

# TRANSMISSION COMPANY OF NIGERIA

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

## DAILY OPERATIONAL REPORT OF THURSDAY 07/02/2019

### FOR: EVENTS OF WEDNESDAY 06/02/2019

#### 1.0 EXECUTIVE OPERATIONS SUMMARY:

##### 1.1 GENERATION PROFILE: NATIONAL STATISTICS

| DETAILS  | MW         | HRS       | DATE       |
|--|------------|-----------|------------|
| PEAK DEMAND FORECAST (CONNECTED + SUPPRESSED LOAD) | 23,960     | 21:45     | 06/02/2019 |
| GENERATION CAPABILITY                              | 6104.9     | -do-      | -do-       |
| UNITS ON BAR CAPABILITY AT PEAK                    | 5147.1     | -do-      | -do-       |
| PEAK GENERATION                                    | 5147.1     | -do-      | -do-       |
| LOWEST GENERATION                                  | 4012.6     | 11:00     | 07/02/2019 |
| 8-HOURLY DURATION PEAK                             | 4408.9     | 0100-0800 | -do-       |
|  | 4392.5     | 0900-1600 | -do-       |
|  | 5147.1     | 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 | 345           | New Haven T/S | 08:00 |
| LOWEST VOLTAGE FOR THE DAY  | 300           | Kumbotso T/S  | 09:00 |

#### 1.3 FREQUENCY RANGE

| DETAILS           | HZ          | HRS   |
|-------------------|-------------|-------|
| NOMINAL FREQUENCY | 50          |       |
| STATUTORY LIMITS  | 49.75-50.25 |       |
| HIGHEST FREQUENCY | 50.52       | 20:18 |
| LOWEST FREQUENCY  | 49.89       | 11:09 |

#### 1.4 SYSTEM COLLAPSE UP DATE

| Date of last total collapse: 25th Jan., 2019                     |         | No. of days since last total collapse: 13                          |      |     |     |     |     |     |      |     |     |     |       |
|--|---------|--|------|-----|-----|-----|-----|-----|------|-----|-----|-----|-------|
| Date of last partial collapse: 12th April, 2018                  |         | No. of days since last partial collapse: 300                       |      |     |     |     |     |     |      |     |     |     |       |
| Highest No of days ever attained in-between total collapses: 134 |         | Highest No of days ever attained in-between partial collapses: 243 |      |     |     |     |     |     |      |     |     |     |       |
|  | Jan     | Feb.   | Mar. | Apr | May | Jun | Jul | Aug | Sep. | Oct | Nov | Dec | Total |
| 2010   | Total   | ---  | 3    | 1   | --  | 3   | 3   | --  | 2    | 2   | 1   | 4   | 22    |
|  | Partial | 1  | --   | --  | 1   | 1   | 3   | 4   | 4    | 3   | 2   | --  | 1     |
| 2011   | Total   | --   | --   | --  | --  | 4   | 3   | 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    | 3   | --  | 1   | 8     |
| 2013   | Total   | --   | 1    | 2   | 2   | 3   | 4   | 1   | 1    | 1   | 4   | 2   | 22    |
|  | Partial | --   |      | --  | --  | --  | --  | --  | 2    |     |     |     | 2     |
| 2014   | Total   | 2  |      |     | 2   | 0   | 3   | 1   | 0    | 0   | 1   | 0   | 9     |
|  | Partial |  |      | 0   | 0   | 1   | 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     |
| 2016   | Total   | --   | --   | 2   | 3   | 6   | 5   | 0   | 0    | 1   | 2   | 2   | 22    |
|  | Partial | --   | --   | 1   | 0   | 1   | 3   | 1   | 0    | 0   | 0   | 0   | 6     |
| 2017   | Total   | 5  | 3    | 0   | 3   | 1   | 1   | 0   | 0    | 1   | 1   |     | 15    |
|  | Partial | 1  | 0    | 1   | 0   | 0   | 0   | 1   | 0    | 3   | 3   |     | 9     |
| 2018   | Total   | 5  | 1    | 0   | 0   | 0   | 1   | 1   |      |     |     | 1   | 11    |
|  | Partial | 0  | 0    | 0   | 1   | 0   |     | 0   |      |     |     |     | 1     |
| 2019   | Total   | 4  |      |     |     |     |     |     |      |     |     |     | 4     |
|  | Partial |  |      |     |     |     |     |     |      |     |     |     | 0     |

