

## Daily System Generation Summary on Tuesday

Tuesday, March 19, 2019

### Availability at Daily Maximum Demand Hour

|              |           |
|--------------|-----------|
| ST-Coal      | 0 MW      |
| ST-Gas       | 0 MW      |
| ST-Oil       | 0 MW      |
| Hydro        | 2,391 MW  |
| Distillate   | 0 MW      |
| Total TNB    | 2,391 MW  |
| Total IPP    | 16,226 MW |
| Total Co-Gen | 55 MW     |
| Total System | 21,174 MW |

### Generation Mix

| Type                    | MWh            | Percentage      |
|-------------------------|----------------|-----------------|
| Hydro                   | 11,771         | 3.04 %          |
| Gas                     | 48,293         | 12.46 %         |
| <b>Total TNB</b>        | <b>60,064</b>  | <b>15.49 %</b>  |
| ST-Coal                 | 191,952        | 49.51 %         |
| ST-Oil                  | 10,218         | 2.64 %          |
| LSS                     | 1,533          | 0.40 %          |
| Gas                     | 120,436        | 31.07 %         |
| <b>Total IPP</b>        | <b>324,139</b> | <b>83.61 %</b>  |
| Co-Gen                  | 2,073          | 0.53 %          |
| <b>Total Co-Gen</b>     | <b>2,073</b>   | <b>0.53 %</b>   |
| <b>Total Generation</b> | <b>386,276</b> | <b>99.64 %</b>  |
| PLTG                    | -161           | -0.04 %         |
| HVDC                    | -1,247         | -0.32 %         |
| <b>Interconnection</b>  | <b>-1,408</b>  | <b>-0.36 %</b>  |
| <b>Net Energy</b>       | <b>387,684</b> | <b>100.00 %</b> |

### Maximum Demand Record

|                 |             |
|-----------------|-------------|
| Date: 3/19/2019 | 18,402 MW   |
| Date: 3/20/2019 | 390,048 MWH |

### Set On Bus, TNB, IPP And MD

|                               |               |
|-------------------------------|---------------|
| Daily Maximum Demand Hour at: | 16:30:00 Hour |
| Total Set On Bus              | 19,641 MW     |
| TNB Generation                | 3,236 MW      |
| IPP Generation                | 14,950 MW     |
| Spinning Reserve              | 1,370 MW      |
| Maximum Demand                | 18,402 MW     |
| Net Energy                    | 387,684 MWH   |
| Load Factor                   | 87.78 %       |

### Fuel Cost

|               |                  |
|---------------|------------------|
| Total Cost:   | 82,317,940.10 RM |
| Cost per Unit | 21.98 cents/kWH  |

### Average Spinning Reserve During Peak Hour

| Type         | MW           |
|--------------|--------------|
| GT           | 470          |
| Hydro        | 295          |
| Syncon       | 816          |
| Thermal      | 135          |
| <b>Total</b> | <b>1,716</b> |

| Time      | Weather | Temperature |
|-----------|---------|-------------|
| Afternoon | Hot     | 36          |
| Morning   | Sunny   | 27          |

### Gas Usage

| Station                   | (mmscfd)     |
|---------------------------|--------------|
| GLGR                      | 50           |
| PAKA                      | 52           |
| PGPS                      | 38           |
| TJGS                      | 215          |
| <b>Total TNB</b>          | <b>355</b>   |
| CBPS                      | 54           |
| KLPP                      | 96           |
| MPSS                      | 47           |
| NPRI                      | 147          |
| PGLA                      | 94           |
| PLPS                      | 81           |
| PTEK                      | 7            |
| SGRI                      | 126          |
| SKSP                      | 50           |
| YPKA                      | 87           |
| <b>Total IPP</b>          | <b>789</b>   |
| <b>Total Gas</b>          | <b>1,144</b> |
| <b>Total Gas Required</b> | <b>1,245</b> |

### Alternate Fuel Usage

| Station      | (mmscfd)   |
|--------------|------------|
| PKLG         | 101        |
| <b>Total</b> | <b>101</b> |

### Hourly System MW Generation

|              | 00:00 | 01:00 | 02:00 | 03:00 | 04:00 | 05:00 | 06:00 | 07:00 | 08:00 | 09:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|--------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| System Total | 15945 | 15048 | 14625 | 14069 | 13658 | 13488 | 13635 | 13616 | 13873 | 15630 | 16570 | 17263 | 17221 | 17110 | 17893 | 18226 | 18364 | 18006 | 16793 | 16277 | 17716 | 17849 | 17498 | 17050 |

