AMERICAN ARBITRATION ASSOCIATION

GAINESVILLE RENEWABLE ENERGY CENTER, LLC,

Claimant,

v.

AAA Case No. 01-19-000-8157

THE CITY OF GAINESVILLE, FLORIDA d/b/a GAINESVILLE REGIONAL UTILITIES,

Respondent.

AFFIDAVIT OF ALBERT MORALES IN SUPPORT OF GREC'S MOTION FOR SUMMARY JUDGMENT

I, Albert Morales, make the following affidavit in connection with the Motion for Summary Judgment filed by Gainesville Renewable Energy Center ("GREC").

1. I am over 18 years of age and understand the obligations of an oath. I understand that this declaration is for a filing by GREC in an arbitration between GREC and the City of Gainesville d/b/a Gainesville Regional Utilities ("GRU").

2. I am the Chief Financial Officer ("CFO") of GREC. Pursuant to a 30-year Power Purchase Agreement (PPA) with GRU, GREC agreed to invest nearly \$500 million dollars to design, build, operate and maintain a 102.5 megawatt ("MW") biomass-powered Facility in Gainesville (the "Facility"). As CFO of GREC, I am responsible for overseeing financial matters for GREC, for ensuring compliance with GREC's obligations under its credit documents, and for assisting with the oversight of the Facility's operations. 3. Exhibits 1 to 17 attached to this declaration are true and correct copies of communications exchanged between the parties and documents exchanged between the parties in this arbitration. Many of these documents have document identification numbers, or "Bates" numbers from the discovery exchanges. I understand that the documents with Bates numbers starting with the designation "GREC" are documents produced by GREC, and those with Bates numbers starting with the designation "GRU" are documents produced by GRU.

I. GENERAL BACKGROUND FACTS

4. The Facility began commercial operations in December 2013.

5. From the start of commercial operations in December 2013 up until August 7, 2015, GRU called on the Facility to run most of the time, except for periods when the Facility was in an outage.

6. On August 7, 2015, the Facility tripped offline (i.e., automatically shut down) due to a lightning strike. The Facility was available to return to service later that day, but GRU directed that GREC keep the Facility in reserve shutdown.

7. Reserve shutdown is the operating status where the Facility is available to generate and deliver energy but is not doing so due to dispatch instructions from GRU. When the Facility is in reserve shutdown, it is disconnected from the delivery point at the interconnection between the Facility and GRU's transmission lines.

8. Shortly after directing GREC to keep the Facility in reserve shutdown after the lighting strike, GRU informed GREC that, based on its forecast of energy prices, GRU would continue to keep the Facility in reserve shutdown because GRU could buy energy more cheaply from other sources -- principally gas- and coal-fired generators.

9. On August 24, 2015, GRU asked GREC to provide information on the expected start-up time for the Facility from shutdown status. By letter dated September 3, 2015, GREC responded. A true and correct copy of that letter is attached as Exhibit 1 (9/3/15 Fagan letter to Stanton).

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10. On September 8, 2015, GRU responded to GREC's September 3 letter through an email from John Stanton to Caroline Wasdin. A true and correct copy of that email is attached as Exhibit 2 (9/8/15 Stanton email to Wasdin).

11. On September 20, 2015, Ed Bielarski, the General Manager of GRU, sent me an email that stated, among other things, that "GRU considers the 35 hour operational time frame for GREC's return to service from its long-term cold standby pre-test status to meet Good Utility Practice and as such is a Contractual requirement." A true and correct copy of that email is attached as Exhibit 3 (9/20/15 Bielarski email to Morales).

II. FACTS REGARDING AVAILABLE ENERGY PAYMENTS DURING GREC'S RAMPING TIME

12. On six occasions since August 2015, GRU has ordered GREC to start-up from reserve shutdown. Immediately prior to the startup order, GREC was available and so had the contract right to receive Available Energy payments at its proven seasonal dependable capacity rate of 102.5 MW.

13. On each occasion, GRU has deemed GREC to have become instantaneously "unavailable" and with no contract right to receive Available Energy payments from the moment that GRU issued its startup order until GREC restarted the Facility and synchronized (connected) to GRU's electric grid. Further, once connected to the grid, GRU has deemed GREC eligible only for actual delivered energy and not for any additional Available Energy payments from the point of synchronization until the Facility reached 70 MW during its ramping up. GRU has stated its position in dispute letters that it has sent GREC. True and correct copies of these letters are attached to this declaration as follows:

Exhibit 4 (9/29/15 GRU dispute letter); Exhibit 5 (11/23/15 GRU dispute letter); Exhibit 6 (12/17/15 GRU dispute letter); Exhibit 7 (4/26/16 GRU dispute letter); Exhibit 8 (6/27/16 GRU dispute letter); and

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Exhibit 9 (10/27/16 GRU dispute letter).

14. During start-ups from reserve shutdown, the Facility must warm up the various systems and complex machinery and restart them in a sequence of activities before connecting to the grid and then ramping up to the level that GRU has designated. As with all biomass and coal facilities, when in reserve shutdown, GREC cannot physically reconnect to the grid or reach the Minimum Dispatch level instantly upon receipt of GRU's order to restart. The Facility's startup sequence is required to generate steam and safely and reliably start-up the systems and equipment.

15. The GREC biomass Facility has customary startup times that vary depending on the length of time that GRU has kept the Facility in reserve shutdown. GREC explained the restart times in the September 3 letter that I mentioned above, which is Exhibit 1.

16. GRU failed to make Available Energy payments totaling about \$1,015,264 across the following five instances between August 2015 and June 2016:

- a) \$222,737 in Available Energy charges in connection with its September 2015 startup order for an operational test per the GRU dispute letter that is Exhibit 5 (11/23/15 dispute letter);
- b) \$228,436 in Available Energy charges in connection with its November 2015 startup order per the GRU dispute letter that is Exhibit 6 (12/17/15 dispute letter);
- c) \$192,423 in Available Energy charges in connection with its March 2016 startup order for an operational test per the GRU dispute letter that is Exhibit 7 (4/26/16 dispute letter);
- d) \$208,261 in Available Energy charges in connection with its May 2016 startup order for an operational test per the GRU dispute letter that is Exhibit 8 (6/27/16 dispute letter); and
- e) \$163,406 in Available Energy charges in connection with its August 2015 maintenance outage, per the GRU dispute letter that is Exhibit 4 (9/29/15 dispute letter).

17. The facts regarding the first four events (subparagraphs a-d above) are similar in that, in each instance, the Facility was in reserve shutdown and available at 102.5 MW upon receiving GRU's startup order but GRU deemed GREC to suddenly become instantaneously unavailable upon its having sent that order. Each time, GRU did not pay any Available Energy

charges until the Facility restarted and connected to the grid. From the point of synchronizing to the grid, GRU paid only reduced Available Energy payments that were equal to the amount of actual energy delivered (i.e., less than 102.5 MW) until the Facility completed ramping up to its minimum load of 70 MW.

18. The August 15, 2015 event (subparagraph e. above) has somewhat different facts but a similar application from the perspective of GRU's deductions of Available Energy payments. For the August 2015 event, GRU did not pay GREC \$163,407 in Available Energy charges for the period before and after GREC performed a Maintenance Outage. Prior to commencing that outage, the Facility was in reserve shutdown. Because the Facility was already in reserve shutdown, it did not have to ramp-down prior to commencing the outage. Upon completion of the outage, GRU ordered the Facility to return directly to reserve shutdown, so the GREC Facility was immediately in reserve shutdown, as there was no ramping to get to that status. Despite the fact that the Facility did not ramp-down or ramp-up, GRU deemed the Facility to have done so and reduced GREC's Available Energy payment by \$163,407 for those hypothetical ramping periods.

19. Since GREC filed its Second Amendment to its Demand, GRU failed to pay GREC \$209,231 in Available Energy charges in connection with its September 2016 startup order. Exhibit 9 (10/27/16 GRU dispute letter).

III. FACTS REGARDING GRU'S \$529,439 "PAYMENT DECREASE" FOR MARCH 2016 UNDER SECTION 12.4.1 OF THE PPA

20. For all of March 2016, GREC was in reserve shutdown as ordered by GRU, except for a period from March 6 to March 10 when GRU ordered GREC to perform a Dependable Capacity test. During that test, GREC tripped during restart and had a Forced Outage of about 68 hours, fixed the issue (an expansion joint failure), successfully completed the test, and returned to reserve shutdown as ordered by GRU.

21. GRU did not pay any Available Energy charges for the 68-hour Forced Outage period. GREC does not challenge the nonpayment for the Forced Outage because, under the PPA, GREC does not get paid Available Energy for time when it is in an outage.

22. In the invoice for March 2016, GREC billed GRU under the PPA for a Shutdown Charge and for Available Energy. The Available Energy charge included elements both for Delivered Energy for the energy delivered when the Facility ran (including during the test), and for the balance of energy that was available up to the proven 102.5 MW Dependable Capacity.

23. As set forth in the table in Appendix III of the PPA, the PPA requires that GRU pay GREC for both Available Energy and Delivered Energy. As indicated in that Appendix III table called "Contract Prices," the Available Energy charge is made up of two elements: the "Non-Fuel Energy Charge" and the "Fixed O&M Charge." The Delivered Energy Charge is also made up of two other elements: the "Variable O&M Charge" and the "Fuel Charge."

24. Also as set forth in the table in Appendix III of the PPA, GRU must pay GREC a "Shutdown Charge," consisting of Startup Fuel Cost and Startup O&M Cost, each time GRU requests a Purchaser Shutdown. Although the Shutdown Charge is incurred when GRU gives the shutdown order, the amount to be paid is not invoiced until the Facility actually next restarts because the amount of the Shutdown Charge is calculated by the startup costs (Startup Fuel Cost and Startup O&M Cost) when GRU next orders the Facility to run. GREC adjusts the Shutdown Charge amounts after determining the actual costs incurred, and submits a true-up charge to GRU.

25. For the invoice that covered March 2016, GRU deducted three items: (1) the Shutdown Charge of \$64,381; (2) Available Energy charges during startup and ramping up of \$192,423; and (3) a payment decrease of \$529,439. These deductions are identified in GRU's dispute letter dated April 26, 2016 that I identified above and that is attached as Exhibit 7.

26. I address GRU's deduction for the Shutdown Charge in Section V below, and GRU's deduction for Available Energy in Section II above. In this section, I address the \$529,439 payment decrease, which GREC has challenged as improper.