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

| STATION            | TURBINE | PEAK GEN. (MW) | OFF-PEAK GEN.(MW) |
|--------------------|---------|----------------|-------------------|
| 1 KAINJI           | HYDRO   | 354            | 309               |
| 2 JEBBA            | HYDRO   | 340            | 364               |
| 3 SHIRORO          | HYDRO   | 371            | 114               |
| 4 EGBIN ST2 - 5    | STEAM   | 425            | 414               |
| 5 SAPELE           | STEAM   | 0              | 0                 |
| 6 DELTA            | GAS     | 299            | 90                |
| 7 AFAM IV-V        | GAS     | 50             | 48                |
| 8 GEREGU GAS       | GAS     | 386            | 170               |
| 9 OMOTOSHO GAS     | GAS     | 163.5          | 126.3             |
| 10 OLORUNSOGO GAS  | GAS     | 236.1          | 201.3             |
| 11 GEREGU NIPP     | GAS     | 259            | 224               |
| 12 SAPELE NIPP     | GAS     | 74.1           | 93.1              |
| 13 ALAOJI NIPP     | GAS     | 72.6           | 0                 |
| 14 OLORUNSOGO NIPP | GAS     | 108.1          | 105.3             |
| 15 OMOTOSHO NIPP   | GAS     | 99.2           | 106.3             |
| 16 ODUKPANI NIPP   | GAS     | 382.6          | 297               |
| 17 IHOVBOR NIPP    | GAS     | 104.7          | 94.3              |
| 18 OKPAI           | GAS     | 156            | 181               |
| 19 AFAM VI         | GAS     | 274            | 140               |
| 20 IBOM POWER      | GAS     | 97.8           | 93                |
| 21 ASCO            | GAS     | 0              | 0                 |
| 22 A.E.S           | GAS     | 0              | 0                 |
| 23 OMOKU           | GAS     | 53.2           | 0                 |
| 24 TRANS AMADI     | GAS     | 0              | 0                 |
| 25 RIVERS IPP      | (GAS)   | 143            | 110               |
| 26 AZURA - EDO IPP | (GAS)   | 426            | 423               |
| 27 EGBIN ST6       | (GAS)   | 153            | 145               |
| 28 PARAS ENERGY    | (GAS)   | 61.1           | 66.4              |
| 29 GBARAIN NIPP    | GAS     | 78.1           | 97.6              |
| <b>TOTAL</b>       |         | <b>5147.1</b>  | <b>4012.6</b>     |

#### 1.6 ENERGY GENERATED/ENERGY SENT OUT:

| STATION            | TURBINE | ENERGY GENERATED  |                 | ENERGY SENT OUT   |                 |
|--------------------|---------|-------------------|-----------------|-------------------|-----------------|
|                    |         | MWH               | MWH/H           | MWH               | MWH/H           |
| 1 KAINJI           | HYDRO   | 9039.00           | 376.63          | 9022.60           | 375.94          |
| 2 JEBBA            | HYDRO   | 8101.00           | 337.54          | 8076.60           | 336.53          |
| 3 SHIRORO          | HYDRO   | 5253.00           | 218.88          | 5223.27           | 217.64          |
| 4 EGBIN ST2 - 5    | STEAM   | 9793.00           | 408.04          | 9249.30           | 385.39          |
| 5 SAPELE           | STEAM   | 0.00              | 0.00            | 0.00              | 0.00            |
| 6 DELTA            | GAS     | 6027.50           | 251.15          | 5918.70           | 246.61          |
| 7 AFAM IV-V        | GAS     | 1162.83           | 48.45           | 1157.33           | 48.22           |
| 8 GEREGU GAS       | GAS     | 5647.90           | 235.33          | 5620.40           | 234.18          |
| 9 OMOTOSHO GAS     | GAS     | 3197.00           | 133.21          | 3171.00           | 132.13          |
| 10 OLORUNSOGO GAS  | GAS     | 4799.13           | 199.96          | 4768.70           | 198.70          |
| 11 GEREGU NIPP     | GAS     | 5569.00           | 232.04          | 5549.84           | 231.24          |
| 12 SAPELE NIPP     | GAS     | 2398.68           | 99.95           | 2376.95           | 99.04           |
| 13 ALAOJI NIPP     | GAS     | 332.18            | 13.84           | 326.36            | 13.60           |
| 14 OLORUNSOGO NIPP | GAS     | 2539.90           | 105.83          | 2502.80           | 104.28          |
| 15 OMOTOSHO NIPP   | GAS     | 2495.80           | 103.99          | 2471.50           | 102.98          |
| 16 ODUKPANI NIPP   | GAS     | 6925.83           | 288.58          | 6884.63           | 286.86          |
| 17 IHOVBOR NIPP    | GAS     | 2343.22           | 97.63           | 2324.00           | 96.83           |
| 18 OKPAI           | GAS     | 4178.00           | 174.08          | 4055.00           | 168.96          |
| 19 AFAM VI         | GAS     | 3870.59           | 161.27          | 3762.71           | 156.78          |
| 20 IBOM            | GAS     | 2146.75           | 89.45           | 2138.00           | 89.08           |
| 21 ASCO            | GAS     | 0.00              | 0.00            | 0.00              | 0.00            |
| 22 AZURA - EDO IPP | GAS     | 8868.75           | 369.53          | 8834.60           | 368.11          |
| 23 A.E.S           | GAS     | 0.00              | 0.00            | 0.00              | 0.00            |
| 24 OMOKU           | GAS     | 266.00            | 11.08           | 260.91            | 10.87           |
| 25 TRANS AMADI     | GAS     | 0.00              | 0.00            | 0.00              | 0.00            |
| 26 RIVERS IPP      | GAS     | 2843.00           | 118.46          | 2823.70           | 117.65          |
| 27 EGBIN ST6       | STEAM   | 3411.00           | 142.13          | 3230.30           | 134.60          |
| 28 PARAS ENERGY    | GAS     | 1572.40           | 65.52           | 1565.20           | 65.22           |
| 29 GBARAIN NIPP    | GAS     | 2196.70           | 91.53           | 2184.70           | 91.03           |
| <b>TOTAL</b>       |         | <b>104,978.16</b> | <b>4,374.09</b> | <b>103,499.10</b> | <b>4,312.46</b> |

