	TOTAL IENREGY GENERATED STATION KAINJI JEBBA SHIRORO EGBIN ST2 - 5 SAPELE DELTA AFAM IVAY GEREGU GAS OMOTOSHO GAS OLORUMSOGO GAS GEREGU NIPP OMOTOSHO GAS OLORUMSOGO NIPP OMOTOSHO NIPP OMOTOSHO NIPP IHOVBOR NIPP IHOVBOR NIPP OKPAI AFAM VI IBOM AFAM VI IBOM	LEVENERGY SET TURBINE HYDERO HYDERO HYDERO HYDERO HYDERO HYDERO GAS	ENT OUT: ENERGY GE MWH 7169.00 5721.00 4263.00 11055.00 731.70 11520.53 0.00 5971.40 3743.00 2836.50 279.40 1933.60 279.40 1933.60 21170.00 2325.00 7222.61 1786.39 0.00	NERATED MWH/H 298.71 298.31 238.38 177.63 460.63 460.02 0.00 248.91 18.19 126.01 0.00 11.64 80.57 128.57 90.42 90.42 90.42 90.88 90.94 74.43	ENERGY MWH 7151.80 5696.64 4232.63 10522.50 720.20 11396.80 0.00 5942.47 2811.31 2098.89 3003.58 0.00 243.60 1908.00 1908.00 1916.94 2156.94 2156.94 21773.00 0.00	YSENT OUT MWH/H 297.99 297.36 176.36 176.36 438.44 30.01 474.87 0.00 247.60 154.81 117.14 87.45 125.15 0.00 10.15 79.50 127.72 89.87 247.80 94.78 94.78
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1.7A	GENERATION POSITION AT	06:00HRS OF FRIDA	Y 13/04/2018						
	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
	KAINJI HYDRO	8	1G5, 6, 11 & 12	440	440	1G5, 6, 11 & 12 4	440	320	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 5	475	475	2G1, 2 & 5 3	285	241	2G3 & 4 - Out on water management. 2G6 – Out due to burnt generator winding and AVR.
	SHIRORO HYDRO	4	411G2 & 3	300	300	411G2 & 3	215	199	Available units on bar.
ANIES	EGBIN STEAM	5	ST2, 4 & 5 3	660	660	ST2, 4 & 5	583	583	ST1 - Shut down on Egbin P/S management decision. ST3 - Tripped on high vibration since 19th June 2017.
DCOME	SAPELE (STEAM)	6	0	0	0	0	0	0	ST1 - Tripped on low drum level. ST2 - Out on fault. ST3 - Out on stator winding problem. ST4 & 5 - Awaiting major overhaul. ST6 - Tripped on gas control valve not following reference point.
RIVATISE	DELTA (GAS)	18	GT7, 9 - 13, 15, 16 & 18 - 20 11	635	635	GT7, 10 - 13, 16, 18- 20	500	473	GT3 & 5 – Out due to generator winding fault. GT4 - Tripped on inner guard problem. GT6 & 14 - Out on major overhaul. GT9 & 15 - Out on frequency management. GT17 - Out on excitation trouble.
•	AFAM IV & V (GAS)	8	0	0	0	0	0	0	GT1 - 12 - De-commissioned and scrapped. GT13 -16 - Out on blade failure. GT17 - Tripped on loss of excitation. GT18 - Out on 4000Hrs inspection and maintenance since 04/04/2018. GT19 & 20 - Awaiting major overhaul.