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27. On March 6, 2016, GRU gave the following order, directing GREC to run a Dependable Capacity test:

At this time & date, 6:00 am on March 6, 2016, GRU exercises its rights under section 2.3(a) of Appendix IX of the Purchase Power Agreement between the parties and directs GREC to perform an operational capacity test.

In accordance with Section 2.4(b) of Appendix IX the test shall be 6 hours in duration.

GRU expects GREC to be at minimum load on or before 35 hours have elapsed since the issuing of this directive.

Once at minimum load, GREC is directed to ramp load to the currently declared Dependable Capacity (DC). Once at Dependable Capacity, GREC will request GRU to approve beginning the test. Upon GRU approval, the test will begin & GRU will advise GREC of the effective test start time.

At the conclusion of the test, whether successfully completed or aborted, GREC shall return the facility to its pre-test status.

This order is reflected in a March 6, 2016 email from GRU to GREC, a true and correct copy of which is attached as Exhibit 10 (3/6/16 De Leo email).

28. Since the Facility became operational three years ago, GREC has received numerous dispatch orders from GRU pursuant to Section 10, *Dispatch and Scheduling*. Unlike an order to run a Dependable Capacity test, a dispatch order under Section 10 contains an explicit operating level, or capacity (*e.g.*, 100 MW), at which GRU requests GREC to operate.

29. Upon receiving the March 6 order, GREC began its normal startup procedures and ramped to minimum load of 70 MW, as directed. The fact that GREC did so is reflected in an email dated May 5, 2016 from Eric Walters of GRU to Stuart Sohn of GREC that attaches a spreadsheet table titled "GREC Hourly Data - March 2016." A true and correct copy of that GRU email with its attached table is Exhibit 13 to this declaration. For convenience, I will refer to that table as the "March Table."

30. As reflected in the March Table, the breaker between GREC and GRU closed, connecting GREC to the grid at about 04:00 on March 7, after which GREC continued to ramp

up. GREC ramped up to 70 MW at 07:00 on March 7. Thereafter, GREC continued to ramp up towards 102.5 MW, but then tripped offline into a Forced Outage due to an expansion joint failure. GREC immediately reported that Forced Outage to GRU in an email from GREC's Plant Manger Russell Abel to GRU, a true and correct copy of which is attached as Exhibit 11 (3/7/16 Abel email to GRU). On March 9 at 1:59 p.m., GREC informed GRU that it had fixed the expansion joint and sent the following message:

We will be ready to begin start-up activities at 3 pm this afternoon. This will give us a sync time of 2 am Thursday, 3/10, at 70MW net by 5 am, and a capacity test start time of 9:00 am, 3/10. Please let us know if this meets with your approval.

31. This message was in an email that Abel sent to GRU on March 9, 2016, a true and correct copy of which is attached as Exhibit 12 (3/9/16 Abel email to GRU).

32. GRU responded with the following slightly different dispatch order that stated the following:

We have already set our schedule to the original test schedule as follows:

Sync @ 03:00 on March 10, 2016

70 mw Net by 06:00 EST and on AGC [Automated Generator Control]

102.5 mw NET by 10:00 EST for 6 hours of Winter Period Dependable Capacity Testing

Ramp down to 70 mw NET beginning at 16:00 EST and hold for 4 hours to burn out remaining fuel and go through a Full Soot Blowing Cycle

A true and correct copy of that March 9 email order from GRU is attached as Exhibit 12 (3/9/16 GRU/Nikles email to Abel).

33. Thereafter GREC synchronized to the grid at or about 03:00 on March 10, continued to ramp up and reached 70 MW at about 06:00 on March 10, continued to ramp up and reached 102.5 MW at about 10:00 EST, ran at full capacity slightly above 102.5 MW for six hours until 16:00 on March 10, ramped down to 70 MW beginning at 16:00, held there for four

hours to burn out remaining fuel and to perform a Full Soot Blowing Cycle, and shut down by returning to reserve shutdown at or about 22:00 on March 10. The timing of all of these events is reflected in GRU's March Table, which is Exhibit 13. For the rest of the month, GREC remained in reserve shutdown as ordered by GRU.

34. In calculating the "Payment Decrease" under Section 12.4.1 of the PPA, GRU claimed that GREC delivered 1,835 MWhs when GRU claims to have "expected" 2,400 MWhs based on the entries that GRU put into the "Expectations" column of its March Table. GRU also identified the payment decrease in its dispute letter that I identified above in Exhibit 7 (4/26/16 GRU dispute letter).

IV. FACTS REGARDING GRU'S RETROACTIVELY CLAWING BACK A PRIOR MONTH'S PAYMENT OF AN AVAILABLE ENERGY CHARGE

35. In its October 2015 Billing Statement, GREC billed GRU for the September Billing Period, including \$222,737 for Available Energy charges for the period when the Facility ramped up to perform the test ordered by GRU. GRU timely paid that amount without protest.

36. After GREC sent GRU the November 2015 billing statement for the October Billing Period, GRU retroactively deducted the previously-paid \$222,737 Available Energy amount, and did so from uncontested amounts under the November 2015 Billing Statement, giving the following reason:

Although GRU paid GREC on the prior invoice in the amount of \$222,736.62 of Available Energy Charges related to the September 19, 2015 Operational Capacity Test, GRU has identified this amount as an overcharge. GRU therefore disputes such amount and has subtracted \$222,736.62 from [GREC's November] invoice to account for such overcharge on the prior invoice.

GRU made this statement in its November 23, 2015 dispute letter, which I identified earlier as Exhibit 5 (11/23/15 GRU dispute letter).

37. A true and correct copy of an October 25, 2015 article that GRU's General Manager published in the Gainesville Sun newspaper is attached as Exhibit 14 (10/25/15 Bielarski article in Gainesville Sun) and includes the General Manager's statement that the PPA

"does not provide for withholding contested portions of previously paid amounts from currentbillings."

V. FACTS CONCERNING SHUTDOWN CHARGES UNDER SECTION 10.7 OF THE PPA

38. GREC alleges that GRU wrongly failed to pay Shutdown Charges to GREC associated with four Purchaser Shutdowns that GRU ordered in September and November 2015 and in March and May 2016. These disputes are listed in the following dispute letters that I have already identified as exhibits: Exhibit 6 (12/17/15 dispute letter), Exhibit 7 (4/26/16 dispute letter), Exhibit 8 (6/27/16 dispute letter), Exhibit 9 (10/27/16 dispute letter).

39. On each occasion, the Facility began in reserve shutdown status, was ordered to run by GRU, and was later ordered to return to its status of reserve shutdown. GRU did not always use the same language in ordering the Facility to shut down again. For example, GRU ordered GREC to return to its "pre-test status," or the like. Exhibit 10 is a true and correct copy of GRU's March 6, 2016 order. Exhibit 15 is a true and correct copy of GRU's May 25, 2016 order.

40. In each case the Facility's pre-test status was reserve shutdown, or, stated differently, one of complete shutdown of all generation.

41. As noted above, GREC adjusts the Shutdown Charge amounts after determining the actual expenses incurred during the next startup of the Facility, and submits a true-up charge to GRU. The final Shutdown Charges that GRU refused to pay are as follows:

Date of Purchaser Shutdown	Month of invoice for Shutdown Charges	Final Amount of Shutdown Charges
Sept. 2015	December 2015 (for November 2015 start- up)	\$66,003
Nov. 2015	April 2016 (for March 2016 start-up)	\$63,856
March 2016	June 2016 (for May 2016 start-up)	\$60,760
May 2016	July 2016 (for June 2016 start-up) October 2016 (for September 2016 start-up)	\$5,029
	**There are two Shutdown Charges associated with the May 2016 shutdown order because in June, GRU ordered GREC to abort the start-up shortly after it started.	\$69,794

42. GRU later conceded error in failing to pay for the November 2015 shutdown (reflected in the April invoice for March 2016) and paid that \$63,856 amount.

VI. GENERATION AVAILABILITY DATA SYSTEM (GADS) DOCUMENTS

43. Attached as Exhibit 16 are highlighted pages of GADS Rules, *Appendix F* - *Performance Indexes and Equations*. The full document can be found at <u>http://www.nerc.com/pa/RAPA/gads/DataReportingInstructions/Appendix_F%20-</u>%20Equations.pdf.

44. Attached as Exhibit 17 are highlighted pages of Section III of the GADS Data Reporting Instructions - January 2015. The full document can be found at http://www.nerc.com/files/Section_3_Event_Reporting.pdf.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on December 16, 2016.

/s/ Albert Morales



11201 NW 13th Street Gainesville, FL 32653 Tel. 386-310-8010 Fax 386-462-1565 www.gainesvillebiomass.com

September 3, 2015

Mr. John Stanton Assistant General Manager, Energy Supply Gainesville Regional Utilities 301 S.E. 4th Avenue Gainesville, FL 32614-7117

Subject: Cold Startup Time to Return to Service

Dear John:

On Monday, August 24, 2015 Eric Walters called Steve Marsh and requested that GREC provide guidance with respect to expected start-up time for the GREC facility (the "Facility") from cold standby status. We provide the estimates and information in this letter for your planning purposes only. Nothing in this letter is to be construed as binding upon GREC or deemed to modify the Power Purchase Agreement or the Operating Procedures in any way.

Estimated return to service time for the Facility from a cold standby status is a function of various items, including the length of time that the Facility has been in cold standby. Based on Good Utility Practice, including ongoing EPRI (Electric Power Research Institute) research and guidance, and the advice of water treatment providers and our boiler supplier, we have established that after 21 days in cold standby status more extensive layup and preservation procedures must be implemented which would lengthen the time required for a return to service. For example, for the period of 21 days or less, the boiler would remain full of treated water with the water chemistry properly maintained. Periods greater than 21 days in cold standby would require a long term layup procedure, which could include, for example, the boiler being drained with a nitrogen purge as well as draining the condenser hotwell and maintaining dry purge air on the STG.

We estimate that (a) approximately 20 hours from notice from GRU will be required for a return to service from a cold standby of 21 days or less, and (b) approximately 35 hours from notice from GRU will be required for a return to service from a cold standby of greater than 21 days. Please note these are reasonable estimates only and are subject to GRU's cooperation and adjustment based on operating experience. For example, these return to service estimates assume that required natural gas is supplied by GRU, that GRU has cooperated reasonably with GREC to allow GREC to properly manage its fuel supply, and that, when GRU places GREC on cold standby status, that GRU complies with Good Utility Practice, including by providing timely estimates for how long GREC will be in that status and as much notice as possible of an expected need to start up.