1.7A GENERATION POSITION AT 06:00HRS OF THURSDAY 07/02/2019

|                      | STATIONS          | NO OF UNITS INSTALLED | AVAILABLE UNITS               | INSTALLED CAPACITY OF AVAILABLE UNITS(MW) | GENERATION CAPABILITY OF AVAILABLE UNITS(MW) | UNITS ON BAR                  | CAPABILITY OF UNITS ON BAR (MW) | GENERATION AT 06:00HRS (MW) AT 50.26Hz. | REMARKS  |
|----------------------|-------------------|-----------------------|-------------------------------|---|--|-------------------------------|---------------------------------|---|--|
| PRIVATISED COMPANIES | KAINJI HYDRO      | 8                     | 1G5, 6, 11 & 12<br>4          | 440                                       | 440  | 1G5, 6, 11 & 12<br>4          | 440                             | 341                                     | 1G5 & 11 - Generation reduced due to low load demand by the Discos. 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 - 4<br>4                  | 380                                       | 375  | 2G1, 3 & 4<br>3               | 263                             | 263                                     | 2G2 - Out due to low load demand by the Discos. 2G5 - Out for annual maintenance. 2G6 - Out due to burnt generator winding and AVR.  |
|                      | SHIRORO HYDRO     | 4                     | 411G1 - 4<br>4                | 600                                       | 600  | 411G2 & 3<br>2                | 300                             | 203                                     | 411G2 - Generation reduced due to low load demand by the Discos. 411G1 & 4 - Out for water management.   |
|                      | EGBIN STEAM       | 6                     | ST2, 4, 5 & 6<br>4            | 880                                       | 580  | ST2, 4, 5 & 6<br>4            | 580                             | 528                                     | ST1 - Out due to the unit transformer problem. ST3 - Out on high vibration since 19th June 2017. Generation reduced due to low load demand by the Discos.  |
|                      | SAPELE (STEAM)    | 6                     | 0<br>0                        | 0   | 0  | 0<br>0                        | 0                               | 0                                       | ST1 & 2 - Tripped on high vibration. ST3 - Tripped on low water drum level. ST4 - Out on fault. ST5 - Awaiting major overhaul.   |
|                      | DELTA (GAS)       | 18                    | GT6, 7, 10 - 13, 15 & 19<br>8 | 340                                       | 320  | GT6, 7, 10 - 13, 15 & 19<br>8 | 320                             | 306                                     | GT2 - Tripped on transformer differential lockout. GT3 & 5 - Out on generator winding fault. GT4 - Out on loss of excitation. GT8 & 14 - Out on major overhaul. GT9, 16 & 20 - Out due to gas constraint. GT17 - Tripped on bearing vibration more than maximum. GT18 - Out due to generator lockout problem. GT20 - Generation reduced due to high air inlet differential pressure. |
|                      | AFAM IV & V (GAS) | 8                     | GT1<br>1                      | 125                                       | 49   | GT17<br>1                     | 49                              | 49                                      | GT11 - 12 - De-commissioned and scrapped. GT13, 14 & 16 - Out on blade failure. GT18 - Out due to gas constraint. GT19 & 20 - Awaiting major overhaul.   |
|                      | GEREGU GAS        | 3                     | GT11 - 13<br>3                | 435                                       | 435  | GT12 & 13<br>2                | 290                             | 262                                     | GT11 - Out due to line limitation.   |
|                      | OMOTOSHO GAS      | 8                     | GT1, 2, 6, 7 & 8<br>5         | 190                                       | 157.8  | GT1, 2, 6, 7 & 8<br>5         | 157.8                           | 157.8                                   | GT3, 4 & 5 - Out due to gas constraint.  |
|                      | OLORUNSOGO GAS    | 8                     | GT1 - 8<br>8                  | 336                                       | 304  | GT1, 2, 4, 5, 6 & 7<br>6      | 205                             | 205                                     | GT3 & 8 - Out due to low load demand by the Discos.  |
| NIPP                 | GEREGU NIPP       | 3                     | GT21 & 23<br>2                | 290                                       | 290  | GT21 & 23<br>2                | 290                             | 240                                     | GT22 - Out on maintenance.   |
|                      | SAPELE NIPP       | 4                     | GT2<br>1                      | 112.5                                     | 112.5  | GT2<br>1                      | 112.5                           | 92.4                                    | GT1 - Out due to gas constraint. GT3 & 4 - Out due to high air filter differential pressure.   |
