

GAINESVILLE RENEWABLE ENERGY CENTER

Operated by **NAES**



May 2015 MONTHLY PERFORMANCE REPORT

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1. SUMMARY

The plant completed a planned outage on May 8th, in which the tertiary superheater header was replaced by Valmet. The outage was completed in 14 days. The boiler was brought back on line May 8th, and ran well the remainder of the month.

Operations:

The unit operated for 550.75 hours in the month of May. GREC completed a Planned Outage this month.

GREC completed our planned outage in May. After bringing unit back on line, boiler make-up water usage had increased significantly. Operations found four drain valves leaking by, which were plugged.

2. MONTHLY PERFORMANCE DATA

| 2015 | | | | | | | | | | | | | | | | | |
|--------------------------------|----------|--------|--------|--------|--------|-----|-----|-----|-----|-----|-----|-----|---------|--------|-------|-------|---------|
| PLANT SUMMARY | | | | | | | | | | | | | | | | | |
| Monthly Performance Data | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | QTR 1 | QTR 2 | QTR 3 | QTR 4 | YTD |
| Operations | | | | | | | | | | | | | | | | | |
| Gross Generation (MWh) | 49,418 | 55,357 | 60,383 | 32,781 | 45,671 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 165,158 | 78,452 | 0 | 0 | 243,610 |
| Net Generation (MWh) | 42,953 | 48,167 | 54,434 | 28,374 | 39,642 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 145,554 | 68,016 | 0 | 0 | 213,570 |
| Solid Fuel Flow (ft3) | REDACTED | | | | | | | | | | | | | | | | |
| Solid fuel Flow (Tons) | REDACTED | | | | | | | | | | | | | | | | |
| Natural Gas Usage MMBTU | 1,655 | 0 | 0 | 0 | 1,994 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,655 | 1,994 | 0 | 0 | 3,649 |
| Avg Burn rate (Tons/nMWH) | REDACTED | | | | | | | | | | | | | | | | |
| Operating hours | 592 | 672 | 744 | 562 | 551 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2,008 | 1,112 | 0 | 0 | 3,121 |
| Number of trips | 5 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 3 | 0 | 0 | 8 |
| Safety | | | | | | | | | | | | | | | | | |
| Lost Time Accidents | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lost Time Incident Rate | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Recordables | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Recordable Incident Rate | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| First Aid Incidents | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Near Miss Incidents | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Maintenance: WO Summary | | | | | | | | | | | | | | | | | |
| Start Backlog | 130 | 133 | 171 | 158 | 162 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 434 | 320 | 0 | 0 | 754 |
| End Backlog | 73 | 90 | 112 | 114 | 62 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 275 | 176 | 0 | 0 | 451 |
| New Wos/Comp Rec WO's | 170 | 247 | 186 | 139 | 154 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 603 | 293 | 0 | 0 | 896 |
| Total Completed W.O.s | 227 | 290 | 245 | 183 | 254 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 762 | 437 | 0 | 0 | 1,199 |
| Received WO's | 234 | 331 | 241 | 191 | 206 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 806 | 397 | 0 | 0 | 1,203 |

