



Audit of Gainesville Regional Utilities Invoice Processing – Biomass Energy



A Report to the City Commission

Mayor

Ed Braddy

Mayor Pro-Tem

Craig E. Carter

Commission Members

Harvey M. Budd

Helen K. Warren

Charles E. Goston

Todd N. Chase

Randolf M. Wells

September 15, 2015

City of
Gainesville Office
of the
City Auditor

Carlos L. Holt – City Auditor

EXECUTIVE SUMMARY

September 15, 2015



Why We Did This Audit

The audit was initiated based on a request by Gainesville Regional Utilities due to the heightened sense of interest in this large contract.

What We Recommend

Gainesville Regional Utilities management should take actions to:

- Implement a segregation of functions
- Keep changing contract metrics more visible
- Commit procedures to writing
- Ensure contractor invoice errors and miscalculations are promptly communicated regardless of which party would benefit
- Consider available avenues to recoup the large overpayments already made resulting from the contractor's miscalculated construction cost adjuster

For more information on this or any of our reports, please visit:

www.cityofgainesville.org/cityauditor.aspx

AUDIT OF GAINESVILLE REGIONAL UTILITIES – INVOICE PROCESSING FOR BIOMASS ENERGY

BACKGROUND

Gainesville Regional Utilities (GRU) contracted for construction and operation of a biomass energy plant to supply 102.5 MW-h of biomass produced energy for a 30-year period and to be available 24-hours per day, seven days per week (except for maintenance periods). After heightened community attention due to the large monthly invoices of \$7 million and \$8 million, GRU requested that the invoice approval process for Gainesville Renewable Energy Center (GREC) invoices be audited. The contract has a large number of metrics (measuring and calculation methods) with changing prices over time and varying amounts of energy and fuel charges. It is very difficult for a citizen to understand all of the charges by simply inspecting one of the monthly invoices.

OBJECTIVES

The objective of the audit was to determine if controls were in place to ensure the GRU invoice approval process for GREC invoices was effective.

The objective was determined by evaluating the following sub-objectives:

- a) Were negotiated contract metrics (fuel price adjuster, fuel charge, target fuel price, construction cost adjuster, unliquidated damages, variable Operation and Maintenance, etc.) and other special payments correctly calculated and accurately stated?
- b) Were controls in place to ensure invoiced charges for megawatt hours of delivered energy were accurate?
- c) Were controls in place to ensure invoiced charges for megawatt hours of available energy were accurate?
- d) Were controls in place to ensure that invoiced provided fuel prices, tonnage, and agreed to fuel specifications were complete, accurately stated, and in accordance with contract elements?

WHAT WE FOUND

We found several contract metrics that were not implemented as described in the contract, the most significant of which was the Construction Cost Adjuster used to calculate the Non-Fuel Energy Charge. The miscalculated rate increased all MW-h of available energy charges by 3.21% instead of 1.81% resulting in overpayment of \$0.77 per MW-h of available energy, 1,133,115 MW-h since the commercial operation date. For internal processes, the entire invoice process is centered on one position and should be segregated. Fuel process monitoring requires increased effort. Measuring and verifying delivered energy as well as ascertaining the amount of available energy that should be reimbursed on the invoice was found to have adequate overlapping controls and sufficient oversight although several recommendations were provided.

GOVERNANCE

Gainesville Regional Utilities, commonly known as GRU, is a multi-service utility owned by the City of Gainesville. The General Manager is a Charter Officer for the City of Gainesville and reports directly to the Gainesville City Commissioners. Approximately 93,000 customers are served by electricity, natural gas, water, wastewater, and telecommunications. Gainesville Renewable Energy Center (GREC) is a privately held company that owns and operates a biomass energy plant in Gainesville, Florida. Gainesville Renewable Energy Center has a contract with the City of Gainesville to provide up to 102.5 MW-h of energy at any available time. The type of contract is known as a Power Purchase Agreement (PPA). Gainesville Renewable Energy Center obtained an Air Operation Permit for 100 MW from the Florida Department of Environmental Protection. Gainesville Regional Utilities coordinates all interactions with GREC, GRU customers, and the City of Gainesville. The Energy Supply department at GRU provides the primary interaction with GREC.

CRITERIA AND SCOPE

The primary methodology used during the audit was to compare what is being performed with what is stated in the contract. A recent investigative review was conducted by Navigant Consulting Inc. Their efforts are publicly posted on the GRU website. Our efforts during this audit differ significantly from their engagement in that we conducted no review of the how, why, and who details of how the contract came to be signed. More specifically, we focused our efforts solely on criteria from the contract, the *“Equitable Adjustment for Change of Law”* (see note on page 5), and the 2013 *Framework on Internal Control* developed by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The scope of the audit was January 1, 2014 through May 31, 2015.

Areas not included in this audit:

- Normal dispatch procedures and requirements
- Comparison of energy costs between GRU energy generation assets
- History of changes to the PPA during drafting
- GRU power bills to GREC
- GREC’s financial systems
- GRU strategic energy generation plans
- Forest Stewardship Payments

RELATED FACTS AND FIGURES

Figures are for August 1, 2013 through May 31, 2015

Available Energy MW-h	Delivered Energy MW-h	Fuel Charge to GRU	Tons of Biomass Fuel Reported Purchased by GREC	Payments to GREC
1,133,115	956,717	\$33,788,421	1,276,137	\$133,311,990

Source: GREC Invoices and supporting documents and GRU’s financial system.