|                      | ALAOJI NIPP GAS   | 4                     | GT2<br>1                      | 120                                       | 74.6   | GT2<br>1                      | 74.6                            | 74.6                                    | GT1 - Out due to high air inlet differential pressure. GT3 - Shut down due to lack of spare part. GT4 - Tripped on over voltage lockout relay trip.  |
|                      | OLORUNSOGO NIPP   | 6                     | GT1<br>1                      | 126                                       | 108.6  | GT1<br>1                      | 108.6                           | 108.6                                   | GT2 - 3 - Shut down due to low gas pressure. GT4 - Out due to ignition failure and control relay failure alarm. ST13 & ST23 - Out on maintenance.  |
|                      | OMOTOSHO NIPP GAS | 4                     | GT2<br>1                      | 125                                       | 115  | GT2<br>1                      | 115                             | 106.8                                   | GT1 & 3 - Out due to gas constraint.   |
|                      | ODUKPANI NIPP     | 5                     | GT1 - 5<br>5                  | 575                                       | 575  | GT2, 4 & 5<br>3               | 345                             | 273.2                                   | GT1 & 3 - Out due to low load demand by the Discos. GT2, 4 & 5 - On manual adjustment to frequency.  |
|                      | IHOVBOR NIPP      | 4                     | GT2<br>1                      | 112.5                                     | 112.5  | GT2<br>1                      | 112.5                           | 104.5                                   | GT1 & 4 - Out due to gas constraint. GT2 - On manual adjustment to frequency. GT3 - Tripped on high vibration.   |
|                      | GBARAIN NIPP GAS  | 1                     | GT2<br>1                      | 112.5                                     | 112.5  | GT2<br>1                      | 112.5                           | 88.1                                    | Available unit on bar.   |
| IPP                  | OKPAI GAS/STEAM   | 3                     | GT12 & ST18<br>2              | 300                                       | 220  | GT12 & ST18<br>2              | 220                             | 176                                     | GT11 - out on maintenance. ST18 - Generation limited due to boiler problem.  |
|                      | AZURA - EDO       | 3                     | GT11 - 13<br>3                | 461                                       | 461  | GT11 - 13<br>3                | 461                             | 225                                     | GT11 - Generation reduced due to low load demand by the Discos.  |
|                      | AFAM VI GAS/STEAM | 4                     | GT12 & 13<br>2                | 300                                       | 300  | GT13<br>1                     | 150                             | 149                                     | GT11 - Out on maintenance. GT12 - Out on low load demand by the Discos. ST10 - Out on gas constraint.  |
|                      | IBOM POWER GAS    | 3                     | GT3<br>1                      | 120                                       | 115  | GT3<br>1                      | 115                             | 92.8                                    | GT1 & 2 - Out due to fire outbreak on the control panel. GT3 - On manual adjustment to frequency.  |
|                      | AES               | 9                     | 0<br>0                        | 0   | 0  | 0<br>0                        | 0                               | 0                                       | Out of production since 27/09/2014.  |
|                      | ASCO              | 2                     | 0<br>0                        | 0   | 0  | 0<br>0                        | 0                               | 0                                       | ST1 - Shut down due to leakage in the furnace.   |
|                      | OMOKU GAS         | 6                     | GT1, 3 & 5<br>3               | 75  | 58.7   | GT1, 3 & 5<br>3               | 58.7                            | 58.7                                    | GT2 - Tripped on high vibration. GT4 - Out on major overhaul. GT6 - Out on maintenance.  |
|                      | TRANS-AMADI       | 4                     | 0<br>0                        | 0   | 0  | 0<br>0                        | 0                               | 0                                       | GT1 & 2 - Out due to low gas pressure. GT3 - Out on fault. GT4 - out on maintenance.   |
|                      | RIVERS            | 1                     | GT1<br>1                      | 180                                       | 160  | GT1<br>1                      | 145                             | 145                                     | Available unit on bar.   |
|                      | SUB TOTAL         | 141                   | 66                            | 6735.5                                    | 6076.2                                       | 57                            | 5025.2                          | 4249.5                                  | Frequency = 50.26Hz.   |