Prepared By: -Select Name-

Checked By: -Select Name-

Printed on: Wednesday, March 27, 2019 11:10:30 AM

(Ir. Shanmugam Thoppalan)  
Pengurus Besar Kanan  
Jabatan Sistem Operasi

### Daily MW Generation on Tuesday

| Station | Unit | 0000 |     | 0100 |     | 0200 |     | 0300 |     | 0400 |     | 0500 |     | 0600 |     | 0700 |     | 0800 |     | 0900 |     | 1000 |     | 1100 |     | 1200 |     | 1300 |     | 1400 |     | 1500 |     | 1600 |     | 1700 |     | 1800 |     | 1900 |     | 2000 |     | 2100 |     | 2200 |     | 2300 |     |
|---------|------|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|
| JMAH    | U001 | 702  | 703 | 695  | 702 | 703  | 701 | 702  | 702 | 699  | 703 | 693  | 702 | 704  | 701 | 702  | 701 | 704  | 700 | 701  | 705 | 700  | 702 | 700  | 699 | 700  | 700 | 701  | 704 | 701  | 704 | 701  | 703 | 702  | 704 | 700  | 702 | 701  | 701 | 703  | 702 | 701  | 702 | 696  | 701 | 702  | 703 | 703  | 702 |
| JMAH    | U002 | 705  | 701 | 705  | 704 | 703  | 704 | 705  | 703 | 705  | 702 | 707  | 702 | 700  | 703 | 705  | 701 | 705  | 705 | 704  | 705 | 703  | 707 | 705  | 702 | 707  | 703 | 706  | 703 | 702  | 703 | 704  | 703 | 706  | 705 | 708  | 703 | 702  | 704 | 705  | 702 | 704  | 706 | 702  | 703 | 704  | 701 | 705  | 702 |
| JMUG    | U002 | 680  | 679 | 680  | 681 | 686  | 677 | 680  | 678 | 678  | 680 | 679  | 681 | 679  | 679 | 678  | 668 | 682  | 681 | 682  | 678 | 680  | 678 | 681  | 678 | 679  | 680 | 673  | 680 | 678  | 674 | 678  | 677 | 678  | 677 | 660  | 679 | 678  | 678 | 677  | 679 | 676  | 682 | 682  | 674 | 678  | 677 | 676  | 678 |
| JMJG    | U003 | 677  | 676 | 675  | 674 | 676  | 675 | 678  | 673 | 676  | 676 | 666  | 680 | 677  | 674 | 676  | 678 | 678  | 672 | 674  | 673 | 668  | 667 | 673  | 673 | 672  | 671 | 670  | 672 | 673  | 674 | 658  | 662 | 665  | 667 | 668  | 669 | 668  | 667 | 668  | 673 | 668  | 667 | 674  | 667 | 670  | 668 |      |     |
| JMJG    | U004 | 986  | 986 | 987  | 986 | 912  | 855 | 856  | 855 | 854  | 853 | 854  | 854 | 855  | 855 | 858  | 854 | 914  | 983 | 985  | 983 | 983  | 983 | 983  | 985 | 985  | 985 | 983  | 985 | 983  | 985 | 983  | 983 | 983  | 985 | 985  | 985 | 983  | 983 | 986  | 986 | 985  | 985 | 985  | 985 | 983  | 983 |      |     |
| JMJG    | U005 | 980  | 979 | 981  | 975 | 851  | 852 | 851  | 852 | 848  | 851 | 852  | 852 | 850  | 849 | 851  | 850 | 851  | 939 | 980  | 980 | 979  | 978 | 977  | 976 | 976  | 978 | 977  | 979 | 981  | 979 | 977  | 977 | 977  | 979 | 975  | 977 | 977  | 979 | 976  | 977 | 977  | 977 | 977  | 977 | 977  | 977 |      |     |
| PKLG    | U003 | 285  | 280 | 279  | 283 | 283  | 283 | 282  | 280 | 279  | 281 | 281  | 281 | 283  | 281 | 284  | 281 | 283  | 282 | 282  | 280 | 281  | 281 | 283  | 281 | 281  | 280 | 279  | 275 | 279  | 280 | 280  | 280 | 280  | 282 | 282  | 281 | 282  | 281 | 283  | 281 | 280  | 280 | 280  | 283 | 280  | 281 | 281  | 279 |
| PKLG    | U004 | 281  | 281 | 279  | 279 | 279  | 279 | 278  | 278 | 278  | 281 | 281  | 282 | 282  | 281 | 280  | 283 | 282  | 281 | 280  | 279 | 280  | 280 | 281  | 281 | 281  | 279 | 277  | 279 | 280  | 280 | 280  | 280 | 281  | 278 | 281  | 280 | 281  | 280 | 278  | 278 | 276  | 277 | 278  | 276 | 277  | 277 | 279  |     |
| PKLG    | U005 | 467  | 466 | 464  | 467 | 467  | 466 | 466  | 468 | 468  | 466 | 466  | 468 | 466  | 464 | 466  | 468 | 468  | 467 | 464  | 465 | 465  | 466 | 468  | 469 | 470  | 469 | 469  | 459 | 468  | 467 | 472  | 468 | 466  | 466 | 466  | 468 | 468  | 466 | 466  | 468 | 469  | 470 | 465  | 464 | 466  | 466 | 465  |     |
| TBIN    | U001 | 698  | 699 | 697  | 700 | 699  | 701 | 699  | 699 | 700  | 702 | 699  | 700 | 699  | 701 | 699  | 698 | 696  | 698 | 700  | 699 | 699  | 700 | 699  | 699 | 701  |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |      |     |