OBJECTIVES AND CONCLUSIONS

1. *Were controls in place to ensure the GRU invoice approval process for GREC invoices was effective?*

Generally, no. The functions of overseeing the ordering/dispatching, accepting, and approving payments were collectively centered on one position rather than a segregated approach. At least three changing contract metrics had been used during a period of time that did not agree with the contract requirement as written. Required validation of the currency exchange rates used in the most significant area of the contract was not performed by someone with knowledge and experience specifically in currency exchange rates and futures prices. Verification of contractor reported fuel prices and amounts delivered had been performed only once for seven loads of fuel. No verification of the fuel specifications or area surveys to validate regional fuel prices for biomass fuel had been performed. Significant effort had been used to verify the amounts of delivered energy and determine if billed available energy amounts were accurate.

Sub-objectives:

a) *Were negotiated contract metrics (fuel price adjuster, fuel charge, target fuel price, construction cost adjuster, unliquidated damages, variable Operation and Maintenance, etc.) and other special payments correctly calculated and accurately stated?*

No. One significant error missed since contract inception was the calculation of the Construction Cost Adjuster. The hybrid index was composed of currency exchange rates and an engineering construction cost index. The contract's definition of the currency exchange rate was not implemented as required in the contract. In fact, the reverse currency exchange rate was implemented, which is an inverse function of the required rate (see Observation A). Controls were not optimized partly due to the lack of a segregation of functions over the overall procure to pay process for contracted energy (see Observation B and E). Three instances were found where changing contract metrics were not used as required by contract language (see Observation C). All payments made to GREC matched amounts for final approved invoices (including ad valorem taxes). All final invoices since January 2014 were approved by GRU Energy Supply management via signature.

b) *Were controls in place to ensure invoiced megawatt hours for delivered energy were accurate?*

Yes. Constant oversight of delivered energy was effective with multiple pieces of overlapping information compared to ensure correctness. A recalculation of all of the MW-h of delivered energy by analyzing the minute data for each minute of the 17-month period and comparing it to the billed delivered energy was within 0.11%, calculated 790,657 MW-h vs. billed 789,781¹ MW-h, with the billed amount being more favorable to GRU. Measurement devices at GRU were found to have been calibrated within the 12-month period as required. Measured delivered energy values for each minute were sent to the contractor after month's end and before the initial invoice prepared by the contractor. Each period of time when output was below the minimum load of 70 MW-h was

¹ Jan 1, 2014 through May 31, 2015

highlighted by GRU and provided to the contractor. Personnel from GRU were able to re-extract minute data from their Pi-Data system (a system for data capturing and management support) for requested periods during the audit. Prior citizenry claims of electricity sold to GREC as an industrial client being recirculated to produce required outputs were found to be not possible. Previously GRU created forms used to verify and pass on delivered energy information were found to require revision and were addressed by management before audit conclusion.

c) *Were controls in place to ensure invoiced megawatt hours for available energy were accurate?*

Generally yes. A recalculation of the available energy was performed by analyzing the minute data similar to the method used in the delivered energy with some special allowances. Per the contract, available energy can't be measured since GRU requesting a zero MW-h dispatch from the biomass plant still results in available energy at the declared dependable capacity up to 102.5 MW-h. If dispatched to minimum load (70 MW-h) but output is below minimum load the available energy equals only the amount of delivered energy. If delivered energy is at the minimum load (70 MW-h) then available energy is at declared dependable capability (102.5 MW-h). Using these implemented operating procedures all minutes were analyzed and compared to billed available energy resulting in a difference of only 0.17%, calculated 1,098,061 MW-h vs. billed 1,096,215² MW-h, with the billed figure again more favorable to GRU. However, some of the adopted operating procedures result in very favorable situations to the contractor and should be reviewed (see Observation D). Several small errors have been detected during the GRU invoice approval process when all of the information comes together for approval in the fuels sections. During the auditor's visit on July 22, 2015, the first material error was detected by GRU staff through their in-place procedures. Specifically, GRU's available energy calculation differed from GREC's calculation by 797 MW-h, resulting in a \$63,037.43 difference. The GRU staff acted appropriately formally notifying the contractor by letter on July 29, 2015. The matter remains in dispute and its specifics were not examined as part of this audit.

d) *Were controls in place to ensure that invoiced provided fuel prices, tonnage, and agreed to fuel specifications were complete, accurately stated, and in accordance with contract elements?*