| 1.7B GENERATION POSITION AT 06:00HRS OF THURSDAY 07/02/2019 FOR UNITS ON BILATERAL AGREEMENT |              |     |         |        |        |         |          |          |                         |
|--|--------------|-----|---------|--------|--------|---------|----------|----------|-------------------------|
|  | PARAS ENERGY | 8   | GT3 -10 | 70     | 65.6   | GT3 -10 | 65.6     | 65.6     | Available units on bar. |
|  |              |     | 8       |        |        | 8       |          |          |                         |
|  | SUB TOTAL    | 8   | 8       | 70     | 65.6   | 8       | 65.6     | 65.6     |                         |
|  | GRAND TOTAL  | 149 | 74      | 6805.5 | 6141.8 | 65      | 5,090.80 | 4,315.10 | Frequency = 50.26Hz     |

| 1.7C BILATERAL AGREEMENT UNITS DISPATCH - WEDNESDAY 06/02/2019     |                   |                |            |               |            |                |             |  |  |
|--|-------------------|----------------|------------|---------------|------------|----------------|-------------|--|--|
| EGBIN ST6 5MW GENERATION TO IKEJA ELECTRICITY DISTRIBUTION COMPANY |                   |                |            |               |            |                |             |  |  |
|  | FEEDERS NAME      | MAX. LOAD (MW) | TIME (HRS) | MIN LOAD (MW) | TIME (HRS) | HRS IN SERVICE | TOTAL (MWH) | REMARK   |  |
| OGBA   | U-STEEL           | ON             | 0100HRS    |               |            | 24             |             | NIL  |  |
|  | PTC EXPRESS       | ON             | 0100HRS    |               |            | 24             |             | NIL  |  |
|  | SANKYO            | 2              | 0100HRS    |               |            | 24             |             | NIL  |  |
|  | FEEDER 8          | 17             | 1300HRS    |               |            | 24             |             | NIL  |  |
| IKORODU  | PULK IT           | 5              | 1100HRS    |               |            | 16             |             | NIL  |  |
|  | INDUSTRIAL        | 9              | 0800HRS    |               |            | 24             |             | NIL  |  |
|  | SPINTEX           | 13             | 2400HRS    |               |            | 24             |             | OUT AS ADDITIONAL APPARATUS FOR SAFE WORKING SPACE FOR THE NETWORK PLANNING AND WORK TO RE ROUTE AGBEDE 33KV FEEDER AT ODOGUNYAN |  |
|  | DANGOTE           | 3              | 1600HRS    |               |            | 24             |             | O/S ON E/F   |  |
|  | LAND CRAFT        | 23             | 2400HRS    |               |            | 24             |             | NIL  |  |
| ALAUUSA  | TR4 15MVA         | 8.8            | 1500HRS    |               |            | 24             |             | NIL  |  |
|  | TR5 -15MVA        | 5.8            | 0900HRS    |               |            | 24             |             | NIL  |  |
|  | ALAUUSA           | 17.8           | 0900HRS    |               |            | 24             |             | NIL  |  |
| M/LAND   | PTC (MARYLAND)    | 19NW           | 0700HRS    |               |            | 14             |             | DUE TO T2 60MA THAT WAS OPENED ON EMERGENCY ON CUT BLUE PHASE JUMPER, ALSO HAS PLANNED OUTAGE.                                   |  |
|  | <b>TOTAL LOAD</b> | <b>104.4</b>   |            |               |            |                |             |  |  |

| BILATERAL AGREEMENT LOAD DISPATCH                           |               |            |               |            |                  |             |        |
|---|---------------|------------|---------------|------------|------------------|-------------|--------|
| 60MW PARAS ENERGY GENERATION TO CEB OF WEDNESDAY 06/02/2019 |               |            |               |            |                  |             |        |
| FEEDER  | MAX LOAD (MW) | TIME (HRS) | MIN LOAD (MW) | TIME (HRS) | HOURS IN SERVICE | TOTAL (MWH) | REMARK |
| Ikeja West/Sakete 330kV line                                | 68.8          | 06:00      | 60.8          | 21:00      | 24               | 1572.4      | NIL    |