We have attached some typical startups that represent a normal cold start showing an approximately 20 hour period and a time line showing the activities of the 21 day or longer approximate 35 hour startup period.

Sincerely,

Leonard J. Fagan Vice President of Engineering GREC Project Manager

LJF/kh

cc: Eric Walter A. Morales R. Abel

GREC Start Up Time from Cold Standby Back Up and Time Line

The plant operator NAES has reviewed the two start up scenarios from cold standby, one being a start up of less than 21 days and the other being greater than or equal to 21 days with the summary as follows:

For a shutdown of less than 21 days, we have three examples of a straightforward startup from a cold state. One required 18 hours, and the other two required 20 hours each. Therefore, we would suggest that a good approximation for such a startup duration is 20 hours. That duration is from the initial boiler line-up for filling to unit load at 70 MW net output.

We have identified three startups that are in the range as follows:

- June 21, 2014 began around 09:06 and we were on AGC at 04:06 June 22. (~18 hrs)
- January 19, 2015 began at 21:13 and we were on AGC at 17:19 January 20. (~20 hrs)
- May 8, 2015 began at 12:30 and we were on AGC at 01:19 May 9th. (~20 hrs)

A shutdown equal to or greater than 21 days requires the boiler be laid up, or preserved in a dry state with nitrogen gas to prevent corrosion. This condition requires that certain components of the plant be drained that are not drained under the shorter shutdown scenario. In order to fill these components, and produce the additional demineralize water necessary to fill them, the duration of a startup process must be extended. An approximate schedule of such a startup follows, with hours shown preceding generation at 70 MW net output:

- -35 Start make-up water systems to fill Demin storage tank. Start M/U Water pumps to fill Condenser
- -31 Start Condensate pumps. Begin filling DA Feedwater tank.
- -23.5 Start-up Circ. Water and Closed Cooling water systems
- -23 Start filling Boiler
- -19 Start fans and begin furnace purge
- -18.5 First Start-up Burner in.
- -16 Shut drum vent
- -15 Shut vents and drains
- -10.5 Hogging ejector in, Vacuum breaker shut, Gland steam sys lined up
- -8.5 Fill Fuel bins
- -7 Begin solid fuel feed
- -5 Roll TG
- -3 Sync TG
- -2 Line up extractions
- -1 All extractions in
- 0 @ 70nMW AGC on

Please keep in mind that we haven't performed a startup when returning from a long-term layup scenario, so these durations and milestones are our best estimates. We will refine them with experience.

From:	Al Morales <amorales@emienergy.com></amorales@emienergy.com>	
Sent:	Wednesday, September 9, 2015 11:07 PM	
То:	Stanton, John W; Carolyn Wasdin	
Cc:	Len Fagan; Russell Abel; Walters, Eric A; Jim Gordon; Bielarski, Edward J	
Subject:	RE: Revised letter from Len Fagan re: GREC Cold Start up Time with attachment	

John,

I am responding on behalf of GREC to your email to Len Fagan below. Thank you for confirming that the Cold Startup Times to Return to Service set forth in GREC's correspondence of September 3, 2015 are reasonable and supportable. These estimates were provided for GRU's <u>operational</u> planning purposes for those situations where GREC is dispatched online after a cold standby. Your email, however, now indicates your intent to expand the use of these operational estimates for billing purposes, including, apparently, to calculate Available Energy after any "Outage." This is an apparent, and improper, effort to unilaterally amend the payment terms of the PPA. The PPA specifically defines several different types of outages in specific ways (e.g., Forced Outage, Planned Maintenance, Maintenance Outage) and discusses how each is to be handled. There is no such thing in the PPA as a general or universal "Outage." In fact that is not a defined term in the PPA. And, in any event, GREC rejects your attempt to utilize the good-faith startup times provided for your operational planning to reinterpret and amend the calculation of Available Energy to which GREC has a right under the different outages contemplated by the PPA. Please note that Len Fagan is not authorized to discuss amendments to or interpretations of the PPA or the Operating Procedures or commercial matters related thereto. All such commercial and legal matters must be channeled through me. There can be no amendment to the PPA absent compliance with the mutual written agreement requirement in Section 29.11 of the PPA. Please continue to coordinate with Len as to operational and terms only.

Thank you,

AI

Albert Morales Managing Director Energy Management, Inc. amorales@emienergy.com 603.767.1297

From: Stanton, John W [mailto:StantonJW@gru.com]
Sent: Tuesday, September 8, 2015 3:04 PM
To: Carolyn Wasdin <<u>Cwasdin@emienergy.com</u>>
Cc: Len Fagan <<u>lenfagan@emienergy.com</u>>; Al Morales <<u>AMorales@emienergy.com</u>>; Russell Abel
<<u>russell.abel@grecbiomass.com</u>>; Walters, Eric A <<u>WALTERSEA@gru.com</u>>
Subject: RE: Revised letter from Len Fagan re: GREC Cold Start up Time with attachment

GRU finds the Cold Startup Time(s) to Return to Service following Outage proposed in Len Fagan's correspondence of September 3, 2015 to be reasonable and supportable. GRU therefore agrees to use these times in the calculation of Available Energy during times when GREC is returning from Outage but is not being scheduled by GRU to deliver Energy.

I think this should be included in the next revision of the Operating Procedures. GRU believes that the correspondence between the Parties on this issue will be suffice until such time as the Procedures are update. However, if GREC wishes to update the Procedures at this time, GRU has no objection.

John Stanton Assistant General Manager; Energy Supply Gainesville Regional Utilities P.O. Box 147117, Station A137 301 S.E. 4th Avenue Gainesville, Florida 32614-7117 Bus. 352/393-1789 Cell 954/646-1639

From: Carolyn Wasdin [mailto:Cwasdin@emienergy.com]
Sent: Thursday, September 03, 2015 10:27 AM
To: Stanton, John W
Cc: Len Fagan; Al Morales; Russell Abel; Walters, Eric A
Subject: Revised letter from Len Fagan re: GREC Cold Start up Time with attachment

John:

Attached is a revised letter from Len regarding GREC's Cold Start Time (with attachment). The previous letter was still marked in "Draft" version. I apologize for the oversight.

Regards,

Carolyn Wasdin Operations Administrator Gainesville Renewable Energy Center 11201 NW 13th Street Gainesville, FL 32653 386.315.8017 386.462.1565 cwasdin@emienergy.com www.gainesvillebiomass.com

From:	Bielarski, Edward J <bielarskiej@gru.com></bielarskiej@gru.com>
Sent:	Sunday, September 20, 2015 5:46 AM
То:	'Al Morales' <amorales@amrenewables.com></amorales@amrenewables.com>
Cc;	Stanton, John W ; Jim Gordon ; Len Fagan - Emienergy Account ; Russell Abel ; Crawford, Margaret A ; Verschage, Jamie B ; Generationk1 ; Walters, Eric A ; Mcneill, Shayla L group (fydibohf23spdlt)/cn=recipients/cn=mcneillsl>
Subject:	RE: GREC Operational Capacity Test

GRU considers the 35 hour operational time frame for GREC's return to service from its long-term cold standby pre-test status to meet Good Utility Practice and as such is a Contractual requirement,

GRU's directive to return GREC to its pre-test status at the conclusion of the test is a directive to return to cold standby. It is not subject to GREC's interpretation that it could of or should have been on-line, if not for GRU's alleged improper actions and as a result GREC considers it's pre-test status to be on-line, GRU would strongly disagree with this or any interpretations of pre-test status other than cold standby status.

This reply is submitted with all rights expressly reserved.

Sent from my iPad

> On Sep 19, 2015, at 2:34 PM, Al Morales <amorales@amrenewables.com> wrote:

> We are in the process of starting the facility at GRU's direction. As GRU is aware, GREC recently provided an approximate 35-hour operational estimate to return online, subject to various factors, from the long-term cold standby we've been in. This duration is not a contractual requirement. Further, GREC is in cold standby due to GRU's improper order dispatching GREC offline during the Summer Period when GRU has the right to zero Purchaser Shutdowns. This Dependable Capacity test from cold standby results from GRU's improper dispatch instruction and comes at a time when GREC had the contractual right to be online and would have been online but for GRU's improper action. GREC reserves all rights with respect to GRU's dispatch instructions and the Dependable Capacity test as it is being applied here by GRU.

> >

> Albert Morales

> Chief Financial Officer

- > Gainesville Renewable Energy Center
- > amorales@amrenewables.com
- > 603 767 1297

>

- >----Original Message--
- > Sent: Saturday, September 19, 2015 9:35 AM

> To: Jim Gordon - emienergy account <jgordon@emienergy.com>; Len Fagan - emienergy account <lenfagan@emienergy.com>; Al Morales <amorales@amrenewables.com>; Russell Abel <Russell.Abel@greebioinass.com>

> Cc: Bielarski, Edward J < BielarskiEJ@gru.com>; Crawford, Margaret A <CRAWFORDMA@gru.com>; Verschage, Jamie B <VerschageJB@gru.com>; GenerationK1 <GenerationK1@gru.com>; Walters, Eric A <WALTERSEA@gru.com>; McNeill, Shayla L <McNeillSL@gru.com>

> Subject: GREC Operational Capacity Test

> Please be advised that at 9:00a this morning the following communication was delivered, verbally and by email, from GRU System Control to the GREC Control Room.

>

> At this time & date, 9:00a on September 19, 2015, GRU exercises its rights under section 2.3(a) of Appendix IX of the Purchase Power Agreement between the parties and directs GREC to perform an operational capacity test.

>

> In accordance with Section 2.4(a) of Appendix IX the test shall be 12 hours in duration.

> GRU expects GREC to be at minimum load on or before 35 hours have elapsed since the issuing of this directive

> Once at minimum load GREC is directed to ramp load to the currently declared Dependable Capacity (DC). Once at DC GREC will request GRU to approve beginning the test. Upon GRU approval, the test will begin & GRU will advise GREC of the effective test start time.

>

> At the conclusion of the test, whether successfully completed or aborted, GREC shall return the facility to its pre-test status.