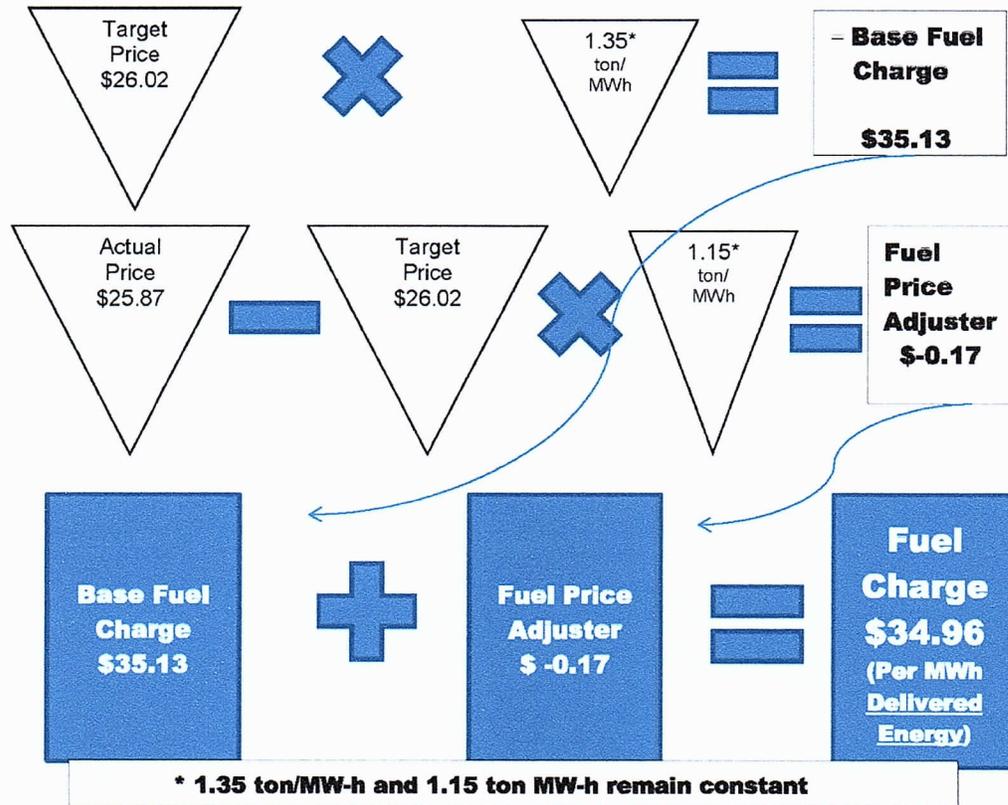
Generally no. All fuel information is provided to GRU by the contractor on an Excel spreadsheet each month. Upwards of 2,800 fuel deliveries may be made each month for amounts totaling over \$2 million. Computation of actual fuel prices and tonnages are a key ingredient of the invoiced fuel charge to GRU. Although GRU developed a plan to periodically conduct visits for sampling of fuel ticket information, only one such visit had been conducted (December 2014) where seven truck delivery tickets were examined. Given that the actual fuel price is a key factor in the invoiced fuel charge, some survey of regional biomass fuel prices should be conducted periodically to ensure fuel prices deemed to have been paid are consistent with the range of prices for that product since the contractor can clearly benefit at times from higher prices paid for fuel. No such price survey has yet been conducted (see Observation F). The following illustration depicts how the fuel charge is passed on to GRU by the contractor.

² Jan 1, 2014 through May 31, 2015

Fuel Charge

(Actual Figures from April 2015 Invoice Used for Demonstration)

Target Fuel Price (per ton) – Averaged price per ton for previous calendar year (set at \$28 for first 12 months)
 Actual Fuel Price (per ton) – Averaged price per ton of current invoiced month's fuel purchases



Source: City Auditor compiled information from GREC Invoice and PPA information

During the audit, a sample of 120 fuel deliveries included on contractor submitted Excel worksheets were verified for price and tonnage by working with BioResource Management Inc. at the Gainesville biomass plant. All deliveries were found to be resident in the truck ticket delivery information and matching vendor payments in the financial system for that particular delivery. Inquiries were made of the on-site resident forester/timber tracker on a small sub-sample of the fuel delivery tickets. The timber tracker was able to provide the location of each of those deliveries, showing the mileage from the GREC plant (between 30 and 45 miles). Both truck scales (trucks are weighed coming in full and departing empty) were found to be calibrated. Creative Info Systems SMS Turbo scale management software was being used. All trucks have radio frequency identification (RFID) plates that are read automatically to include vehicle number and vendor. Tipping fees are not individually charged for any deliveries.

Note: The auditor was not provided access to contracts or direct access to the financial system at GREC. Thus, it was not possible to determine if other elements or agreements provided for other fees, credits, free fuel, rebates, built in charges, or other transfers.

AUDIT OBSERVATIONS

The Committee of Sponsoring Organizations of the Treadway Commission, *Internal Control – Integrated Framework, Control Environment* component recommends management and the board of directors establish mechanisms to communicate and hold individuals accountable for performance of internal control responsibilities and implement corrective action as necessary. The audit observations listed are offered to help management fulfill their internal control responsibilities.

Note: In comparing contract elements to actual implementation during the audit, one particular contract amendment stood out for consideration of whether its criteria should have been used rather than the original criteria in the contract, the *“Equitable Adjustment for Change of Law.”* During the audit, we reviewed three separate legal opinions related to the agreement. All three contained opinions that the General Manager of Gainesville Regional Utilities at the time (March 16, 2011) acted without authority. No other public legal opinions were available for review on this matter. From an audit standpoint and using *Government Auditing Standards 2011 Revision*, published by the U.S. Government Accountability Office it is unclear if the criteria within this agreement are valid, although it was already implemented. Despite the legal opinions, in the absence of any ongoing legal actions, the *“Equitable Adjustment for Change of Law”* has been used as the basis for criteria during the audit process.

Observation A: Key Contract Cost Element not Implemented as Specified in Contract

The Construction Cost Adjuster, a key element of the PPA, used to adjust the Non-Fuel Energy Charge was calculated and implemented incorrectly according to the contract definition. The Non-Fuel Energy Charge is the largest single item on most invoices (\$4.28 Million for March 2015). It is multiplied by each MW-h of available energy. The charge was originally set at \$50.00 per MW-h but later adjusted to \$54.40 per MW-h via the *Equitable Adjustment for Change of Law*. On the date of construction, the Construction Cost Adjuster was multiplied by the Non-Fuel Energy Charge to adjust for inflation. The Construction Cost Adjuster was defined in the PPA as:

“Construction Cost Adjuster means the sum of (a) ninety-three percent (93%) multiplied by the quotient of (i) the ENR BCI ATL most recently published as of the Construction Commencement Date, divided by (ii) the ENR BCI ATL for April 2009, plus (b) seven percent (7%) multiplied by the quotient of (i) the Dollar/Euro Exchange Rate for the Construction Commencement Date, divided by (ii) the Dollar/Euro Exchange Rate for the Effective Date.”