	GEREGU GAS	3	GT11 - 13 3	435	435	GT11 - 13 3	435	381	Avaialble units on bar.
	OMOTOSHO GAS	8	GT1 - 8 8	336	304	GT1, 2, 4 & 6- 8 5	228	211	GT3 & 5 - Out due to gas constraint.
	OLORUNSOGO GAS	8	GT1 - 8 8	336	304	GT2, 4, 6 & 8 4	152	136.9	GT1, 3, 5 & 7 - Out due to gas constraint.
	GEREGU NIPP	3	GT22 & 23 2	290	290	GT22	145	110	GT21 - Out on maintenance. GT23 - Out due to gas constraint.
	SAPELE NIPP	4	GT1 & 4	225	225	GT1 & 4	225	175	GT2 & 3 - Out due to high air inlet differential pressure.
	ALAOJI NIPP GAS	4	GT1, 2 & 4	375	360	0	. 0	0	GT1, 2 & 4 - Tripped due to low gas pressure. GT3 - Shut down due to generator air inlet filter trouble.
a	OLORUNSOGO NIPP	6	GT1 - 3	375	360	GT1	120	112.1	GT2 & 3 - Out due to gas constraint. GT4 - Out due to ignition failure and control relay failure alarm. ST13 & ST23 - Out on maintenance.
₩ E	OMOTOSHO NIPP GAS	4	GT1, 2 & 4 3	375	360	GT4 1	120	87.7	GT1 & 2 - Out due to gas constraint. GT3 - Shut down due to oil leakage on the unit.
	ODUKPANI NIPP	5	GT4 & 5	240	230	GT4 1	116	116	GT1 - Out on fault. GT2 - Out due to malfunctioning gas regulating valve. GT3 - Tripped on high air inlet differential pressure.
	IHOVBOR NIPP	4	GT1 & 3	225	225	GT3 1	112.5	90.1	GT1 - Out due to gas constraint. GT2 - Out due to gas outlet valve problem. GT4 - Out on maintenance.
	GBARAIN NIPP GAS	1	0	0	0	0	0	0	GT2 - Out on maintenance.
	OKPAI GAS/STEAM	3	GT12	150	150	GT12	150	100	GT11 & ST18 - Out on maintenance.
	AZURA - EDO	3	GT11 & 13 2	300	300	0	0	0	GT12 - Awaiting commissioning. GT11 & 13 - Shut down after test.
	AFAM VI GAS/STEAM	4	GT11- 13 & ST10 4	650	650	GT12 &13 2	300	248	GT11 & ST10 - Shut down on frequency management.
	IBOM POWER GAS	3	GT3 1	115	115	GT3 1	115	86.6	GT1 & 2 - Out on fault.
₫.	AES	0	0	0	0	0	0	0	Out of production since 27/09/2014.
	ASCO	1	0	0	0	0	0	0	GT1 - Shut down due to leakage in the furnace.
	OMOKU GAS	6	GT1, 2, 5 & 6 4	100	80	GT1, 2, 5 & 6 4	80	75	GT3 - Out due to gas leakage. GT4 - Awaiting major overhaul.
	TRANS-AMADI	4	GT1 & 2 2	50	40	0	0	0	GT1 & 2 - Out due to line constraint. GT3 - Out on fault. GT4 - Tripped on generator differential lockout.
	RIVERS	1	GT1 1	180	160	GT1 1	160	105	Available unit on bar.
	SUB TOTAL	130	76	7267	7098	49	4481.5	3850.4	Frequency = 50.39Hz.