>

> John Stanton

- > 301 SE 4th Avenue
- > Gainesville, Florida 32614-7117
- > 352/393-1789
- >954/646-1639 (cell)

> Assistant General Manager; Energy Supply Gainesville Regional Utilities P.O. Box 147117, Station 132



GAINESVILLE REGIONAL UTILITIES

General Manager

September 29, 2015

VIA FACSIMILE AND E-MAIL

Gainesville Renewable Energy Center, LLC Attention: Mr. James Gordon 75 Arlington St., 5th Floor Boston, MA 02116

Re: Dispute over Invoice number: GREC OPER 201508

Dear Mr. Gordon,

Pursuant to Sections 8.5 and 24.1 of the Power Purchase Agreement ("PPA") between the City of Gainesville d/b/a Gainesville Regional Utilities ("GRU") and Gainesville Renewable Energy Center, LLC ("GREC"), please accept this correspondence as notice of a dispute related to the above-referenced invoice. Upon reconciling GRU's data for August and comparing such data to the above-referenced invoice, GRU disputes the invoiced Available Energy and its associated charges for August 7, 2015 and for the period of the maintenance outage which occurred August 25–29, 2015.

GRU's verification of data for August 2015 illustrates total Available Energy of 66,700.39 MWh. In comparison, GREC invoiced GRU for an additional 2,011.52 MWh of Available Energy, which resulted in an additional \$159,211.81 in Available Energy and its associated charges that GRU believes are incorrect.

GRU believes that GREC under charged GRU for 52.99 MWh of Available Energy and its associated charges of \$4,194.16 for August 7, 2015. As a result, GRU has included this additional \$4,194.16 in our payment to GREC for the above-referenced invoice. Further, GRU notes that GREC invoiced GRU 2,064.51 MWh of Available Energy and its associated charges of \$163,405.97 in error for the period of the maintenance outage which occurred August 25–29, 2015. As a result, GRU has subtracted \$163,405.97 in our payment to GREC from the total invoiced amount. For your convenience, the calculation of those charges is enclosed.

Further, GRU also disputes the past due balance of \$63,037.43 and the associated interest charges of \$579.42. This matter was earlier addressed in GRU's correspondence to GREC, dated September 11, 2015.

Jim Gordon September 29, 2015 Page 2

Please note that pursuant to Section 8.5 of the PPA, GRU intends to pay the abovereferenced invoice total minus the disputed amounts, until the disputed charges have been resolved. We look forward to working with you to resolve the invoice dispute in a prudent and timely manner.

Sincerely, Edward J. Bielarski, Jr.

Enclosure

cc: Al Morales, Managing Director, Energy Management, Inc. Gainesville City Commission GRU Executive Team



General Manager

November 23, 2015

VIA FACSIMILE AND E-MAIL

Gainesville Renewable Energy Center, LLC Attention: Mr. James Gordon 20 Park Place, Suite 320 Boston, MA 02116

Re: Dispute Regarding Invoice Number: GREC OPER 201510

Dear Mr. Gordon,

Pursuant to Sections 8.5 and 24.1 of the Power Purchase Agreement ("PPA") between the City of Gainesville d/b/a Gainesville Regional Utilities ("GRU") and Gainesville Renewable Energy Center, LLC ("GREC"), please accept this correspondence as notice of a dispute related to the above-referenced invoice. Initially capitalized terms used but not defined in this letter have the meanings assigned in the PPA. Upon review of the above-referenced invoice, GRU disputes the following amounts: (1) invoice line item titled "Past due balance including interest through 11/30/15" in the amount of \$335,603.41; (2) the Available Energy Charges related to the September 19, 2015 test of Dependable Capacity ("Operational Capacity Test") in the amount of \$222,736.62; and (3) the Non Fuel Energy Charges related to GREC's use of the Euro to Dollar exchange rate in the amount of \$58,720.20.

First, GRU disputes the invoice line item titled "Past due balance including interest through 11/30/15" in the amount of \$335,603.41. This matter was first addressed in GRU's correspondence to GREC, dated September 11, 2015, and has also been addressed on subsequent correspondence.

Second, GRU disputes the Available Energy Charges of approximately \$222,736.62 related to the Operational Capacity Test performed on September 19, 2015, pursuant to Section 2.3(a) of Appendix IX of the PPA. Although GRU paid GREC on the prior invoice in the amount of \$222,736.62 of Available Energy Charges related to the September 19, 2015 Operational Capacity Test, GRU has identified this amount as an overcharge. GRU therefore disputes such amount and has subtracted \$222,736.62 from the above-referenced invoice to account for such overcharge on the prior invoice. Upon notice of the dispatch order to perform an Operational Capacity Test (provided to GREC on September 19, 2015, at approximately 0856 hours), GRU was overcharged the Available Energy Charges from the time the dispatch order was given (approximately 0856 hours on 9/19/2015) until the time the breaker was closed and GREC tied the Facility to the grid (approximately 0745 hours on 9/20/15). Between the time that GRU gave the notice of dispatch to perform an Operational Capacity Test and the time when GREC tied to the grid, the Facility failed to generate and deliver any MWh of Energy to the Delivery Point and, as a result, no "Available Energy" can be charged under the PPA for such period. As such, GREC overcharged GRU in the amount of \$222,736.62 of Available Energy Charges.

Third, GRU disputes the Non Fuel Energy Charges of \$58,720.20. This overcharge in the Non Fuel Energy Charges results from GREC's use of the Euro to Dollar exchange rate when calculating the Construction Cost Adjuster, rather than the contractually required Dollar to Euro



General Manager

exchange rate when calculating the Construction Cost Adjuster, which was first addressed in GRU's correspondence to GREC, dated October 13, 2015.

Please note that pursuant to Section 8.5 of the PPA, GRU intends to pay the above-referenced invoice total minus the disputed amounts described in detail above, for a total of \$13,304,027.58, until the disputed charges have been resolved. We look forward to working with you to resolve this invoice dispute in a prudent and timely manner.

Sincerely,

Justin M. Locke Chief Financial Officer, on behalf of the General Manager for Utilities

 xc: Len Fagan, VP Engineering & Construction, EMI Al Morales, Chief Financial Officer, EMI Stuart Sohn, Controller, EMI Gainesville City Commission GRU Executive Staff

GAINESVILLE REGIONAL UTILITIES



General Manager

December 17, 2015

VIA FACSIMILE AND E-MAIL

Gainesville Renewable Energy Center, LLC Attention: Mr. James Gordon 20 Park Place, Suite 320 Boston, MA 02116

Re: Dispute over Invoice number: GREC OPER 201511

Dear Mr. Gordon,

Pursuant to Sections 8.5 and 24.1 of the Power Purchase Agreement ("PPA") between the City of Gainesville d/b/a Gainesville Regional Utilities ("GRU") and Gainesville Renewable Energy Center, LLC ("GREC"), please accept this correspondence as notice of a dispute related to the above-referenced invoice. Upon review of the above-referenced invoice, GRU disputes the following amounts: (1) invoice line item titled "Past due balance including interest through 11/30/15" in the amount of \$615,090.29; (2) invoice line item titled "Shutdown charges" in the amount of \$66,763.75; (3) the Non Fuel Energy Charges related to GREC's use of the Euro to Dollar exchange rate in the amount of \$56,826.00; and (4) approximately \$228,436.16 in Available Energy Charges related to the November 3, 2015 start-up, which disputed amounts are described below in additional detail.

First, GRU disputes the invoice line item titled "Past due balance including interest through 11/30/15" in the amount of \$615,090.29. This matter was first addressed in GRU's correspondence to GREC, dated September 11, 2015, and has been addressed on subsequent monthly invoice correspondence.

Second, GRU disputes the invoice line item titled "Shutdown charges" in the amount of \$66,763.75 resulting from the operational test performed pursuant to Section 2.3(a) of Appendix IX of the PPA. Upon the conclusion of the operational test, GREC was instructed to return to GREC's pre-operational test condition. As such, at no time did GRU provide GREC with a dispatch order to "Shut-down".

Third, GRU disputes the Non Fuel Energy Charges of approximately \$56,826.00 of Available Energy for the above-referenced invoice. This overcharge in the Non-Fuel Energy Charges results from GREC's use of the Euro to Dollar exchange rate when calculating the Construction Cost Adjuster, rather than the contractually required Dollar to Euro exchange rate when calculating the Construction Cost Adjuster, which was first addressed in GRU's correspondence to GREC, dated October 13, 2015.

Fourth, GRU disputes the Available Energy Charges of approximately \$228,436.16 of Available Energy related to the November 3, 2015 start-up. Upon the dispatch order to start-up, GRU should not have been invoiced for Available Energy Charges from the time the dispatch order was given (approximately 1413 hours on 11/3/15) until the time the breaker closed and GREC tied to the grid (approximately 1629 hours on 11/4/15). Between the time that GRU gave the notice of dispatch to start-up and the time when GREC tied to the grid, the Facility failed to generate and deliver any MWh of Energy to the Delivery Point and, as a result, no "Available



GAINESVILLE REGIONAL UTILITIES

General Manager

Energy" can be charged under the PPA for such period. Following the breaker being closed at 1629 hours on November 4, 2015, the Available Energy should have been charged equal to Delivered Energy until minimum load of 70 MW (which occurred at 1948 hours on November 4, 2015) was achieved. At which point, Available Energy should be charged based on declared "Dependable Capacity' of 102.5 MW. As such, GREC overcharged GRU in the amount of \$228,436.16 of Available Energy Charges.

Please note that pursuant to Section 8.5 of the PPA, GRU intends to pay the above-referenced invoice total minus the disputed amounts described in detail above, for a total of \$6,103,814.42, until the disputed charges have been resolved. We look forward to working with you to resolve this invoice dispute in a prudent and timely manner.

Sincerely,

Edward J. Bietarski, Jr.

General Manager for Utilities

Len Fagan, VP Engineering & Construction, EMI XC: Al Morales, Chief Financial Officer, EMI Stuart Sohn, Controller, EMI Gainesville City Commission **GRU Executive Staff**



GAINESVILLE REGIONAL UTILITIES

General Manager

April 26, 2016

VIA FACSIMILE AND E-MAIL

Gainesville Renewable Energy Center, LLC Attention: Mr. James Gordon 20 Park Plaza, Suite 320 Boston, MA 02116

Re: Dispute Regarding Invoice Number: GREC OPER 201603

Dear Mr. Gordon,

Pursuant to Sections 8.5 and 24.1 of the Power Purchase Agreement ("PPA") between the City of Gainesville d/b/a Gainesville Regional Utilities ("GRU") and Gainesville Renewable Energy Center, LLC ("GREC"), please accept this correspondence as notice of a dispute regarding the above-referenced invoice. Upon review of the above-referenced invoice, GRU disputes the invoice line items titled "Products produced and delivered" in the amount of \$1,539,540.84, "Shutdown charges" in the amount of \$64,381.40, and "Past due balance including interest through 3/31/16" in the amount of \$753,296.80.