The two elements of the adjuster as described above are:

- 1) Engineering News Record Building Cost Index – Atlanta
- 2) Dollar/Euro Exchange Rate

Using the *Engineering News Record Building Cost Index – Atlanta* is a simple matter. Just take the two indexes of the specified months and divide the index number on month of the construction start date of June 2011, by the initial index from the month the contract was signed, April 2009 (index is published monthly). The computation is:

ENR BCI ATL June 2011 = 3824.69 ENR BCI ATL April 2009 = 3725.44

$3824.69/3725.44 = 1.0266$ (indicates building costs increased 2.66% during this period – correctly calculated by contractor)

The next element is the Dollar/Euro Exchange Rate. In the PPA, the definition is:

“The **Dollar/Euro** Exchange Rate means the preceding 90-day average New York closing **US Dollar to Euro** Currency Exchange Rate as quoted in the Wall Street Journal on Monday through Friday (weekdays) over that interval.”

XE Currency Charts (USD/EUR)

USD Dollar to Euro Chart

This USD/EUR Chart lets you see this pair's currency rate history for up to 10 years! XE uses highly accurate, live mid-market rates.

Do you need to transfer money?

With XE Currency Transfers you can send & receive funds securely. Get quick quotes, competitive rates, and order online 24/7.

[Order a money transfer >](#)



GREC used the average Euro/Dollar rate (as in the example shown below) for each of the dates required

LIVE CURRENCY RATES	
Currency	Rate
EUR / USD	1.103
USD / JPY	124.3
GBP / USD	1.566
USD / CHF	0.977
USD / CAD	1.307
EUR / JPY	137.2
AUD / USD	0.733

CENTRAL BANK RATES	
JPY	0.10%
EUR	0.05%
CAD	0.50%
NZD	3.25%

Source: <http://www.xe.com/currencycharts/?from=USD&to=EUR&view=10Y>

The Dollar/Euro Rate written this way is simply the U.S. Dollar (base currency) divided by the Euro (quote currency), the same as any other ratio written this way. The quote currency (Euro) is last or on the bottom so the resulting ratio is stated in Euros (quote currency). Western Union Business Solutions has advice on how to read currency exchange rates.

How to Read Currency Exchange Rates: The value of a currency is determined by its comparison to another currency. The first currency of a currency pair is called the "base currency", and the second currency is called the "terms currency" (or "quote currency"). The currency pair indicates how much of the terms currency is needed to purchase one unit of the base currency.

Source: <http://business.westernunion.com/resource-center/fx-101/how-to-read-currency-exchange-rates/>

During the time period under observation, the U.S. Dollar was not worth as much as the Euro thus the ratio was less than one (Euro). Look at the above (page 6) example from August 18, 2015. Just at the top of the graph you can see “USD/EUR close .90625” (signifies that was the final value) followed by the low

and high for the day. Again, the U.S. Dollar (USD) is the base currency and EUR is the quote currency showing that one U.S. Dollar would be worth a bit over 90% of a Euro (0.90625) at that particular time. The Dollar/Euro exchange rate is so well known that simply Googling (or using Yahoo.com) to search for “Dollar Euro Exchange rate” (the exact contract language in the Construction Cost Adjuster definition) or “USD/EUR Exchange rate” produces the correct exchange rate at or near the top of the page.

Note the above XE currency trading site (www.XE.com) screenshot from August 18, 2015 (page 6) the language at the top in the highest oval is “US Dollar to Euro” precisely as the contract states in the definition of the Dollar/Euro Exchange Rate. Note also that USD is first or on top of the ratio and EUR is last or on the bottom (USD/EUR) meaning the Euro is the quote currency. Refer back to the contract definition above which is stated “Dollar/Euro” with the dollar on top.

Further, note that the inverse of this relationship, the Euro/Dollar or EUR/USD rate is at the far right side table and shows a value greater than one (1.103). This reflects that the U.S. Dollar is the quote rate and it would take 1.103 dollars to equal one Euro on August 18, 2015 at 11:30 a.m.

For the Dollar/Euro exchange rate from the contract, the horizontal line drawn on the graph depicts that since the graph never crossed the line, the dollar/Euro exchange rate was always less than one during the 10-year graphed period (includes both periods required for the computation in the contract).

Using historical data, from the *Wall Street Journal* (both rates USD/EUR and EUR/USD are quoted daily side by side) for the preceding 90-day period (weekdays only), the USD/EUR figures are shown as follows:

U.S. Dollar/Euro June 30, 2011: .6947 U.S. Dollar/Euro April 29, 2009: .7682

$.6947/.7682 = .9043^3$ Indicating that the value of a dollar decreased almost 10% when compared to one Euro. The City of Gainesville Investment and Pension Officer and a University of Florida Professor of Economics with a PhD from Yale University both independently confirmed the methodology of the Dollar/Euro exchange rate being presented this way. Multiple currency exchange websites describe this calculation. Reversely, the contractor used 1.4395 and 1.3023 ($1.4395/1.3023 = 1.1054$). Again, it can be seen on the XE.com USD/EUR or Dollar to Euro currency exchange rate chart on page 6 that the exchange rate referred to in the contract language was never at 1.0 or above during the entire period or concern.