| BILATERAL AGREEMENT MAIN STREAM ENERGY KAINJI WEDNESDAY 06/02/2019 |                |                         |               |       |               |       |                  |              |                           |
|--|----------------|-------------------------|---------------|-------|---------------|-------|------------------|--------------|---------------------------|
| COMPANY NAME   | VOL-TAGE LEVEL | CON-TRAC-TUAL LOAD (MW) | MAX LOAD (MW) | TIME  | MIN LOAD (MW) | TIME  | HOURS IN SERVICE | TOTAL (MWH)  | REMARK                    |
| INNER GALAXY   | 132kV line 2   | 0                       | 50            | 14:00 | 22            | 01:00 | 24               | 888          | SUPPLY NOT INTERRUPTED    |
| KAM STEEL  |                | 25.0                    | 19.5          | 17:00 | 0.3           | 01:00 | 24               | <b>97.7</b>  | SUPPLY NOT INTERRUPTED    |
| ASHAKA CEMENT  |                | 0                       | 9.2           | 19:00 | 5.9           | 08:00 | 24               | <b>204.4</b> | SUPPLY NOT INTERRUPTED    |
| XING 1   | 33kV feeder    | 0                       | 21.3          | 04:00 | 0.1           | 05:00 | 24               | <b>267.7</b> | SUPPLY NOT INTERRUPTED    |
| XING 2   |                | 0                       | 20.1          | 02:00 | 1.7           | 01:00 | 24               | <b>263.4</b> | SUPPLY NOT INTERRUPTED    |
| KAM INTEGRATED   |                | 15                      | 4.7           | 06:00 | 1.5           | 10:00 | 24               | <b>69.3</b>  | SUPPLY NOT INTERRUPTED    |
| OLAM FLOUR MILLS   |                | 3                       | 2.7           | 22:00 | 0.6           | 01:00 | 24               | <b>33.4</b>  | SUPPLY NOT INTERRUPTED    |
| LORDSMITH  |                | 3                       | E/F           |       | E/F           |       | 21               | <b>E/F</b>   | OUT OF SERVICE ON E/F&O/C |

**1.8 HYDROLOGICAL DATA: THURSDAY 07/02/2019**

|  | KAINJI         | JEBBA          | SHIRORO       |
|--|----------------|----------------|---------------|
| HEAD WATER ELEVATION (METERS)            | 141.72         | 103.07         | 374.06        |
| TAIL WATER ELEVATION (METERS)            | 105.15         | 74.3           | 270.4         |
| GROSS OPERATING HEAD (METERS)            | <b>36.57</b>   | <b>28.77</b>   | <b>103.66</b> |
| AVERAGE TURBINE DISCHARGE (M3/SEC)       | 1130.00        | 1267.00        | 246.00        |
| AVERAGE SPILLAGE (M3/SEC)                | 396.00         | 480.00         | 0.00          |
| AVERAGE TOTAL STATION DISCHARGE (M3/SEC) | <b>1526.00</b> | <b>1747.00</b> | <b>246.00</b> |
| COMPUTED INFLOW (M3/SEC)                 | 1833.00        | 1435.00        | 83.00         |
| STORAGE DIFFERENTIAL                     | <b>307.00</b>  | <b>-312.00</b> | <b>-163</b>   |
| MAXIMUM LEVEL FOR SPILLAGE COMMENCEMENT  | 141.73         | 103            | 382.50        |
| MINIMUM LEVEL BELOW WHICH NO GENERATION  | 130            | 99             | 355.00        |

**1.9 MAXIMUM/ALLOCATED LOAD/MINIMUM LOADS FOR ABUJA AND LAGOS AS AT WEDNESDAY 06/02/2019**

|       | MAXIMUM LOAD (MW) | TIME (HRS) | ALLOCATED LOAD (MW) | MINIMUM LOAD (MW) | TIME (HRS) |
|-------|-------------------|------------|---------------------|-------------------|------------|
| ABUJA | 595.2             | 22:00      | 523.87              | 430               | 07:00      |
| EKO   | 515.0             | 22:00      | 601.1               | 373.9             | 07:00      |
| IKEJA | 618.5             | 23:00      | 683.31              | 443.5             | 14:00      |