First, GRU disputes approximately \$192,423.15 of the invoiced Available Energy Charges. This dispute is based on the events occurring in connection with the test of Dependable Capacity that GREC was directed to perform pursuant to Section 2.3(a) of Appendix IX of the PPA. GRU issued the order for the test on March 6, 2016. GRU should not have been invoiced for any Available Energy Charges from the time the order was given (approximately 0600 hours on 3/6/2016) until the time the breaker closed and GREC tied to the grid (approximately 0255 hours on 3/7/2016). Between the time GRU gave the order to perform a test of Dependable Capacity and the time when GREC tied to the grid, GREC is not owed payment for any Available Energy because GREC did not generate and deliver any Energy to the Delivery Point. GRU therefore disputes approximately \$192,423.15 of the Available Energy Charges in the line item titled: "Products produced and delivered".

Additionally, pursuant to Section 12.4.1 of the PPA, for each instance where GREC fails to meet the operating level specified by GRU by more than five percent (5%) for a Billing Period, the Dependable Capacity for that Billing Period shall be decreased by ten percent (10%). Section 12.4.1 specifies that the integrated hourly net output (i.e., Delivered Energy) will be used to determine if the Facility was within five percent (5%) of the specified operating level for a Billing Period. The integrated hourly net output for the Billing Period covered by the above-referenced invoice shows that GREC failed to meet the operating level specified by GRU by more than 5% for such Billing Period. Accordingly, as required by Section 12.4.1, the Dependable Capacity for the above-identified Billing Period shall be decreased by 10%. GRU has calculated that reduction

and the resulting payment deduction is \$529,439.49. As such, GRU decreased the line item on the invoice titled: "Products produced and delivered" in the amount of \$529,439.49.

Second, GRU disputes the invoice line item titled "Shutdown charges" in the amount of \$64,381.40 resulting from the test of Dependable Capacity performed pursuant to Section 2.3(a) of Appendix IX of the PPA. Upon the conclusion of the test, GREC was instructed to return to GREC's pre-operational test condition. As such, at no time did GRU provide GREC with a dispatch order to "shutdown".

Third, GRU disputes the invoice line item titled "Past due balance including interest through 3/31/16" in the amount of \$753,296.40. This matter has been addressed on multiple occasions in prior monthly invoice correspondence.

Please note that pursuant to Section 8.5 of the PPA, GRU intends to pay the abovereferenced invoice total minus the disputed amounts, for a total of \$4,844,269.11. We look forward to working with you to resolve this invoice dispute in a prudent and timely manner.

Sincerely,

Edward & Bielarski

General Manager for Utilities

xc: Len Fagan, VP Engineering & Construction, EMI Al Morales, Chief Financial Officer, EMI Stuart Sohn, Controller, EMI Gainesville City Commission GRU Executive Staff



GAINESVILLE REGIONAL UTILITIES

General Manager

June 27, 2016

VIA FACSIMILE AND E-MAIL

Gainesville Renewable Energy Center, LLC Attention: Mr. James Gordon 20 Park Plaza, Suite 320 Boston, MA 02116

Re: Dispute Regarding Invoice Number: GREC OPER 201605

Dear Mr. Gordon,

Pursuant to Sections 8.5 and 24.1 of the Power Purchase Agreement ("PPA") between the City of Gainesville d/b/a Gainesville Regional Utilities ("GRU") and Gainesville Renewable Energy Center, LLC ("GREC"), please accept this correspondence as notice of a dispute regarding the above-referenced invoice. Upon review of the above-referenced invoice, GRU disputes the invoice line items titled "Products produced and delivered" in the amount of \$208,261.06, "Shutdown charges" in the amount of \$62,680.22, and "Past due balance including interest through 5/31/16" in the amount of \$5,646,546.86. The reasons for the dispute are explained below. In accordance with Section 8.5 of the PPA, GRU is paying the uncontested amounts at this time, and withholding the disputed amounts.

First, GRU disputes approximately \$208,261.06 of the invoiced Available Energy Charges. This dispute is based on the events occurring in connection with the test of Dependable Capacity that GREC was directed to perform pursuant to Section 2.3(a) of Appendix IX of the PPA. GRU issued the order for the test on May 25, 2016. GRU should not have been invoiced for any Available Energy Charges from the time the order was given (approximately 0600 hours on 5/25/2016) until the time the breaker closed and GREC tied to the grid (approximately 0450 hours on 5/26/2016). Between the time GRU gave the order to perform a test of Dependable Capacity and the time when GREC tied to the grid, GREC is not owed payment for any Available Energy because GREC did not generate and deliver any Energy to the Delivery Point. GRU therefore disputes approximately \$208,261.06 of the Available Energy Charges in the line item titled: "Products produced and delivered".

Second, GRU disputes the invoice line item titled "Shutdown charges" in the amount of \$62,680.22 resulting from the test of Dependable Capacity performed pursuant to Section 2.3(a) of Appendix IX of the PPA. Upon the conclusion of the test, GREC was instructed to return to GREC's pre-operational test condition. As such, at no time did GRU provide GREC with a dispatch order to "shutdown".

Third, GRU disputes the invoice line item titled "'Past due balance including interest through 5/31/16" in the amount of \$5,646,546.86. These amounts are from invoices that were issued for previous Billing Periods (i.e., Billing Periods before May 2016). GRU disputed those amounts in

Jim Gordon June 27, 2016 Page 2

its correspondence submitted with timely payment of the uncontested amounts, and explained the reasons for the disputes in the prior correspondence, copies of which are attached hereto.

Please note that pursuant to Section 8.5 of the PPA, GRU intends to pay the above-referenced invoice total minus the disputed amounts, for a total of \$5,903,192.73. We look forward to working with you to resolve this invoice dispute in a prudent and timely manner.

Sincerely,

Edward J. Bielarski, Jr.

General Manager for Utilities

xc: Len Fagan, VP Engineering & Construction, EMI Al Morales, Chief Financial Officer, EMI Stuart Sohn, Controller, EMI Gainesville City Commission GRU Executive Staff



General Manager



October 27, 2016

VIA FACSIMILE AND E-MAIL

Gainesville Renewable Energy Center, LLC Attention: Mr. James Gordon 20 Park Plaza, Suite 320 Boston, MA 02116

Re: Dispute Regarding Invoice Number: GREC OPER 201609

Dear Mr. Gordon,

Pursuant to Sections 8.5 and 24.1 of the Power Purchase Agreement ("PPA") between the City of Gainesville d/b/a Gainesville Regional Utilities ("GRU") and Gainesville Renewable Energy Center, LLC ("GREC"), please accept this correspondence as notice of a dispute regarding the above-referenced invoice. Upon review of the above-referenced invoice, GRU disputes invoice line item titled "Past due balance including interest through 9/30/16" in the amount of \$5,960,979.04, invoice line item titled "Shutdown charges for the Period of 9/1/2016 thru 9/30/16" in the amount of \$69,138.03, and the invoice line item titled "Products produced and delivered" in the amount of \$770,035.51. The reasons for the disputes are explained below. In accordance with Section 8.5 of the PPA, GRU is paying the uncontested amount at this time, and withholding the disputed amount.

First, GRU disputes approximately \$209,231.05 of the invoiced Available Energy Charges. This dispute is based on the events occurring in connection with the dispatch request given on September 28, 2016. GRU should not have been invoiced for any Available Energy Charges from the time the unit start up began (approximately 01:29 hours on September 29, 2016) until the time the breaker closed and GREC tied to the grid (approximately 03:16 hours on September 30, 2016). Between the time GRU gave the dispatch request and the time when GREC tied to the grid, GREC is not owed payment for any Available Energy because GREC did not generate and deliver any Energy to the Delivery Point. As such, GRU decreased the line item titled: "Products produced and delivered" in the amount of \$209,231.05.

Second, Third, pursuant to Section 12.4.1 of the PPA, for each instance where GREC fails to meet the operating level specified by GRU by more than five percent (5%) for a Billing Period, the Dependable Capacity for that Billing Period shall be decreased by ten percent (10%). Section 12.4.1 specifies that the integrated hourly net output (i.e., Delivered Energy) will be used to determine if the Facility was within five percent (5%) of the specified operating level for a Billing Period. The integrated hourly net output for the Billing Period covered by the above-referenced invoice shows that GREC failed to meet the operating level specified by GRU by more than 5% for such Billing Period. Accordingly, as required by Section 12.4.1, the Dependable Capacity for the above-identified Billing Period shall be decreased by 10%. GRU has calculated that reduction and the resulting payment deduction is \$560,804.46. As such,

James Gordon October 27, 2016 Page 2

GRU decreased the line item on the invoice titled: "Products produced and delivered" in the amount of \$560,804.46.

Third, GRU disputes the invoice line item titled "Shutdown charges" in the amount of \$69,138.03 resulting from the test of Dependable Capacity in May 2016 performed pursuant to Section 2.3(a) of Appendix IX of the PPA. Upon the conclusion of the test, GREC was instructed to return to GREC's pre-operational test condition. As such, at no time did GRU provide GREC with a dispatch order to "shutdown".

Last, GRU disputes the invoice line item titled "Past due balance including interest through 9/30/16" in the amount of \$5,960,979.04. These amounts are from invoices that were issued for previous Billing Periods (i.e., Billing Periods before September 2016). GRU disputed those amounts in its correspondence submitted with timely payment of the uncontested amounts, and explained the reasons for the disputes in the prior correspondence.

Please note that pursuant to Section 8.5 of the PPA, GRU intends to pay the above-referenced invoice total minus the disputed amounts, for a total of \$5,110,539.60. We look forward to working with you to resolve this invoice dispute in a prudent and timely manner.