1.7B GENERATION POSITION AT 06:00HRS OF FRIDAY 13/04/2018 FOR UNITS ON BILATERAL AGREEMENT

	EGBIN		0	0	0	0	0	0	ST6 - Shut down to clean condenser.			
	EGDIN	· ·	0	U	O	0	0 0	0	· ·	Ů		
	PARAS ENERGY	8	GT2 - 9	69.4	69.4	GT2 - 9	69.4	69.4	Available units on bar.			
	1711010 ENERGY	· ·	8	00.1	00:1	8	00.1	00.1				
	SUB TOTAL	9	8	69.4	69.4	8	69.4	69.4				
ı	GRAND TOTAL	139	84	7336.4	7167.4	57	4,550.90	3,919.80	Frequency = 50.39Hz.			

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1.7C		BILAT	ERAL AGREEMENT UNIT	S DISPATCH	- THURSDAY 12	2/04/2018						
	FEEDERS NAME	MAX. LOAD (MW)	TIME (HRS)			REMARK						
	Egbin ST6120MW GENERATION TO IKEJA ELECTRICITY DISTRIBUTION COMPANY											
	U-STEEL											
OGBA	PTCEXPRESS											
	SANKYO											
	FEEDER 8											
	PULK IT											
	INDUSTRIAL											
KORODU	SPINTEX											
-	DANGOTE											
	LAND CRAFT											
	TR4 15MVA											
	TR5 -15MVA											
ALAUSA	ALAUSA											
M/LAND	PTC (MARYLAND)											
	TOTAL LOAD	125.2										

BILATERAL AGREEMENT LOAD DISPATCH 60MW PARAS ENERGY GENERATION TO CEB

FEEDER MAX		TIME	HOURS IN SERVICE	REMARK		
lkeja West/Sakete 330kV line	69.4	01:00	19	Partial system disturbance		

1.8 HYDROLOGICAL DATA: FRIDAY 13/04/2018

	KAINJI	JEBBA	SHIRORO
HEAD WATER ELEVATION (METERS)	136.34	99.90	369.82
TAIL WATER ELEVATION (METERS)	102.36	73.9	270.20
GROSS OPERATING HEAD (METERS)	33.98	26.00	99.62
AVERAGE TURBINE DISCHARGE (M3/SEC)	681.00	1051.00	209.00
AVERAGE SPILLAGE (M3/SEC)	0.00	0.00	0.00
AVERAGE TOTAL STATION DISCHARGE (M3/SEC)	681	1051	209
COMPUTED INFLOW (M3/SEC)	207.00	1016.00	24.00
STORAGE DIFFERENTIAL	-474.00	-35	-185
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 12/04/2018

DISCO	MAXIMUM LOAD(MW)	TIME(HRS)	ALLOCATED LOAD (MW)	MINIMUM LOAD(MW)	TIME(HRS)
ABUJA	561.30	11:00	561.98	0	16:00
EKO	493.8	15:00	637.55	0	17:00 & 18:00
IKEJA	552.40	11:00	488.30	0	17:00,18:00 & 19:00

2.0 GAS POSITION: FRIDAY 13/04/2018

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	577	1100		583	517
DELTA (GAS)	402	915		500	415
OMOTOSHO GAS	177.9	336.8		228	108.8
OMOTOSHO NIPP	99.4	500		120	380
OLORUNSOGO (GAS)	111.5	336		152	184
OLORUNSOGO NIPP	101.4	750		120	630
SAPELE NIPP	174.3	500		225	275
SAPELE STEAM	0	720		0	720
AFAM IV-V	0	300		0	300
AFAM VI	350	650		300	350
GEREGU GAS	172	435		435	0
GEREGU NIPP	100	435		145	290
OKPAI (GAS/STEAM)	114	480		150	330
ALAOJI NIPP	0	504		0	504
IHOVBOR NIPP	0	450		112.5	337.5
IBOM	72.7	198		115	83
ODUKPANI NIPP	285.1	625		116	509
TOTAL	2737.3	9235.88		3301.5	5933.3
l		1	1		

1 MMSCF IS EQUIVALENT TO 3.75MW

3.0 SPINNING RESERVE FOR: THURSDAY 12/04/2018

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

3.1 SYSTEM SPINNING RESERVE AS AT 0600HRS OF FRIDAY 13/04/2018 = 0MW. FREQUENCY Hz.

S/N	POWER STATION	UNIT ON SPINNING RESERVE	CONTRACTED RESERVE	ACTUAL RESERVE (MW)	TOTAL (MW)
		ST2		0	
		ST4	1	0	
1	Egbin	ST5	100	0	0
		ST6		0	
2	Delta	GT16	40	0	0
-	Della	GT17	40	0	ı
	Olorunsogo NIPP	GT1	40	0	0
3		GT2		0	
	Oloidiisogo Wii T	GT3	10	0	
		GT4		0	
4	Geregu NIPP	GT22	35	0	0
	Omotosho NIPP	GT1	40	0	0
5		GT2		0	
3		GT3		0	
		GT4		0	
	TOTAL (MW)		295	0	0

4.0 <u>UNUTILIZED GENERATION CAPABILITY</u>
The unutilized generation capability for Friday 13/04/2018 as at 0600Hrs was = **2160.5MW**