**2.0 GAS POSITION: THURSDAY 07/02/2019**

| STATION           | SIGNED ACQ Annual Contracted Quantity MMSCF/D | INSTALLED CAPACITY OF THERMAL STATIONS (MW) | PREVIOUS DAY OFF-TAKE (MMSCF/D) | CAPABILITY OF UNITS ON BAR OF THERMAL STATIONS (MW) | DIFFERENCE (MW) |
|-------------------|---|---|---------------------------------|---|-----------------|
| EGBIN P/S         | 528   | 1100  |                                 | 528   | 572             |
| DELTA (GAS)       | 306   | 915   |                                 | 320   | 585             |
| OMOTOSHO GAS      | 157.8   | 336.8                                       |                                 | 157.8   | 179             |
| OMOTOSHO NIPP     | 106.8   | 500   |                                 | 120   | 380             |
| OLORUNSOGO (GAS)  | 205   | 336   |                                 | 205   | 131             |
| OLORUNSOGO NIPP   | 0   | 750   |                                 | 108.6   | 641.4           |
| SAPELE NIPP       | 92.4  | 500   |                                 | 112.5   | 387.5           |
| SAPELE STEAM      | 0   | 720   |                                 | 0   | 720             |
| AFAM IV-V         | 49  | 300   |                                 | 49  | 251             |
| AFAM VI           | 149   | 650   |                                 | 150   | 500             |
| GEREGU GAS        | 262   | 435   |                                 | 290   | 145             |
| GEREGU NIPP       | 240   | 435   |                                 | 290   | 145             |
| OKPAI (GAS/STEAM) | 176   | 480   |                                 | 220   | 260             |
| ALAOJI NIPP       | 74.6  | 504   |                                 | 74.5  | 429.5           |
| IHOV/BOR NIPP     | 104.5   | 337.5                                       |                                 | 112.5   | 225             |
| IBOM              | 92.8  | 198   |                                 | 115   | 83              |
| ODUKPANI NIPP     | 273.2   | 625   |                                 | 345   | 280             |
| <b>TOTAL</b>      | <b>2817.1</b>                                 | <b>9122.30</b>                              |                                 | <b>3197.9</b>                                       | <b>5924.4</b>   |

1 MMSCF IS EQUIVALENT TO 3.75MW

**3.0 SPINNING RESERVE FOR : WEDNESDAY 06/02/2019**

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

**3.1 SYSTEM SPINNING RESERVE AS AT 0600HRS OF THURSDAY 07/02/2019 = 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                   |            |
| 2                 | Delta           | GT16                     | 40                 | 0                   | 0          |
|                   |                 | GT17                     | 40                 | 0                   |            |
| 3                 | Olorunsogo NIPP | GT1                      | 40                 | 0                   | 0          |
|                   |                 | GT2                      |                    | 0                   |            |
|                   |                 | GT3                      |                    | 0                   |            |
|                   |                 | GT4                      |                    | 0                   |            |
| 4                 | Geregu NIPP     | GT22                     | 35                 | 0                   | 0          |
|                   |                 | GT1                      |                    | 0                   |            |
| 5                 | Omotosho NIPP   | GT2                      | 40                 | 0                   | 0          |
|                   |                 | GT3                      |                    | 0                   |            |
|                   |                 | GT4                      |                    | 0                   |            |
|                   |                 | GT4                      |                    | 0                   |            |
| <b>TOTAL (MW)</b> |                 |                          | <b>295</b>         | <b>0</b>            | <b>0</b>   |

**4.0 UNAVAILABLE GENERATION CAPABILITY**

The unavailable generation capability for Wednesday 06/02/2019 as at 0600Hrs was = 1427MW.

| S/N   | STATION                | ACTUAL GENERATION CAPABILITY (MW) | GENERATION AT 0600HRS (MW) | UNAVAILABLE GENERATION CAPABILITY (MW) | SUB-TOTAL   |
|---|------------------------|-----------------------------------|----------------------------|--|-------------|
| <b>4.1 DUE TO LINE CONSTRAINTS</b>              |                        |                                   |                            |  |             |
|   |                        |                                   |                            | 0                                      | 0           |
|   |                        |                                   |                            | 0                                      |             |
|   |                        |                                   |                            | 0                                      |             |
|   |                        |                                   |                            | 0                                      |             |
| <b>4.2 DUE TO LOW LOAD DEMAND BY THE DISCOS</b> |                        |                                   |                            |  |             |
|   |                        |                                   |                            |  | 1127        |
| 1   | Shiroro 411G2          | 150                               | 60                         | 90                                     |             |
| 2   | Afam VI GT12           | 150                               | 0                          | 150                                    |             |
| 3   | Olorunsogo Gas GT3 & 8 | 76                                | 0                          | 76                                     |             |
| 4   | Azura-Edo GT11 - 13    | 461                               | 225                        | 236                                    |             |
| 5   | Odukpani GT1 & 3       | 230                               | 0                          | 230                                    |             |
| 6   | Egbin ST2, 4 & 6       | 465                               | 415                        | 50                                     |             |
| 7   | Jebba 2G2              | 90                                | 0                          | 90                                     |             |
| 8   | Geregu GT11            | 145                               | 0                          | 145                                    |             |
| 9   | Kainji 1G5 & 11        | 220                               | 160                        | 60                                     |             |
|   |                        |                                   |                            | 0                                      |             |
|   |                        |                                   |                            |  |             |
|   |                        |                                   |                            |  |             |
| <b>4.3 DUE TO WATER MANAGEMENT:</b>             |                        |                                   |                            |  |             |
| 1   | Shiroro 411G3 & 4      | 300                               | 0                          | 300                                    | 300         |
|   |                        |                                   |                            |  |             |
|   |                        |                                   |                            |  |             |
| <b>Grand Total</b>                              |                        |                                   |                            |  | <b>1427</b> |

**5.0 OUTAGES:**

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

- 1 09:31 – 10:15Hrs, Kainji 1G11 tripped on Sub 1 & 2. LHR = 84MW
- 2 10:50Hrs, Delta GTs 10, 11, 12, 13 and 15 tripped due to tripping of interbus Transformer. Total Load Loss = 170MW, 11:15, 12:46, 12:47, 12:48, 12:49 & 16:54Hrs, GTs13, 15,7, 6, 11, 10, 13 & 12 were tied respectively.