Sincerely,

Telarski Nr

Edward J Bretarski, yr. General Manager for Utilities

xc: Len Fagan, VP Engineering & Construction, EMI Al Morales, Chief Financial Officer, EMI Stuart Sohn, Controller, EMI Gainesville City Commission GRU Executive Staff

From:	De Leo, Dino S <deleods@gru.com></deleods@gru.com>		
Sent:	Sunday, March 6, 2016 5:14 AM		
То:	Jim Gordon <jgordon@emienergy.com>; Al Morales <amorales@emienergy.com>; Len Fagan - Emienergy Account <lenfagan@emienergy.com>; Russell Abel <russell.abel@grecbiomass.com></russell.abel@grecbiomass.com></lenfagan@emienergy.com></amorales@emienergy.com></jgordon@emienergy.com>		
Cc:	Bielarski, Edward J (fydibohf23spdlt)/cn=recipients/cn=bielarskiej>; Brown, Thomas R (fydibohf23spdlt)/cn=recipients/cn=browntr>; Crawford, Margaret A ; Mcneill, Shayla L (fydibohf23spdlt)/cn=recipients/cn=mcneillsl>; Walters, Eric A ; Spencer, John H ; Generationk1 		
Subject:	GREC Operational Capacity Test		

Please be advised that at 6:00 am this morning the following communication was delivered, verbally and by email, from GRU System Control to the GREC Control Room

At this time & date, 6:00 am on March 6, 2016, GRU exercises its rights under section 2.3(a) of Appendix IX of the Purchase Power Agreement between the parties and directs GREC to perform an operational capacity test.

In accordance with Section 2.4(b) of Appendix IX the test shall be 6 hours in duration.

GRU expects GREC to be at minimum load on or before 35 hours have elapsed since the issuing of this directive.

Once at minimum load, GREC is directed to ramp load to the currently declared Dependable Capacity (DC). Once at Dependable Capacity, GREC will request GRU to approve beginning the test. Upon GRU approval, the test will begin & GRU will advise GREC of the effective test start time.

At the conclusion of the test, whether successfully completed or aborted, GREC shall return the facility to its pre-test status.

Respectfully/

Dino DeLeo Acting Energy Supply Officer Gainesville Regional Utility P.O. Box 147117, Station 132 301 SE 4th Avenue Gainesville, FL 32614-7117 Office: (352) 393-1714 Cell: (352) 246-6689 FAX: (352) 334-2672

email:deleods@gru.com

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From: Sent: To:	Russell Abel <russell.abel@grecbiomass.com> Monday, March 7, 2016 8:50 AM De Leo, Dino S ; Jim Gordon <jgordon@emienergy.com>; Al Morales <amorales@emienergy.com>; Len Fagan - Emienergy Account <lenfagan@emienergy.com></lenfagan@emienergy.com></amorales@emienergy.com></jgordon@emienergy.com></russell.abel@grecbiomass.com>
Cc: Subject: Attach:	Bielarski, Edward J (fydibohf23spdlt)/cn=recipients/cn=bielarskiej>; Brown, Thomas R (fydibohf23spdlt)/cn=recipients/cn=browntr>; Crawford, Margaret A ; Mcneill, Shayla L (fydibohf23spdlt)/cn=recipients/cn=mcneillsl>; Walters, Eric A ; Spencer, John H ; Generationk1 RE: GREC Operational Capacity Test image001.jpg; image003.jpg

A primary air fan duct expansion joint ruptured, and we will not be able to start the test at 10 am as planned. We will let you know when we will be able to test as soon as we have an estimate.

Russell H. Abel, P.E. | Plant Manager NAES Corporation Gainesville Renewable Energy Center NAES Corporation 11201 NW 13th St Gainesville, FL 32653 Phone 386.315.8014 Email <u>russell.abel@grecbiomass.com</u> <u>www.naes.com</u> <u>www.gainesvillebiomass.com</u> <u>www.gainesvillebiomass.com</u> <u>www.gainesvillebiomass.com</u> <u>www.gainesvillebiomass.com</u> <u>From:</u> De Leo, Dino S [mailto:DeLeoD

From: De Leo, Dino S [mailto:DeLeoDS@gru.com] Sent: Sunday, March 06, 2016 6:14 AM

To: 'Jim Gordon' <jgordon@emienergy.com>; Al Morales <AMorales@emienergy.com>; Len Fagan
 <lenfagan@emienergy.com>; Russell Abel <Russell.Abel@grecbiomass.com>
 Cc: Bielarski, Edward J <BielarskiEJ@gru.com>; Brown, Thomas R <BrownTR@gru.com>; Crawford, Margaret A
 <CRAWFORDMA@gru.com>; McNeill, Shayla L <McNeillSL@gru.com>; Walters, Eric A <WALTERSEA@gru.com>;
 Spencer, John H <SpencerJH@gru.com>; GenerationK1 <GenerationK1@gru.com>
 Subject: GREC Operational Capacity Test

Please be advised that at 6:00 am this morning the following communication was delivered, verbally and by email, from GRU System Control to the GREC Control Room

GRU expects GREC to be at minimum load on or before 35 hours have elapsed since the issuing of this directive.

At this time & date, 6:00 am on March 6, 2016, GRU exercises its rights under section 2.3(a) of Appendix IX of the Purchase Power Agreement between the parties and directs GREC to perform an operational capacity test.

In accordance with Section 2.4(b) of Appendix IX the test shall be 6 hours in duration.

Once at minimum load, GREC is directed to ramp load to the currently declared Dependable Capacity (DC). Once at Dependable Capacity, GREC will request GRU to approve beginning the test. Upon GRU approval, the test will begin & GRU will advise GREC of the effective test start time.

At the conclusion of the test, whether successfully completed or aborted, GREC shall return the facility to its pre-test status.

Respectfully/

Dino DeLeo Acting Energy Supply Officer Gainesville Regional Utility P.O. Box 147117, Station 132 301 SE 4th Avenue Gainesville, FL 32614-7117 Office: (352) 393-1714 Cell: (352) 246-6689 FAX: (352) 334-2672

email:deleods@gru.com

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From:	Generationk1 < GenerationK1@gru.com>		
Sent:	Wednesday, March 9, 2016 2:18 PM		
То:	Russell Abel <russell.abel@grecbiomass.com>; De Leo, Dino S </russell.abel@grecbiomass.com>		
Cc:	Steven Marsh <steven.marsh@grecbiomass.com>; Len Fagan - Emienergy Account <lenfagan@emienergy.com>; Walters, Eric A accounts/cn=waltersea>; Generationk1 accounts/cn=generation1>; Spencer, John H ; Nikles, Laura D (fydibohf23spdlt)/cn=recipients/cn=niklesld></lenfagan@emienergy.com></steven.marsh@grecbiomass.com>		
Subject:	RE: GREC capacity test		
Attach:	image001.jpg; image003.jpg		

Mr. Abel,

We have already set our schedule to the original test schedule as follows:

Sync @ 03:00 EST on March 10, 2016 70 mw Net by 06:00 EST and on AGC 102.5 mw Net by 10:00 EST for 6 hours of Winter Period Dependable Capacity Testing Ramp down to 70 mw Net beginning at 16:00 EST and hold for 4 hours to burn out remaining fuel and go through a Full Soot Blowing Cycle

We will need to adhere to the original schedule as provisions have been made to accept GREC during those hours.

If you have any questions please feel free to contact me.

Laura D. Nikles, PSC II Gainesville Regional Utilities – Energy Supply Phone 352-393-6421

From: Russell.Abel@grecbiomass.com [mailto:Russell.Abel@grecbiomass.com]
Sent: Wednesday, March 09, 2016 1:59 PM
To: De Leo, Dino S
Cc: Steven.Marsh@grecbiomass.com; Len Fagan (lenfagan@emienergy.com); GenerationK1; Walters, Eric A
Subject: FW: GREC capacity test
Importance: High

We will be ready to begin start-up activities at 3 pm this afternoon. This will give us a sync time of 2 am Thursday, 3/10, at 70 MW net by 5 am, and a capacity test start time of 9:00 am, 3/10. Please let us know if this meets with your approval. Regards, Russell Abel

Russell H. Abel, P.E. | Plant Manager NAES Corporation Gainesville Renewable Energy Center NAES Corporation 11201 NW 13th St Gainesville, FL 32653

Phone 386.315.8014

Email russell.abel@grecbiomass.com

www.naes.com

www.gainesvillebiomass.com



From:	Walters, Eric A	
To:	Stuart Sohn (ssohn@emienergy.com)	
Cc:	Al Morales (AMorales@emienergy.com) (AMorales@emienergy.com); De Leo. Dino S; McNeill, Shayla L	
Subject:	Backup for Invoice GREC Oper 201603	
Date:	Thursday, May 05, 2016 9:06:31 AM	
Attachments:	Disputed Available Energy Calculation March 2016 Detail.pdf	
	Disputed Available Energy Calculation March 2016 Detail.xlsx	

Stuart,

Please see the attached. Thanks.

Eric Walters Director of Business, Fuels, and Power Operations Gainesville Regional Utilities Office: 352-393-1730 Mobile: 352-262-2232 waltersea@gru.com

Sec-U-rity - You are at the center.

From: Stuart Sohn [mailto:ssohn@emienergy.com]
Sent: Monday, May 2, 2016 11:24 AM
To: Walters, Eric A <<u>WALTERSEA@gru.com</u>>
Cc: Al Morales <<u>AMorales@emienergy.com</u>>; De Leo, Dino S <<u>DeLeoDS@gru.com</u>>; McNeill, Shayla
L <<u>McNeillSL@gru.com</u>>
Subject: RE: Backup for Invoice GREC Oper 201603

Eric,

Can you provide an excel spreadsheet that supports the March Delivered Energy Summary. In particular, the avg. hourly output of 103.06 MW-hrs on 3/10, the average hourly output (March) of 7.41 MW-hrs and the total expected output (@ 100%DC) of 2400 MW-hrs. Thank you.

Stuart

From: Walters, Eric A [mailto:WALTERSEA@gru.com]
Sent: Friday, April 29, 2016 3:55 PM
To: Stuart Sohn <<u>ssohn@emienergy.com</u>>
Cc: Al Morales <<u>AMorales@emienergy.com</u>>; De Leo, Dino S <<u>DeLeoDS@gru.com</u>>; McNeill, Shayla
L <<u>McNeillSL@gru.com</u>>
Subject: RE: Backup for Invoice GREC Oper 201603

Stuart,

Please see the attached. Thanks.

Eric Walters Director of Business, Fuels, and Power Operations Gainesville Regional Utilities Office: 352-393-1730 Mobile: 352-262-2232 waltersea@gru.com

Sec-U-rity - You are at the center.