S/NO	STATION	ACTUAL GENERATION CAPABILITY (MW)	GENERATION AT 0600HRS (MW)	UNUTILIZED GENERATION CAPABILITY (MW)	SUB -TOTAL
4.1 DUE TO GAS CONSTRAINTS:					
1	Omotosho NIPP GT1 & 2	240	0	240	
2	Ihovbor GT1	112.5	0	112.5	
3	Alaoji NIPP GT1, 2 & 4	360	0	360	
4	Olorunsogo Gas GT1, 3, 5 & 7	152	0	152	
5	Olorunsogo NIPP GT2 & 3	240	0	240	
6	Omotosho gas GT3 & 5	76	0	76	
7	Geregu NIPP GT23	145	0	145	1325.5
				0	1020.0
				0	
				0	
				0	
				0	
				0	
				0	

IT IS ENVISAGED WITH IMPROVED PLANT AVAILABILITY AND RELIEF FROM EXISTING POWER SYSTEM NETWORK RELATED CONSTRAINTS, ADDITIONAL 1582.21MSCF OF GAS (EQUIVALENT TO 5933.3MW WILL BE REQUIRED WHEN ALL

		4.2 DUE TO LINE CO	NSTRAINTS		
1	Trans-Amadi GT1 & 2	40	0	40	
			0	0	40
				0	40
				0	
		CY MANAGEMENT OCCA	SIONED BY DISC	COS' LOAD DEMANI)
1	Afam VI GT11 & ST10	350	0	350	
2	Delta GT9 & 15	135	0	135	
				0	
				0	
				0	485
				0	
				0	
				0	
	i			0	
	•	4.4 DUE TO WATER MA	NAGEMENT		
1	Jebba 2G3 & 4	190	0	190	190
		Grand Total			2040.5