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

- 1 19:32 – 19:41Hrs, Ayede/lbadan North/lwo/lseyin 132kV line CB tripped at Ayede T/S on O/C Red, Yellow & Blue Phases. LHR = 70MW.
- 2 19:32 – 21:35Hrs, Ayede T/S 100MVA 132/33kV transformer T1 primary CB tripped without relay indication. LHR = 24MW.

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

- 1 10:05 – 14:34Hrs, Afam IPP T/S 60MVA 132/33kV T01 was taken out for annual preventive maintenance on the transformer and its associated equipment. No load loss as the transformer was on soak
- 2 10:28 – 16:24Hrs, Delta T/S 60MVA 132/33kV transformer T1 was taken out for annual preventive maintenance on the transformer and its associated equipment. Load loss = 19.0MW.

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

- 1 09:35 through 24:00Hrs, Delta GT20 was shut down for replacement of dirty filter. Load loss = 86MW
- 2 11:36 - 12:53Hrs, Alagbon T/S 60MVA 132/33kV Transformer T12 was taken out on emergency due to serious oil leakage. LHR = 32MW.

**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 ODUKPAI, 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).

| STATIONS    | NO INSTALLED | NO. WORKING |
|-------------|--------------|-------------|
| PLC/PAX     | 38           | 29          |
| OPTIC FIBRE | 13           | 10          |
| PLS         | 14           | 4           |

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

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

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

**5 (H) 330KV LINES THAT ARE OUT ON BREAKER PROBLEM:- cct A1K.**

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

**5 (J) 330KV LINES THAT ARE OUT ON LINE FAULT:- ccts D3T, J2H & K4U**

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

**6 WEATHER REPORT:-** Rainfall reported at New Haven

**7 INTERNATIONAL LINES:-**

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

Maximum load - 265MW at 21:00Hrs.  
Minimum load - 213MW at 08:00Hrs.

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

Maximum load - 98MW at 23:00Hrs.  
Minimum load - 62MW at 08:00Hrs.

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

Maximum load - 19.7MW at 20:00Hrs.  
Minimum load - 15.3MW at 04:00Hrs.

**8 MISCELLANEOUS:-**

- 1 00:33 - 19:39Hrs, Afam VI GT12 was shut down due to low load demand by the Discos. Load loss = 136MW
  - 2 00:44 - 20:06Hrs, Odukpai GT2 was shut down due to low load demand by the Discos. Load loss = 80MW
  - 3 05:23Hrs, Jebba 2G2 was tied. The unit was out due to low load demand by the Discos.
  - 4 18:02Hrs, 18:05Hrs & 18:07hrs, Omoku GTs 5, 1& 3 were tied. The unit was out due to installation of gas metering equipment on the main gas supply line.
  - 5 19:07Hrs, Shiroro 411G3 was tied. The unit was out due to water management.
  - 6 19:10Hrs, Olorunsogo P/S GT3 was tied. The unit was out due to low load demand by the Discos.
  - 7 19:18Hrs, Geregus Gas GT11 was tied. The unit was out due to line constraint.
  - 8 19:25Hrs, Alaaji NIPP GT2 was tied. The unit was out due to gas constraint.
  - 9 20:28Hrs, Omotosho P/S GT8 was tied. The unit was out due to gas constraint.
  - 10 22:18Hrs, Geregus Gas GT11 was shut down due to low load demand by the Discos. Load loss= 146MW.
- \*\*\*\* THE SCADA COVERAGE OF ONLY LIMITED AREAS IS NOT GOOD FOR THE SMOOTH OPERATION OF THE GRID.
- \*\*\*\* LACK OF REACTOR AND UNRELIABLE STATION SERVICE SUPPLY AT IKOT-EKPENE T/S ARE HINDERING SMOOTH OPERATION.

11 **SCADA RTU STATUS**

| STATIONS       | NO. INSTALLED | NO OF RTU DISTURBED | NO OF RTU WORKING |
|----------------|---------------|---------------------|-------------------|
| POWER STATIONS | 8             | 4                   | 4                 |
| 330kV          | 19            | 10                  | 9                 |
| 132kV          | 102           | 79                  | 23                |

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 reactor installed.

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

**SHIRORO REGION**

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

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/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 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 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