Going back to the original formula and plugging in the computed amounts:

$$1.0266 \text{ (ENR BCI)} \times .93 \text{ (or 93\%)} + .9043 \text{ (USD/EUR)} \times .07 \text{ (or 7\%)} = .9547 + .0633 = 1.0180, \text{ an increase of 1.8\% during the period.}$$

This varies considerably from the GREC calculated and supplied Construction Cost Adjuster of 1.0321, an increase of 3.21% during the period, sent to GRU on August 2, 2011. Subtracting the difference $1.0321 - 1.018 = 0.0141$ or 1.41%.

Going back to the actual implementation of the Construction Cost Adjuster, it was multiplied by the Non-Fuel Energy Charge. The calculation used since the first date of commercial operation was: $\$54.40 \times 1.0321 = \56.15 . The actual calculation should be⁴: $\$54.40 \times 1.0180 = \55.38 , a difference of \$0.77. Using these numbers, GRU has overpaid 77 cents for each MW-h of Available Energy during the contract

³ Note that the inverse of .9043 is obtained by dividing 1 by .9043 which equals 1.1054 (the number used to compute the Construction Cost Adjuster since the first invoice because the EUR/USD index was used by GREC rather the USD/EUR.)

⁴ If one acknowledges the legality of the “Equitable Adjustment for Change of Law” disputed document

period. Invoices from Dec 2013 through May 2015 show GRU paid for 1,133,115 MW-h of available energy resulting in increased payments of \$872,498 to GREC. Going forward, each 30-day month at maximum available energy would cost GRU \$56,826 less (102.5 MWh x 24hrs. x 30 days x \$0.77) if the actual contract language were implemented⁵.

Risks:

- Increased expenses for energy
- Customer complaints due to higher energy prices
- Decreased ability for capital expenditures

Criteria:

- Power Purchase Agreement between GRU and GREC, effective April 29, 2009
- Wall Street Journal currency rates April – June 2011 and January – April 2009
- The Committee of Sponsoring Organizations of the Treadway Commission, *Internal Control – Integrated Framework (2013 Framework)*, Control Activities – Principle 13

Recommendations for management of Gainesville Regional Utilities:

- 1) Consider courses of action to recoup the previous overpayment of \$872,498.
- 2) Consider courses of action to use the contract defined Construction Cost Adjuster rate going forward with projected monthly savings of \$56,826.

Observation B: Lack of Segregation of Functions

The process of procuring, dispatching, accepting, and approving payment power invoices from the contractor is centered on one position. The current Assistant General Manager for Energy Supply was on the negotiation team for the contract. The AGM personally oversees and directs the dispatch of energy, oversees the receipt of the energy, and is the final reviewer of the invoice prior to payment. For sound internal control, no one person should have control over transactions from beginning to end. Although the individual has others under his direction that carry out many of the requirements, with such close oversight and direction, controls could be overridden with simple verbal directions. The process should be enhanced by having another division (possibly customer billing) trained to review invoices and verify all of the components required: changing metrics, delivered energy, available energy, fuels, etc. Technical assistance and training could still be provided by Energy Supply.

Risks:

- Controls can easily be overridden
- Decreased validity perception
- Potential for fraud or contractor collusion

⁵ In an attempt to get the contractor's position on this, the issue was discussed in person with the GREC CFO on August 5, 2015. He followed up with a phone call on August 11, stating many reasons why he disagreed mainly stating the past motivations of GREC and investors but not directly addressing the definition of the "Dollar/Euro Exchange rate" by discussing the individual components of the base rate and the quote rate. His follow-up email of August 20 (later enclosed in a letter to the GRU GM and the City Commission on Sept 1, 2015) recast the telephone conversation.

Criteria:

- The Committee of Sponsoring Organizations of the Treadway Commission, *Internal Control – Integrated Framework (2013 Framework)*, Control Activities – Principles 8 and 10

Recommendation for management of Gainesville Regional Utilities:

Create a segregation of functions for the purchase, dispatch, acceptance, and authorization of power provided by the contractor.

Observation C: Changing Contract Metrics Require Closer Scrutiny

Changing contract metrics were not always timely implemented by both GRU and the contractor. The PPA contains a number of metrics that change over time. For instance, there are several components of the fuel charge calculation that change monthly (fuel price adjuster and actual fuel price) while the target fuel price changes annually. Annual changes to the Variable Operation and Maintenance rate for delivered energy are driven by the Consumer Price Index. An annual adjustment to the liquidated damages calculation is affected by the Gross Domestic Product Implicit Price Deflator changes. Shutdown charges and Ad Valorem taxes also change annually. During the period of observation the following changes were not timely acted on by the contractor or GRU.

- The target fuel price was fixed by the contract for the first 12 months at \$28, ending July 2014. The contract stipulates that the target price definition is “previous calendar year” and “sum of all dollars spent on fuel purchases...divided by the total tons of fuel purchased.” The calculation is shown below.