5. 0 OUTAGES: 5 (E) EMERGENCY OUTAGES:- NIL 5 (A) FORCED OUTAGES (GENERATION):-10:58Hrs, Omoku P/S GTs 1, 2, 5 & 6 tripped on reverse power due to tripping of Alaoji/Owerri 132kV line 2. Total LHR = 68.4MW. 5 (F) AUTOMATIC UNDER FREQUENCY OPERATION:- NIL 11:45Hrs - GT5 was tied, 11:48Hrs - GT2 was tied, 11:50Hrs - GT1 was tied & 11:52Hrs - GT6 was tied. 5 (G) 330KV LINES THAT ARE OUT ON VOLTAGE CONTROL:- ccts A2K & A1S. 5 (B) FORCED OUTAGES (TRANSMISSION): 00:01 - 19:19Hrs, Okenne T/S 60MVA 132/33kV transformer T2 primary & secondary CBs tripped on the following relay indications: 5 (H) 330KV LINES THAT ARE OUT ON BREAKER PROBLEM:- NIL. On primary CB: SBEF & REF. On secondary CB: O/C Red Phase. LHR = 10.7MW. 00:03 - 00:20Hrs, llupeju T/S 2 x 15MVA 132/11kV transformers T1 & T3 secondary CBs tripped on standby E/F. LHR = 3.8MW each. 3 07:06 - 07:15Hrs, New Haven/Nkalagu 132kV line 2 CB tripped at New Haven T/S on instantaneous O/C Blue Phase and lockout relay. LHR = 2.8MW. 5 (I) 330KV LINES THAT ARE OUT ON PLANNED OUTAGE:- NIL 4 10:58 - 11:25Hrs, Alaoji/Owerri 132kV line 2 CB tripped at Alaoji T/S on Micom relay: I>L1, L2, T1 >L2, L3. LHR = 40MW. 13:51 – 14:11Hrs, Omotosho/Ikeja West 330kV line (cct M5W) CBs tripped at both ends on the following relay indications: 5 (J) 330KV LINES THAT ARE OUT ON LINE FAULT:- ccts U1A, J2H & S5B. At Omotosho T/S: PSL 601 (GA): RTIP Phase A, Distance and Z-S protection, ground distance zone 1 trip, Phase A trip, Phase A grounded, zero-S, zone 1 trip, Distance = 21.52km. PSL 602 (GA): RTIP, Phase A, Distance and Z-S protection, ground distance, zone 1 trip Phase trip, Phase A grounded, zero-S zone trip, distance = 21.65km. Auxiliary Relay - Trip ABC stages 1 & 2. At Ikeja West T/S: Siprotec Relay: 50N/51N pick up, PU time 575ms, Trip time 497ms, distance = 32.3km, General trip, Red Phase fault, DEF operated. No load loss as ccts B5M, B6N & N6W were in service. 6 11:36 – 12:25Hrs, Maryland/Ilupeju 132kV line 2 CB tripped at Maryland T/S on general trip, CMD and Phase B pick up. LHR = 7.4MW. REPORT OF PARTIAL SYSTEM COLLAPSE 12/04/2018 AT 15:19HRS 5 (K) 330KV LINES THAT ARE ON SOAK:- ccts N4J & F1K. 15:19Hrs, System frequency sharply dropped from 50.28Hz to 47.60Hz. Lagos, Abuja, Osogbo, Kainji, Jebba & Shiroro lost supply while the Eastern axis survived. Total load loss was 3487.3MW. 15:19 - 21:44Hrs, Benin/Onitsha 330kV line 2 (cct B2T) CB tripped at Benin T/S on REL relay: Trip zone 1, location - no data, main 1 master trip relay also operated. LHR = 45MW. 15:19 - 17:52Hrs, Onitsha/Alaoji 330kV line (cct T4A) CB tripped at Alaoji T/S on trip relay: 86A, 86C & 86T. LHR = 160MW. 15:19Hrs, Alaoji/Ikot-Ekpene 330kV line 1(cct A1K) CB tripped at Alaoji T/S without relay indications. LHR = 160MW. 15:19 - 19:13Hrs, Omotosho/lkeja West 330kV line (cct M5W) CB tripped at lkeja West T/S on the following relay indications: 6 WEATHER REPORT:- No rainfall was reported. On siprotec relay - Red, Yellow & Blue Phases fault PSB detected, zone 1, pickup ABC, PU time = 15ms, distance = 231.3km. On micom relay - General trip, Red, Yellow & Blue Phases fault, distance = 32.3km, zone 1 trip. LHR = 354MW. 15:19 - 21:43Hrs, Benin/Ajaokuta 330kV line 1 (cct B11J) CB tripped at Ajaokuta T/S on ABB relay - trip start L1 - L3. LHR = 95MW. 15:19 - 18:41Hrs, Benin/Ajaokuta 330kV line 2 (cct B12J) CB tripped at Ajaokuta T/S on ABB relay - trip start L1 & L2. LHR = 90MW. 15:19 - 20:46Hrs, Ajaokuta/Lokoja 330kV line 1 (cct J1L) CB tripped at Ajaokuta T/S on Instantaneous 3-Phases, O/C zone 1, distance = 45.5km, SEL relay. LHR = 7 INTERNATIONAL LINES:-265MW 15:19 - 18:44Hrs, Ajaokuta/Lokoja 330kV line 2 (cct J2L) CB tripped at Ajaokuta T/S on Instantaneous 3-Phases, O/C zone 1, distance = 45.66km, SEL relay. LHR = 269MW 15:19 - 21:20Hrs, Lokoja/Gwaqwalada 330kV line 1 (cct L6G) CB tripped at Lokoja T/S on main distance protection, trip zone 1. LHR = 273MW. 15:19Hrs, Lokoja/Gwaqwalada 330kV line 2 (cct L7G) CB tripped at Lokoja T/S on main distance protection, trip zone 1, B & C Phases . LHR = 271MW. 15:19 - 18:25Hrs, Osogbo/lkeja West 330kV line (cct H1W) CB tripped at Osogbo T/S on signoted relay - main 1, distance pickup L31, PU time = 73ms, trip time = 0ms, distance = 652.8km, relay trip, Red & Yellow Phases, PSB, Phase fault. Auxiliary relay - 86T. LHR = 43.7MW. 15:19Hrs, Alaoji NIPP /Alaoji T.S 330kV line (cct L7A) CB tripped at Alaoji T/S on SEL relay, line differential protection main trip 87, fault type BC -G. No load loss as A IKEJA WEST/SAKETE 330KV LINE(TCN+PARAS)

15:19Hrs, Alaoji/Owerri 132kV line 2 CB tripped at Alaoji T/S on Slemens relay: E/F trip IE> back up protection trip, lockout relay. No load loss as line 1 was in service.