From: Stuart Sohn [mailto:ssohn@emienergy.com] Sent: Friday, April 29, 2016 12:00 PM To: Walters, Eric A Cc: Al Morales Subject: RE: Backup for Invoice GREC Oper 201603

Eric,

Please let me know when I can expect to receive backup per previous request. Thank you.

Stuart

From: Walters, Eric A [mailto:WALTERSEA@gru.com]
Sent: Thursday, April 28, 2016 10:37 AM
To: Stuart Sohn <ssohn@emienergy.com>
Cc: Al Morales <AMorales@emienergy.com>
Subject: RE: Backup for Invoice GREC Oper 201603

Stuart,

I should have something to you by tomorrow morning. Thanks.

Eric Walters Director of Business, Fuels, and Power Operations Gainesville Regional Utilities Office: 352-393-1730 Mobile: 352-262-2232 waltersea@gru.com

Sec-UR-rity - You are at the center.

From: Stuart Sohn [mailto:ssohn@emienergy.com] Sent: Thursday, April 28, 2016 10:27 AM To: Walters, Eric A Cc: Al Morales Subject: Backup for Invoice GREC Oper 201603 Eric,

I am following up on my request yesterday for you to provide backup to support deductions made to this month's invoice, specifically \$192,423.15 and \$529,439.49 . Thank you.

Stuart

GREC	Hourly	Data	- March	2016

	GREC MWn-h	GREC MWn-h
Date/Time*	(Delivered)	(Expected)
3/6/2016 1:0		
3/6/2016 2:0		
3/6/2016 3:0		
3/6/2016 4:0		
3/6/2016 5:0		
3/6/2016 6:0		
3/6/2016 7:0		
3/6/2016 8:0		
3/6/2016 9:0		
3/6/2016 10:0		
3/6/2016 11:0		
3/6/2016 12:0		
3/6/2016 13:0		
3/6/2010 13.		
3/6/2016 14:		
3/6/2016 15:		
3/6/2016 17:		
3/6/2016 18: 3/6/2016 19:		
3/6/2016 19:		
3/6/2016 20:		
3/6/2016 21:		
3/6/2016 22:		
3/7/2016 23.		
3/7/2016 0.		
3/7/2016 1:		
3/7/2010 2:		
3/7/2016 4:		
3/7/2016 5:		
3/7/2016 6:		
3/7/2016 7:		
3/7/2016 7: 3/7/2016 8:		
3/7/2016 9:		
3/7/2016 10: 3/7/2016 11:		
3/7/2016 12:		·
3/7/2016 13:		
3/7/2016 14:		
3/7/2016 15:		
3/7/2016 16:		· [·
3/7/2016 17:		
3/7/2016 18:		
3/7/2016 19:		
3/7/2016 20:		
3/7/2016 21:		
3/7/2016 22:		
3/7/2016 23:		
3/8/2016 0:		
3/8/2016 1:		0
3/8/2016 2:	00 0	

3/8/2016 3:00	0
3/8/2016 4:00	0
3/8/2016 5:00	0
3/8/2016 6:00	0
3/8/2016 7:00	0
3/8/2016 8:00	0
3/8/2016 9:00	0
3/8/2016 10:00	0
3/8/2016 11:00	0
3/8/2016 12:00	0
3/8/2016 13:00	0
3/8/2016 14:00	0
3/8/2016 15:00	0
3/8/2016 16:00	0
3/8/2016 17:00	0
3/8/2016 18:00	0
3/8/2016 19:00	0
3/8/2016 20:00	0
3/8/2016 21:00	0
3/8/2016 22:00	0
3/8/2016 23:00	0
3/9/2016 0:00	0
3/9/2016 1:00	0
3/9/2016 2:00	0
3/9/2016 3:00	0
3/9/2016 4:00	0
3/9/2016 5:00	0
3/9/2016 6:00	0
3/9/2016 7:00	0
3/9/2016 8:00	0
3/9/2016 9:00	0
3/9/2016 10:00	0
3/9/2016 11:00	0
3/9/2016 12:00	0
3/9/2016 13:00	0
3/9/2016 14:00	0

	3/9/2016 15:00	O	
	3/9/2016 16:00	0	
	3/9/2016 17:00	0	
	3/9/2016 18:00	0	
	3/9/2016 19:00	0	
	3/9/2016 20:00	0	
	3/9/2016 21:00	0	
	3/9/2016 22:00	0	
	3/9/2016 23:00	0	
	3/10/2016 0:00	0	
	3/10/2016 1:00	0	
	3/10/2016 2:00	0	
	3/10/2016 3:00	0	
8	3/10/2016 4:00	12.06849973	102.5
9	3/10/2016 5:00	29.91136041	102.5
10	3/10/2016 6:00	57.73066544	102.5
11	3/10/2016 7:00	74.96991492	102.5
12	3/10/2016 8:00	85.20713685	102.5
13	3/10/2016 9:00	94.58252545	102.5
14	3/10/2016 10:00	102.9363308	102.5
15	3/10/2016 11:00	103.1465535	102.5
16	3/10/2016 12:00	103.1218863	102.5
17	3/10/2016 13:00	103.0690808	102.5
18	3/10/2016 14:00	103.0478863	102.5
19	3/10/2016 15:00	103.0855533	102.5
20	3/10/2016 16:00	103.0432475	102.5
21	3/10/2016 17:00	89.26558115	70
22	3/10/2016 18:00	70.34530396	70
23	3/10/2016 19:00	70.33385966	70
24	3/10/2016 20:00	70.35127612	70
25	3/10/2016 21:00	41.97997122	70
	3/10/2016 22:00	0	
	3/10/2016 23:00	0	
	3/11/2016 0:00	0	

Avg. Hourly Output (3/7/16)	59.59 MW-hrs
Avg. Hourly Output 3/10/16)	103.06 MW-hrs
Average Hourly Output (March)	73.41 MW-hrs
Total Output (3/10/16)	1418.20 MW-hrs
Total Output (3/7/16)	417.16 MW-hrs
Total Output (3/7-10/16)	1835.35 MW-hrs
Expected Hourly Output (March)	2400.00 MW-hrs
Delivered Hourly Output (March)	1835.35 MW-hrs
Percentage Delivered of Expected	76.5% MW-hrs



Edward Bielarski Jr.: Questions and answers about GRU

Sunday Posted Oct 25, 2015 at 12:01 AM

When I joined the team at Gainesville Regional Utilities, I knew that there were many challenges, the most evident and perhaps the most significant being electric rate relief.

By Edward Bielarski Jr.Special to The Sun

When I joined the team at Gainesville Regional Utilities, I knew that there were many challenges, the most evident and perhaps the most significant being electric rate relief.

Economic forecasting and rate making are among the most complex and deliberative tasks we undertake as a utility, and our excellent financial strength is direct evidence of our ability in this area. Since June we have taken several steps to mitigate the factors contributing to our high electric rates, including a comprehensive review of our dealings with Gainesville Renewable Energy Center (GREC).

You may have heard about some of these measures in local media, or from your friends, coworkers and neighbors. To be clear, without the over-market costs of the GREC contract, GRU's electric rates would be at or near the average for all municipal utilities within Florida.

We've heard your questions, especially regarding the amounts of money being discussed. Here are the answers to some of the questions I've been asked recently:

If GRU is saving money by keeping the biomass plant offline, why don't they return that money to customers?

Through Oct. 15, the savings resulting from keeping GREC offline are approximately \$3 million. Additionally, since June we have disputed and withheld approximately \$300,000 in available energy payments from GREC. While we are confident in these actions, GREC has challenged them under the contract and may seek legal action regarding these contested sums. Under these circumstances, I believe it would be premature to provide refunds to customers at this time.

What about the reported \$900,000 over billing by GREC?

In order to recover this amount, GRU has formally demanded repayment from GREC under the contract's dispute resolution process. Failing a complete and timely refund, GRU will submit a claim to arbitration. Until such time as an arbitrator rules in our favor, that money is considered a contested sum.

Why doesn't GRU just deduct the \$900,000 from GREC's current billings?

Unfortunately, the contract doesn't provide for withholding contested portions of previously paid amounts from current billings. However, GRU has and will continue to withhold approximately \$50,000 to \$60,000 in contested amounts related to the construction cost adjustor (the incorrect implementation of which we believe led to the \$900,000 over billing) from the bill we get each month from GREC.

Why can't GRU just refund electric customers now based on these measures?

Rate making needs to take into account the full slate of costs, not simply GREC's expenses. We anticipate that these items will be fully vetted in next year's rate making and setting process. At that point, we will balance all of our expenses to establish revenue requirements and rates.

GRU's fuel adjustment costs related to GREC are about \$95 million, but GRU's budget shows \$160 million in electric fuel revenue. Does this mean GRU is making \$65 million on the backs of customers? All of GRU's costs for power from GREC and all fuel costs for electricity pass through the budget as electric fuel revenue. In addition to GREC's costs, electric fuel revenue includes the cost of natural gas and coal to fire our plants, as well as non-GREC purchased power. GRU does not make money on the GREC contract costs.

GRU anticipates the receipt of over \$10 million from the Crystal River 3 nuclear plant settlement. When will customers see savings from that money?

In developing GRU's budget for the current fiscal year, we anticipated the receipt of these funds and reduced rates accordingly, starting Oct. 1, 2015. If not for the inclusion of these funds, electric rates would have risen.

What about governance? Independent board, dependent board, advisory board — as general manager, what do you think is the solution?

As a charter officer of the city of Gainesville, I have a fiduciary obligation to protect the rights of the citizens and the customers of GRU. No matter which governance structure the commission or voters select, I will lead the utility in a prudent fashion, striving for affordable and reliable power, water, wastewater, gas and telecommunications service.

The remaining unexplored element of the governance debate is the potential cost to facilitate a change in governance. GRU's debt is structured through lengthy bond indentures, all of which will have to be researched to determine if a new governance structure, which may include a new legal entity, will require new financing. If so, GRU could face millions of dollars in costs, which ultimately would be borne by customers.

Let's learn our lessons from the failings of the biomass contract and fully vet the costs of entering into these groundbreaking transactions. We must understand the overall costs of each proposal — whether the entity created under Rep. Keith Perry's legislation or another alternative — before making a final decision.

- Edward Bielarski Jr. is general manager of Gainesville Regional Utilities.