2013	Fuel Cost to Contractor	Tons	Target Price
Aug-13	\$ 715,042.67	27,797.00	
Sep-13	\$ 874,866.61	32,828.00	
Oct-13	\$ 1,433,438.87	54,174.64	
Nov-13	\$ 1,260,866.92	48,565.00	
Dec-13	\$ 1,373,944.15	53,821.00	
	\$ 5,658,159.22	\$ 217,185.64	\$ 26.05

Source: Data derived from GREC Invoices Aug – Dec 2013

For the month of August 2014 through December 2014, the GREC invoices used \$25.80 (rather than \$26.05) for the Target Price which resulted in a \$12,572 more favorable position to GRU⁶. Personnel at GRU stated they were aware the price was in error but did not communicate with the contractor regarding the variance in the calculation.

⁶ The GREC CFO stated that there was no error as they chose to use the last 12 months since the “previous calendar year” required by the contract did not have a full 12 months in operation. He further stated that GRU management discussed this with him personally and agreed to it at some time but he did not know when the conversation occurred or who it was with and could furnish no email or other communication to confirm it. GRU Energy Supply refuted this stating that there was no communication with GREC on this matter because they did not wish to inform GREC of the error.

- The Variable O&M energy charge was not escalated by the contractor (GREC) on the May 2014 invoice as required by the PPA. The agreement calls for an annual adjustment on the anniversary of the effective date of the contract (April 29, 2009). The May 2014 through November 2014 invoices contained the same Variable O&M rate as the previous 12 months. On the December 2014 invoice the contractor invoiced for the missing escalation charges (\$19,223.37).
- Changes to the Gross Domestic Product Implicit Price Deflator used to calculate liquidated damages for unavailability levels for summer and winter seasons was used by GRU with a subsequent update not specified in the contract. The PPA specifies the deflator that is “available April 30, 2010, and on each succeeding April 30...” Note: Frequent updates to this metric are provided by the U.S. Department of Labor, Bureau of Labor Statistics several times per year. The calculation for the summer and winter period availability for May 2014 and September 2014 invoices was performed accurately using the April 30, 2014, available figure. The calculation for the May 2015 invoice was performed using the update of May 29, 2015, (1.08613) rather than the figure available on April 30, 2015, (1.08666) as specified in the contract. The small difference amounted to only \$219.42 (which would have been more favorable to GRU) is not material given the large total of the invoice. However, during other periods going forward the change could be significant.

Another item initially provided to GRU from the contractor that was in error was the Available and Delivered Energy Charge section of the invoices for both May 2014 and June 2014. While reviewing the invoice support, the auditor found a May 2014 and June 2014 supporting section with the exact same amount of delivered energy on both, even though there was over a 10,000 MW-h difference on the final supporting schedules (was caught by GRU, final invoice was accurate.)

Risks:

- Unknown liabilities
- Increased expenses
- Non-compliance with contract terms

Criteria:

- Power Purchase Agreement between GRU and GREC, effective April 29, 2009
- The Committee of Sponsoring Organizations of the Treadway Commission, *Internal Control – Integrated Framework (2013 Framework)*, Control Activities – Principles 9 & 12

Recommendations for management of Gainesville Regional Utilities:

- 1) Create a detailed annual review chart showing the various calculations that are due to change so the changes can be anticipated and communications with the contractor began before the implementation date.
- 2) Commit all procedures to writing, updating as needed.

Observation D: Available Energy Procedures Require Review

Operating procedures to recognize available energy afford an unrealistic allowance to the contractor. Referring to the operating procedures, a forced outage occurs when the delivered energy drops below the minimum required load of 70 MW-h unless directed by GRU to do so or other infrequent specified situations. The forced outage is deemed to have ended when the output reaches minimum load of 70 MW-h. At that point, available energy returns to the declared dependable capacity not to exceed 102.5 MW-h. During the following 48-hour period, GRU may, but is not required to, dispatch GREC to the declared capacity and if the plant is unable to achieve that level, available energy will be reduced to the highest level achieved at the point the outage ended. A random sample of 20 instances where output decreased to below 70 MW-h, minute data shows that the plant was dispatched to 102.5 MW-h in nine of twenty instances (45%).

Considering that for energy to be available it has to be possible for it to be achieved. The current operating procedures set available energy to GREC's declared dependable capacity instantly as the contractor achieves an output of 70 MW-h. A sample of ten instances where output was below 70 MW-h and did increase to an output greater than 101 MW-h within hours showed durations between 17 minutes and 152 minutes. No information was provided by GRU documenting the specific ten instances as far as what directions were provided at what time to the contractor to move toward the maximum load. Management at GRU provided general information that an increase in power is called for at maximum velocity only in an emergency so the rate of increase does vary considerably when no emergency exists. Also, Automatic Generation Control (a system tool) frequently dictates the output level at gradual rates to regulate and balance the output.

Notwithstanding, a reasonable person would conclude that instantly after attaining the 70 MW rate the plant would not be capable of an output level of 102.5. Similarly, the available energy is not agreed to be at 70 MW or 102.5 MW immediately after starting up.