15:19 – 21:11Hrs, Makurdi/Jos 330kV line 1 (cct A1S) CB tripped at Jos T/S on SEL relay – trip Phases ABC, shot IP = 0, 3-Phases = 0, fault location = 79.76km. LHR =

Alaoji NIPP was not generating.

229MW.

DAILY OPERATIONAL REPORT

Maximum load - 227MW at 10:00Hrs. Minimum load - 24MW at 21:00Hrs. 15:19Hrs, Alaoji NIPP /Alaoji T.S 330kV line (cct L7A) CB tripped at Alaoji T/S on SEL relay, line differential protection main trip 87, fault type BC –G. No load loss as Alaoji NIPP was not generating.

15:19Hrs, Alaoji/Owerri 132kV line 2 CB tripped at Alaoji T/S on Siemens relay: E/F trip IE > back up protection trip, lockout relay. No load loss as line 1 was in service.

15:19 – 21:11Hrs, Makurdi/Jos 330kV line 1 (cct A1S) CB tripped at Jos T/S on SEL relay – trip Phases ABC, shot IP = 0, 3-Phases = 0, fault location = 79.76km. LHR = 229MW.

15:19 – 19:13Hrs, Omotoshof/lkeja West 330kV line (cct M5VI) CB tripped at lkeja West T/S on the following relay indications: On siprotec relay – Red, Yellow & Blue Phases fault PSB detected, zone 1, pickup ABC, PU time = 15ms, distance = 23.3km. On micom relay – General trip, Red, Yellow & Blue Phases fault, distance = 32.3km, zone 1 trip. LHR = 354MW.

15:19 - 21:43Hrs, Benin/Ajaokuta 330kV line 1 (cct B11J) CB tripped at Ajaokuta T/S on ABB relay - trip start L1 - L3. LHR = 95MW.

15:19 - 18:41Hrs, Benin/Ajaokuta 330kV line 2 (cct B12J) CB tripped at Ajaokuta T/S on ABB relay - trip start L1 & L2. LHR = 90MW.

15:19 – 20:46Hrs, Ajaokuta/Lokoja 330kV line 1 (cct J1L) CB tripped at Ajaokuta T/S on Instantaneous 3-Phases, O/C zone 1, distance = 45.5km, SEL relay. LHR = 265MW.

15:19 – 18:44Hrs, Ajaokuta/Lokoja 330kV line 2 (cct J2L) CB tripped at Ajaokuta T/S on Instantaneous 3-Phases, O/C zone 1, distance = 45.66km, SEL relay. LHR = 269MW.

15:19 - 21:20Hrs, Lokoja/Gwagwalada 330kV line 1 (cct L6G) CB tripped at Lokoja T/S on main distance protection, trip zone 1. LHR = 273MW.

15:19Hrs, Lokoja/Gwagwalada 330kV line 2 (cct L7G) CB tripped at Lokoja T/S on main distance protection, trip zone 1, B & C Phases . LHR = 271MW.

15:19 – 18:25Hrs, Osogbo/lkeja West 330kV line (cct H1W) CB tripped at Osogbo T/S on siprotec relay – main 1, distance pickup L31, PU time = 73ms, trip time = 0ms, distance = 652.8km, relay trip, Red & Yellow Phases, PSB, Phase fault. Auxiliary relay – 86T. LHR = 43.7MW.

15:19 – 16:03Hrs, Osogbo/lhovbor 330kv line (cct H7V) CB tripped at Osogbo T/S on ABB relay – main 1, trip –trip, trip –TRL1-3, start L1 & L3, power swing, 86ABC/1, fault location- no data. LHR = 90:3MW.