3. PRODUCTION STATISTICS

| 2015 | | | | | | | | | | | | | | | | | |
|------------------------------------|------------|------------|------------|-----------|------------|-----|-----|-----|-----|-----|-----|-----|------------|------------|-------|-------|------------|
| Production Statistics | | | | | | | | | | | | | | | | | |
| Monthly Performance Data | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | QTR 1 | QTR 2 | QTR 3 | QTR 4 | YTD |
| Other | | | | | | | | | | | | | | | | | |
| Ammonia Received (Gallons) | 13,008 | 13,016 | 13,000 | 6,475 | 6,437 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 39,024 | 12,912 | 0 | 0 | 51,936 |
| Ammonia Consumed | 11,058 | 12,866 | 12,700 | 6,775 | 10,037 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 36,624 | 16,812 | 0 | 0 | 53,436 |
| Sodium Bicarbonate Received (Tons) | 24 | 0 | 24 | 23 | 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 48 | 47 | 0 | 0 | 95 |
| Sodium Bicarbonate Consumed | 20 | 25 | 17 | 17 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 63 | 26 | 0 | 0 | 89 |
| Bottom Ash Generated (Tons) | 230 | 259 | 462 | 181 | 352 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,484 | 533 | 0 | 0 | 2,017 |
| Fly Ash Generated (Tons) | 981 | 1,043 | 1,102 | 958 | 520 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3,126 | 1,478 | 0 | 0 | 4,604 |
| Filter Cake (Tons) | 78 | 73 | 102 | 47 | 60 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 361 | 108 | 0 | 0 | 469 |
| Diesel Fuel | | | | | | | | | | | | | | | | | |
| Diesel Fuel Received | 4,410 | 4,006 | 5,087 | 3,488 | 4,822 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13,503 | 8,310 | 0 | 0 | 21,813 |
| Diesel Fuel Burned | 4,410 | 4,006 | 5,087 | 3,488 | 4,822 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13,503 | 8,310 | 0 | 0 | 21,813 |
| - Heavy Equipment | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| - Boiler | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diesel Fuel Ending Inventory | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water | | | | | | | | | | | | | | | | | |
| Process Water Usage | 10,479,714 | 10,113,783 | 12,700,990 | 8,701,923 | 14,153,347 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 33,294,487 | 22,855,270 | 0 | 0 | 56,149,757 |
| Reclaim Water Usage | 13,106,824 | 15,488,745 | 18,109,532 | 9,403,562 | 11,906,570 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 46,705,101 | 21,310,132 | 0 | 0 | 68,015,233 |

4. SAFETY

NAES Staff

| | Month | Hours | First Aid | Recordable | Rec. Rate | LTA | LTA Rate | Near Miss |
|---------------------------|-----------|------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 2014 | January | 6772.75 | 0 | 0 | 0.0 | 0 | 0.0 | 0 |
| | February | 6915.50 | 0 | 0 | 0.0 | 0 | 0.0 | 0 |
| | March | 6543.25 | 0 | 0 | 0.0 | 0 | 0.0 | 0 |
| | April | 6653.25 | 0 | 0 | 0.0 | 0 | 0.0 | 0 |
| | May | 12832.75 | 0 | 0 | 0.0 | 0 | 0.0 | 0 |
| | June | | 0 | 0 | 0.0 | 0 | 0.0 | 0 |
| | July | | 0 | 0 | 0.0 | 0 | 0.0 | 0 |
| | August | | 0 | 0 | 0.0 | 0 | 0.0 | 0 |
| | September | | 0 | 0 | 0.0 | 0 | 0.0 | 0 |
| | October | | 0 | 0 | 0.0 | 0 | 0.0 | 0 |
| | November | | 0 | 0 | 0.0 | 0 | 0.0 | 0 |
| | December | | 0 | 0 | 0.0 | 0 | 0.0 | 0 |
| Year to Date Total | | 39,717.51 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

Contractors

| | Month | Hours | First Aid | Recordable | Rec. Rate | LTA | LTA Rate | Near Miss |
|---------------------------|-----------|------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 2014 | January | 2645 | 0 | 0 | 0.0 | 0 | 0.0 | 0 |
| | February | 511 | 0 | 0 | 0.0 | 0 | 0.0 | 0 |
| | March | 655 | 0 | 0 | 0.0 | 0 | 0.0 | 0 |
| | April | 6040 | 1 | 0 | 0.0 | 0 | 0.0 | 0 |
| | May | 7143 | 0 | 0 | 0.0 | 0 | 0.0 | 0 |
| | June | 0 | 0 | 0 | 0.0 | 0 | 0.0 | 0 |
| | July | 0 | 0 | 0 | 0.0 | 0 | 0.0 | 0 |
| | August | 0 | 0 | 0 | 0.0 | 0 | 0.0 | 0 |
| | September | 0 | 0 | 0 | 0.0 | 0 | 0.0 | 0 |
| | October | 0 | 0 | 0 | 0.0 | 0 | 0.0 | 0 |
| | November | 0 | 0 | 0 | 0.0 | 0 | 0.0 | 0 |
| | December | 0 | 0 | 0 | 0.0 | 0 | 0.0 | 0 |
| Year to Date Total | | 16,993.50 | 1.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

Accidents:

There were no injuries reported in May.