From:	De Leo, Dino S <deleods@gru.com></deleods@gru.com>		
Sent:	Wednesday, May 25, 2016 6:19 AM		
То:	Jim Gordon <jgordon@emienergy.com>; Al Morales <amorales@emienergy.com>; Len Fagan - Emienergy Account <lenfagan@emienergy.com>; Russell Abel <russell.abel@grecbiomass.com>; Steven Marsh <steven.marsh@grecbiomass.com></steven.marsh@grecbiomass.com></russell.abel@grecbiomass.com></lenfagan@emienergy.com></amorales@emienergy.com></jgordon@emienergy.com>		
Cc:	Bielarski, Edward J (fydibohf23spdlt)/cn=recipients/cn=bielarskiej>; Brown, Thomas R (fydibohf23spdlt)/cn=recipients/cn=browntr>; Crawford, Margaret A ; Mcneill, Shayla L (fydibohf23spdlt)/cn=recipients/cn=mcneillsl>; Walters, Eric A ; Spencer, John H ; Generationk1 		
Subject:	GREC Operational Capacity Test		

Please be advised that at 6:00 am this morning the following communication was delivered, verbally and by email, from GRU System Control to the GREC Control Room

At this time & date, 6:00 am on May 25, 2016, GRU exercises its rights under section 2.3(b) of Appendix IX of the Purchase Power Agreement between the parties and directs GREC to perform an operational capacity test.

In accordance with Section 2.4(b) of Appendix IX the test shall be 6 hours in duration.

GRU expects GREC to be at minimum load on or before 35 hours have elapsed since the issuing of this directive.

Once at minimum load, GREC is directed to ramp load to the currently declared Dependable Capacity (DC). Once at Dependable Capacity, GREC will request GRU to approve beginning the test. Upon GRU approval, the test will begin & GRU will advise GREC of the effective test start time.

At the conclusion of the test, whether successfully completed or aborted, GREC shall return the facility to its pre-test status.

Respectfully/

Dino DeLeo Acting Energy Supply Officer Gainesville Regional Utility P.O. Box 147117, Station 132 301 SE 4th Avenue Gainesville, FL 32614-7117 Office: (352) 393-1714 Cell: (352) 246-6689 FAX: (352) 334-2672 email:deleods@gru.com

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Appendix F – Performance Indexes and Equations

General Information

Appendix F discusses the relationships among the performance indexes calculated from the event and performance data outlined in Sections III and IV. The basis for these relationships is IEEE Standard No. 762 "Definitions for Use in Reporting Electric Generating Unit Reliability, Availability and Productivity."

Summary of Various Time and Energy Factors Used by Indexes

1.	Service Hours - SH	Sum of all Unit Service Hours.
2.	Synchronous Hours	Sum of all hours the unit is in the synchronous condensing mode. The units are considered to be in a non-generating service operation.
3.	Pumping Hours	Sum of all hours the pumped storage unit is in pumping mode. The units are considered to be in a non-generating service operation.
4.	Available Hours - AH	Sum of all Service Hours (SH) + Reserve Shutdown Hours (RSH) + Pumping Hours + Synchronous Condensing Hours.
5.	Planned Outage Hours - POH	Sum of all hours experienced during Planned Outages (PO) + Planned Outage Extensions (PE) of any Planned Outages (PO).
6.	Unplanned Outage Hours - UOH	Sum of all hours experienced during Forced Outages (U1, U2, U3) + Startup Failures (SF) + Maintenance Outages (MO) + Maintenance Outage Extensions (ME) of any Maintenance Outages (MO).
7.	Forced Outage Hours - FOH	Sum of all hours experienced during Forced Outages (U1, U2, U3) + Startup Failures (SF).
8.	Maintenance Outage Hours - MOH	Sum of all hours experienced during Maintenance Outages (MO) + Maintenance Outage Extensions (ME) of any Maintenance Outages (MO).
9.	Unavailable Hours - UH	Sum of all Planned Outage Hours (POH) + Forced Outage Hours (FOH) + Maintenance Outage Hours (MOH).
10.	Scheduled Outage Hours - SOH	Sum of all hours experienced during Planned Outages (PO) + Maintenance Outages (MO) + Scheduled Outage Extensions (PE and ME) of any Maintenance Outages (MO) and Planned Outages (PO).

- 11. Period Hours PH
- 12. Equivalent Seasonal Derated Hours - ESEDH

13a. Equivalent Forced Derated Hours - EFDH Number of hours in the period being reported that the unit was in the active state.

Net Maximum Capacity (NMC) -Net Dependable Capacity (NDC) x Available Hours (AH) / Net Maximum Capacity (NMC).

(NMC - NDC) x AH NMC

Each individual Forced Derating (D1, D2, D3) is transformed (D1, D2, D3) into equivalent full outage hour(s). This is calculated by multiplying the actual duration of the derating (hours) by the size of the reduction (MW) and dividing by the Net Maximum Capacity (NMC). These equivalent hour(s) are then summed.

Derating Hours x Size of Reduction* NMC

NOTE: Includes Forced Deratings (D1, D2, D3) during Reserve Shutdowns (RS). See 13d, Page F-3.

*Size of Reduction is determined by subtracting the Net Available Capacity (NAC) from the Net Dependable Capacity (NDC). In cases of multiple deratings, the Size of Reduction of each derating will be determined by the difference in the Net Available Capacity of the unit prior to the derating and the reported Net Available Capacity as a result of the derating.

PE and ME Rules and Regulations

The "predetermined duration" of an outage also determines the "estimated completion date" of the PO or MO. If the unit is scheduled for four weeks of repairs, then the unit is expected back in service at a certain date four weeks after the start of the outage. In cases where the outage is moved up or back according to the needs of the operating company, ISO, or power pool, then the start of the outage plus duration of the outage determines the new completion date. As long as the outage is no longer than planned, the expected completion date is moved to coincide with the predetermined duration period.

If the unit is on outage (for example, U1 outage due to a boiler tube leak) at the time the unit is scheduled to start the PO or MO work, then the work on the cause of the outage (tube repairs) must be completed before changing from the U1 outage to the PO or MO outage. PO and MO work can start but is not counted as PO or MO work until the U1 repairs are complete.

All work during PO and MO events is determined in advance and is referred to as the "original scope of work." Use ME and PE only in instances where the original scope of work requires more time to complete than originally scheduled. Where applicable, the extension of the planned or maintenance outage may be required to be approved in advance by your power pool or ISO. Advance warning of an extension is very important. However, GADS is not a dispatch-orientated database but rather an equipment-orientated one. The reporting of the PE and ME is based on IEEE 762-GADS rules, not ISO requirements. Therefore, if the extension meets the GADS rules, then report it as an ME or PE and not a U1 when reporting to GADS only.

Do not use ME and PE in instances where unexpected problems or conditions are discovered during the outage which render the unit out of service beyond the estimated end date of the PO or MO. Report these delays as Unplanned (Forced) Outage-Immediate (U1). Do not use ME and PE if unexpected problems occur during unit startup. If a unit completes a PO or MO before the original estimated completion date and volunteers to return to service (i.e., the unit is released to dispatch), then any problems causing outages or deratings after that date are not considered to be part of the PO or MO.

ME, PE or U1 must start at the same time (month/day/hour/minute) that the PO or MO ended. See Appendix G, Example 7, Pages G-26 to G-27.

SF – Startup Failure

This is an outage that results when a unit is unable to synchronize within a specified startup time following an outage or reserve shutdown.

The startup period for each unit is determined by the operating company. It is unique for each unit, and depends on the condition of the unit at the time of startup (hot, cold, standby, etc.). A startup period begins with the command to start and ends when the unit is synchronized. SF begins when a problem preventing the unit from synchronizing occurs. The SF ends when the unit is synchronized, another SF occurs, or the unit enters another permissible state.

U1 – Unplanned (Forced) Outage – immediate

This is an outage that requires immediate removal of a unit from service, another outage state, or a reserve shutdown state. This type of outage usually results from immediate mechanical/electrical/hydraulic control system trips and operator-initiated trips in response to unit alarms.

Do not report ambient-related losses, such as those caused by high cooling water intake temperatures (other than regulatory-imposed discharge limits — cause code 9660, etc.), as derating events to GADS. There are two reasons for this: first, the level of record keeping required to track these types of losses as events is excessive; second, ambient-related losses are easily computed using the information you supply to GADS on the performance report, specifically maximum capacity and dependable capacity. The difference between these two values reflect losses due to ambient conditions only (see Page IV-4). To determine ambient losses in megawatt hours (MWh), simply multiply the difference between maximum capacity and dependable capacity by the total number of hours in the study period.

System Dispatch Requirements

Sometimes units operate at less than full capacity for reasons other than ambient-related conditions or equipment failures. This operating mode, imposed by system dispatch requirements, is referred to as "load following." Load following is not reported to GADS. That information is not relevant to unit availability and are therefore beyond the scope of the GADS program.

Although load following is not reported to GADS, any maintenance, testing, etc. done during the load following period should be reported as an event. Under certain conditions, this work can be reported as a non-curtailing event (NC). See Page III-19 for details.

Figure III-2 describes the relationships between maximum capacity, dependable capacity, and available capacity as a result of deratings, and system dispatch requirements.

Ramping Up at Unit Startup and Down at Unit Shutdown

Each unit has a "standard" or "normal" time for reaching full load capabilities after a full outage or ramping down (coming off-line) to a full outage state. GADS doesn't set time periods for each unit; the operators know the units and can judge if a unit is taking longer than normal to ramp up after an outage or coast down for removal from service.

If a unit ramps up to the full load level OR up to the level of required load within the "normal" time period — set by the operators of the unit — following a full outage, there is no derating on the unit from the time of synchronization to the load point.

If the unit takes longer than normal ramp up time to the full load level OR up to the required load, then there is a derating. The generating capacity of the unit at the end of the normal period will be the level of the derate and the derate will last until the unit can either reach full load capability or level of required load.

FOR ALL UNITS EXCEPT NUCLEAR: There is no derating for unit shutdown. Each unit must be shut down safely, without damaging equipment or posing a safety hazard to personnel. Some shutdowns are quick as a unit trip; others are slower such as coast down to unit planned outages. In either case, the unit is not derated.

FOR NUCLEAR UNITS: Coast down to refueling may take weeks, depending on the operation of the unit. If the unit can recover from coast down and can still produce 100% capability during coast down, there is no derating. If the unit is not capable of 100% capacity, the derate is at the level of capability until the unit is taken off-line.