During periods of plant shutdowns with declared capacity of available energy, verification should be conducted to ensure the plant is operational and available for immediate start up. Recent forced outages were resolved that resulted in GRU's direction not to dispatch for a period of time but hold the plant in "cold standby". This requires that GRU continue to pay the Non-Fuel Energy Charge and the Fixed Operation and Maintenance Charge of \$194,709 daily. Given the amounts of these charges, a weekly inspection of the plant would be in order. On one recent instance in particular, on April 17, 2015, the plant tripped (forced outage) and went offline. Later the same evening, a decision was made by GRU not to dispatch the plant again until after the contractor's planned maintenance outage (scheduled to begin on April 26, 2015). Prior to the planned maintenance outage, the contractor's spokesperson was quoted in the newspaper on April 22, 2015, as stating it would take approximately 18 to 21 days to complete the planned repairs although GRU had budgeted only 14 days. The plant was back online by the late evening of May 8, 2015, only 14 days into the planned maintenance period. Asked during the audit if GRU physically verified that the plant was still ready and available during the extra eight days (April 17 – April 25) even though GRU had publicly announced that the plant would be kept in cold standby during this period, the answer was no. There was no verification to determine that the plant had not started repairs early. Note: There is no information available to suggest that the plant was not available and fully operational during this time. Rather, only that it would be prudent in such instances, cold standby periods in excess of a few days, to verify the operational status (particularly when large maintenance projects are planned.)

Risk:

- Increased expenses due to payments for available energy not readily available

Criteria:

- Power Purchase Agreement Operating Procedures
- The Committee of Sponsoring Organizations of the Treadway Commission, *Internal Control – Integrated Framework (2013 Framework)*, Control Activities – Principle 10

Recommendations for management of Gainesville Regional Utilities:

- 1) Determine a reasonable period of time for the available energy to be at the declared capacity when not immediately dispatched to maximum load after an outage.
- 2) Following the end of a forced outage, document the date and circumstances for not dispatching to maximum declared capacity within 48 hours. Keep such documentation in an operator or dispatch log.
- 3) For those times when the contractor is informed to dispatch to maximum declared capacity, document the reason, date, and time in the operator/dispatch log described above so that precise information will be available for further research.
- 4) Formulate a procedure for a physical walk-through of plant facilities when plan is offline but in an available status with declared capability for each week of the cold standby period.

Observation E: Integrity Issue on Contractor Notification

An unwritten policy was used by GRU management to forgo notification to the contractor when errors were found that were not beneficial to GRU or its customers. Responses by GRU Energy Supply management of notification of two errors in calculations provided by the contractor were that the errors were known but intentionally not communicated to the contractor stating that the discrepancies were identified on first occurrence “but not acted on as the error was in GRU’s favor” and “any correction in the future would give GRU and its customers the time value of money.” Purportedly, this policy not to inform the contractor of variances not in their favor was verbally stated to the contractor by GRU. Not only does this policy indicate an attempt to verbally amend the contract; but, the integrity of such a policy is detrimental to the reputation of the organization. It is unknown how widely known or followed this policy was, but without question it should be abandoned immediately. Only with prompt communication going both ways can a government/contractor relationship be built on trust that produces a win/win relationship.

Risks:

- Unknown or unrecognized liabilities
- Decreased perception of integrity
- Increased potential for internal fraud due to lowered ethical values

Criteria:

- The Committee of Sponsoring Organizations of the Treadway Commission, *Internal Control – Integrated Framework (2013 Framework)*, Control Activities – Principle 1: Commitment to integrity and ethical values

Recommendations for management of Gainesville Regional Utilities:

- 1) Communicate to all personnel that all unexpected variances in contract metrics possibly affecting expenses or income will be clearly communicated with the contractor no matter whose favor the variance is in.
- 2) Conduct integrity and ethical training where deemed appropriate.
- 3) Investigate other uncommunicated instances of the same conduct.

Observation F: Fuel Purchases Need Expanded Oversight

Fuel purchase information totaling over \$1 million and \$2 million per month is supplied to GRU by Excel spreadsheet. Fuel purchase information is not directly reimbursed by GRU, but is used to calculate the Fuel Charge (including Target Price and Actual Price as described earlier). Fuel charges to GRU based on the Fuel Charge times MW-h of delivered energy was \$33,788,421 through May 2015. Although GRU developed a plan for monitoring fuel purchase delivery tickets by the contractor, they have documented only one such on-site review during December 2014 where seven delivery tickets were reviewed. The process is sound but requires more frequent site reviews to have any type of deterrent value. Otherwise, there is no way to determine if some or all of the spreadsheet information is fictitious.

Two areas that have not been implemented is validation of the fuel specifications required by the contract and periodic reviews of regional fuel prices. Fuel specifications could be a significant factor should negotiations ever resume to purchase the plant from GREC since the life of the equipment may be shortened. Monitoring plans could be as simple as reviewing the contractor’s procedures and findings on a periodic basis or sending out samples to another lab or as complete as new GRU testing of random incoming fuel loads.

A periodic regional review of fuel prices for biomass fuel that meets the desired specifications may also yield valuable information. Currently, GRU relies only on GREC to tell them what fuel costs are at the current time. However, specifications of contract elements between GREC and its contractors are proprietary and unknown to GRU. Regional forestry and biomass industry organizations may have key information related to fuel prices that would be useful to determine if fuel prices provided by GREC are reasonable. It can be argued that it is advantageous to GREC to procure the highest priced fuel available since the averaged actual cost per ton is the most significant factor in the calculation of the fuel charge that is multiplied by every MW-h of delivered energy. Simply buying a small number of extremely high-priced loads in one month and relying on inventory for the rest would move the fuel charge up significantly (84% as much as the actual fuel price increased). The fuel charge is then multiplied by each KW-h of delivered energy. The following depiction shows the change in the resulting Fuel Charge if either one or both of the Actual Fuel price or Target Fuel price changed.