RESTORATION

15:04Hrs, Delta GT16 was tied.

15:43Hrs, Delta GT13 was tied.

15:45Hrs, Delta GT12 was tied. 15:54Hrs, 330kV cct G3B was restored.

5 (C) PLANNED OUTAGES:-

1 11:05 – 12:31Hrs, Egbin/Aja 330kV line 2 (cct N4J) CB (#52-19) was taken out for annual preventive maintenance. No load loss as the line was on soak.

5(D) URGENT OUTAGES:

- 1 12:30 12:59Hrs, Gombe T/S 45MVA 132/33kV transformer T1 primary CB was taken out to top up low oil level to normal on the Red Phase pole of the CB. Load loss =
- 2 23:52 through 24:00Hrs, Delta GT16 was shut down due to high load flow on cct G3B (430MW). Load loss = 70MW

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 GENERATIN UNITS IDENTIFIED TO BE ON FREE GOVERNOR CONTROL.

GROUP 3 - OTHER UNITS IDENTIFIED TO BE OFFERING REGULATORY RESERVE.

 $\hbox{GROUP 4-OTHER UNITS OFFERING SPINNING RESERVE (THE POWER PLANTS CONTACTED FOR THE ANCILLARY SERVICE) } \\$

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).

B BIRNIN KEBBI/NIAMEY 132KV LINE

Maximum load - 105MW at 24:00Hrs. Minimum load - 90MW at 02:00Hrs.

C KATSINA/GAZAOUA/MARADI 132KV LINE

Maximum load - 37.9MW at 23:00Hrs.

8 MISCELLANEOUS:-

- 1 03:04 19:39Hrs, Jebba 2G2 was shut down on frequency management. Load loss = 70MW.
- 2 06:59Hrs, Shiroro T/S placed Hold Off Tag (OF12) on cct J7R for continuation of Optic Fibre work.
- 3 08:46Hrs, Benin T/S placed Hold Off Tag (OF12) on ccts B5M & B6N for continuation repalcement of corroded glass insulators with silicone composite type.
- 4 13:09Hrs, Omotosho Gas GT6 was tied to swap with GT5.
- 5 14:08 through 24:00Hrs, Omotosho Gas GT5 was shut down. No load loss as 30MW was transferred
- 6 23:32Hrs, Omotosho Gas GT1 was tied to swap with GT3
- 7 23:38Hrs, Omotosho Gas GT3 was shut down. No load loss as 28.3MW was transferred to GT1.
- ****** 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.

11 (A) COMMUNICATION MEDIA

O COMMONION MEDIA					
	STATIONS	NO INSTALLED	NO. WORKING		
	PLC/PAX	37	32		
	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	6	2
330kV	19	6	13
132kV	102	78	24

12(A) UNAVAILABLE TRANSFORMERS/REACTORS:

1 Birnin Kebbi 75MX Reactor R1.

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:
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

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/lkeja West and Olorunsogo/lkeja West tie CB at lkeja West T/S defective pole
- 5 Oke-Aro/lkeja West 330kV lines 1 & 2 tie CB at lkeja West T/S Defective pole.
- Jebba G.S/Jebba T.S 330kV line 2 CB at Jebba T/S.
- 7 Omotosho/lkeja West 330kV line CB at lkeja West T/S.

BENIN 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.
- 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.
- 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) LAGOS REGION

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

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.

LAGOS REGION

- 1 Omotosho/lkeja West line (M5W) and Egbin/lkeja West line 3 (N6W) 21 spans.
- 2 Ikeja West/Olorunsogo line (cct R1W) 80 spans.
- 3 330kV lkeja West/Osogbo line. 95 spans.
- 4 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.
- 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 (G) UNAVAILABLE SYNCHROSCOPES:

1 Benin, Ikeja West, Onitsha, Egbin, Ugwuaji, Osogbo, Kaduna, 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.
- d GM (NCC) 08036744641.
- e AGM (S/O) 08056002757, CUG: 08129458475