Near Miss Reports:

No Near Miss Reports were completed in May.

Training:

39 individuals completed 85 safety courses in May.

5. ENGINEERING & ENVIRONMENTAL

- 5/1: NOx Ozone Season Begins – 9/30
- 5/7: Q1 ACEPD Hourly Emissions Transmitted
- 5/14: FDEP Air Inspection Conducted
- 5/29: Stormwater Detention Ponds – Vegetation Treatment

Pending

- Title V FDEP Application response to be published ~ 6/10
- Fly Ash & Salt Cake beneficial re-use alternatives
- Finalize SMP-4 revisions including WoodYard BMPs

Note - Bottom ash: Outage bed evacuation at 261 tons; post-outage normal hauling at 91.39 tons, totaling 352.39 tons.

Correction: March ammonia consumption previously 6,169 gallons did not include a second delivery. Corrected consumption is 12,700 gallons.

6. OPERATIONS

A total of 39,642 nMW hours of electricity were generated during the month. The monthly Average Burn Rate was **REDACTED**

A total of 2,073 trucks were unloaded with 56,089 tons of wood received and **REDACTED**
REDACTED

There were 430 Safe Work, 54 LOTO, and 84 Confined Space permits written.

Boiler make-up water use had increased significantly after the recent outage. We have surveyed our drain lines and found some sources of leak by. Severe Service Specialists was brought in to perform a valve survey and came up with the same results. Plans are in place to plug the drain lines. GRU began testing of their new Energy Control Management System. The system is not consistently holding load and we are frequently required to take AGC to GREC control and adjust load. GRU continues to investigate.

7. WATER CHEMISTRY

- **Cooling Tower:** Sulfuric acid tank local level indication became plugged and the acid pumps lost suction. Totes of sulfuric acid from the ZDS were used with our pump suction side tie in and tower pH returned to normal within a few hours.
- **Boiler/ Make-Up Water:** Leaking Feed Water and steam drains identified which have been causing an increase in the use of make-up water. Plans are to plug these valves and replace them next outage. R.O membrane cleaning on both trains brought the system back to normal flows and DPs.
- **Well/Reclaim Water:** Systems running well.
- **ZDS:** Crystallizer Flash tank lining has been repaired.
- **Potable water:** Completed and submitted monthly and quarterly samples, including Bacteria, SOCs, VOCs, and radionucleotides.

8. FUEL HANDLING

- PMs completed to both chip dozers and the Cat loader.
- New tires mounted on remanufactured chip dozer.
- LED lights mounted on remanufactured chip dozer.

9. TRAINING

- GPiLearn: 39 individuals completed 95 total courses in May.
- 55 contractors received NAES site safety training in May.

10. MAINTENANCE

- Held daily safety meetings with crews.
- Completed May GPiLearn courses.
- Attended weekly fuel meetings.
- Worked on Annul Outage report.
- Review all outage work orders with Planner.
- Help prepare May outage report with Planner.
- Prepared for AIG Insurance audit with Planner.
- Attended NAES O/M Conference in Dallas Tx.
- Mechanical crews worked monthly PMs.
- IC/E crews worked monthly PMs.
- SKF Summary Report: 250 asset readings total, 1 action item, and no watch items.
- Scheduled work orders: 191 / Completed work orders: 183

11. ADMINISTRATION

Staffing:

There were no positions open as of May 31, 2015.

Temporary Staffing:

There was no temporary labor on site in May.

May Statistics:

- Payroll: 123 Payroll records processed
- Accounts Payable: 233 invoices processed*, 130 payments processed
*May Invoices will continue to be processed through June 15, 2015.
- Procurement: 120 Requisitions reviewed, 116 Purchase Orders generated
- May Overtime: 28% of total hours
- 2015 annual overtime: 20% of total hours

Spare Parts Inventory Value: \$REDACTED