### Daily MW Generation on Tuesday

| Station          | Unit | 0000 |     | 0100 |     | 0200 |     | 0300 |     | 0400 |     | 0500 |     | 0600 |     | 0700 |     | 0800 |     | 0900 |     | 1000 |     | 1100 |     | 1200 |     | 1300 |     | 1400 |     | 1500 |      | 1600 |      | 1700 |     | 1800 |     | 1900 |     | 2000 |     | 2100 |     | 2200 |     | 2300 |     |   |
|------------------|------|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|------|------|------|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|---|
| TMGR             | HY03 | 0    | 0   | 0    | 0   | 0    | 33  | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 81   | 63  | 63   | 73  | 73   | 71  | 63   | 63  | 63   | 63  | 63   | 81  | 81   | 81   | 81   | 81   | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0    |     |   |
| TMGR             | HY04 | 32   | 32  | 32   | 32  | 32   | 32  | 32   | 32  | 32   | 32  | 32   | 32  | 32   | 32  | 26   | 32  | 29   | 82  | 82   | 64  | 64   | 74  | 74   | 72  | 64   | 64  | 64   | 64  | 64   | 81  | 81   | 82   | 81   | 81   | 29   | 28  | -1   | -1  | -1   | -1  | -1   | -1  | -1   | -1  | -1   | -1  | -1   |     |   |
| UJLI             | HY01 | -1   | -1  | -1   | -1  | -1   | -1  | -1   | -1  | -1   | -1  | -1   | -1  | -1   | -1  | -1   | -1  | -1   | -1  | -1   | -1  | -1   | -1  | -1   | -1  | -1   | -1  | -1   | -1  | -1   | -1  | -1   | -1   | -1   | -1   | -1   | -1  | -1   | -1  | -1   | -1  | -1   | -1  | -1   | -1  | -1   | -1  |      |     |   |
| UJLI             | HY02 | -1   | -1  | -1   | -1  | -1   | -1  | -1   | -1  | -1   | -1  | -1   | -1  | -1   | -1  | -1   | -1  | -1   | -1  | -1   | -1  | -1   | -1  | -1   | -1  | -1   | -1  | -1   | -1  | -1   | -1  | -1   | -1   | -1   | -1   | -1   | -1  | -1   | -1  | -1   | -1  | -1   | -1  | -1   | -1  | -1   | -1  |      |     |   |
| UPIA             | HY01 | 6    | 6   | 6    | 6   | 6    | 6   | 6    | 6   | 6    | 6   | 6    | 6   | 6    | 6   | 6    | 6   | 6    | 6   | 6    | 6   | 6    | 6   | 6    | 6   | 5    | 5   | 6    | 6   | 6    | 6   | 6    | 6    | 6    | 6    | 6    | 6   | 6    | 6   | 6    | 6   | 6    | 6   | 6    | 6   | 6    | 6   | 6    |     |   |
| Total Hydro      |      | 418  | 328 | 329  | 333 | 332  | 364 | 327  | 326 | 288  | 288 | 334  | 287 | 287  | 288 | 277  | 223 | 188  | 183 | 268  | 485 | 426  | 425 | 465  | 466 | 462  | 567 | 682  | 688 | 810  | 951 | 1021 | 1016 | 1040 | 1046 | 1038 | 555 | 551  | 323 | 259  | 425 | 685  | 646 | 664  | 597 | 431  | 340 | 265  | 267 |   |
| Total Distillate |      | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0    | 0    | 0    | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0    |     |   |
| BDLS             | LSS1 | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 2   | 6    | 9   | 14   | 17  | 20   | 22  | 25   | 26  | 27   | 26  | 29   | 28  | 27   | 25  | 23   | 21   | 19   | 17   | 16   | 9   | 3    | 1   | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0 |
| CHLS             | LSS1 | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 3   | 10   | 16  | 22   | 28  | 33   | 35  | 38   | 39  | 40   | 41  | 41   | 42  | 11   | 31  | 25   | 12   | 15   | 22   | 4    | 10  | 5    | 2   | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   |   |
| GNLS             | LSS1 | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 6   | 9    | 12  | 12   | 13  | 19   | 7   | 19   | 22   | 22   | 21   | 18   | 12  | 6    | 2   | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   |   |
| KKLS             | LSS1 | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 2   | 7    | 15  | 20   | 27  | 31   | 36  | 39   | 42  | 43   | 45  | 45   | 41  | 21   | 43  | 40   | 23   | 8    | 13   | 17   | 12  | 5    | 2   | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0    |     |   |
| SPLS             | LSS1 | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 0   | 0    | 4   | 11   | 18  | 24   | 34  | 37   | 40  | 46   | 49  | 56   | 57  | 54   | 21  | 48   | 43  | 40   | 30   | 22   | 16   | 11   | 5   |      |     |      |     |      |     |      |     |      |     |      |     |   |