Element(s) of Fuel Charge Calculation	Change	Change in FC
Increase Actual Price	25%	21%
Increase Target Price	25%	4%
Increase AP & TP	25%	25%
Decrease AP	-25%	-21%
Decrease TP	-25%	-4%
Decrease AP & TP	-25%	-25%

Source: City Auditor analysis from PPA contract elements

Risks:

- Fictitious information provided to GRU will not be uncovered
- Hidden damage to biomass plant
- Potential for fraud or contractor collusion
- Negative market impacts on fuel

Criteria:

- The Committee of Sponsoring Organizations of the Treadway Commission, *Internal Control – Integrated Framework (2013 Framework)*, Control Activities – Principles 8, 10, and 12

Recommendations for management of Gainesville Regional Utilities:

- 1) Implement a more vigorous fuel ticket validation at the contractor location, quarterly at a minimum.
- 2) Develop and implement an action plan to verify the specification of biomass fuel used by the contractor to determine if it is in compliance with the many contract specifications.
- 3) Conduct periodic assessments of regional biomass fuel prices to determine if the contractor's prices paid are reasonable.

GOVERNMENT AUDITING STANDARDS COMPLIANCE

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our observations and conclusions based on our audit objectives.

METHODOLOGY

To accomplish our audit objectives, we performed the following steps:

- Interviewed key personnel within Gainesville Regional Utilities, the City of Gainesville, and Gainesville Renewable Energy Center
- Evaluated internal controls currently in place
- Reviewed sample selections to determine the effectiveness of internal controls
- Reviewed financial transactions
- Considered risk of fraud, waste, abuse, and information technology risks

AUDIT TEAM

Carlos L. Holt, CPA, CFF, CIA, CGAP, CFE, City Auditor

Eileen M. Marzak, CPA, CFE, Assistant City Auditor

Brecka H. Anderson, CIA, CGAP, Senior Auditor

APPENDIX A – MANAGEMENT RESPONSE AND CORRECTIVE ACTION PLAN



INTEROFFICE COMMUNICATION

General Manager

DATE: September 9, 2015
TO: Carlos Holt, City Auditor
FROM: Edward J. Bielarski, Jr., General Manager *EJB*
SUBJECT: Draft Audit Report

This is to acknowledge receipt of the draft report of your office's audit of GRU's processing procedures for biomass plant invoices. My response to the audit findings are attached.

APPENDIX A – MANAGEMENT RESPONSE AND CORRECTIVE ACTION PLAN

We believe that operational management is in a unique position to best understand their operations and may be able to identify more innovative and effective approaches and we encourage them to do so when providing their response to our recommendations.

Recommendation	Concurrence and Corrective Action Plan	Proposed Completion Date
<i>Recommendations for management:</i>		
A. 1) Consider courses of action to recoup the previous overpayments of \$872,498.	Agree GREC Doesn't agree. Next steps may involve arbitration.	12/2015
2) Consider courses of action to use the contract defined Construction Cost Adjuster rate going forward with projected monthly savings of \$56,826.	Agree GREC doesn't agree. Next steps may involve paying in protest or escrowing funds.	12/2015
B. Create a segregation of functions for the purchase, dispatch, acceptance, and authorization of power provided by the contractor.	Agree Initiate dialogue with staff.	01/2016
C. 1) Create a detailed annual review chart showing the various calculations that are due to change so the changes can be anticipated and communications with the contractor began before the implementation date.	Agree AGM of Energy Supply to undertake.	01/2016
2) Commit all procedures to writing, updating as needed.	Agree AGM of Energy Supply to undertake.	01/2016

APPENDIX A – MANAGEMENT RESPONSE AND CORRECTIVE ACTION PLAN

Recommendation	Concurrence and Corrective Action Plan	Proposed Completion Date
<p>D.</p> <p>1) Determine a reasonable period of time for the Available Energy to be at the declared capacity when not immediately dispatched to maximum load after an outage.</p>	<p>Agree</p> <p>Being discussed now.</p>	<p>12/2015</p>
<p>2) Following the end of a forced outage, document the date and circumstances for not dispatching to maximum declared capacity within 48 hours. Keep such documentation in an operator or dispatch log.</p>	<p>Disagree</p> <p>Don't agree with GRU's need to undertake this step.</p>	<p>N/A</p>
<p>3) For those times when the contractor is informed to dispatch to maximum declared capacity, document the reason, date, and time in the operator/dispatch log described above so that precise information will be available for further research.</p>	<p>Agree</p> <p>AGM of Energy Supply to undertake.</p>	<p>12/2015</p>
<p>4) Formulate a procedure for a physical walk-through of plant facilities when plan is offline but in an available status with declared capability.</p>	<p>Agree</p> <p>Currently being discussed and a walk-thru has been initiated.</p>	<p>10/2015</p>
<p>E.</p> <p>1) Communicate to all personnel that all unexpected variances in contract metrics possibly affecting expenses or income will be clearly communicated with the contractor no matter whose favor the variance is in.</p>	<p>Agree</p> <p>AGM of Energy Supply to undertake.</p>	<p>12/2015</p>
<p>2) Conduct integrity and ethical training where deemed appropriate.</p>	<p>Agree</p>	<p>As needed</p>
<p>3) Investigate other uncommunicated instances of the same conduct.</p>	<p>Agree</p>	<p>As needed</p>

APPENDIX A – MANAGEMENT RESPONSE AND CORRECTIVE ACTION PLAN

Recommendation	Concurrence and Corrective Action Plan	Proposed Completion Date
F. 1) Implement a more vigorous fuel ticket validation at the contractor location, quarterly at a minimum.	Agree AGM of Energy Supply to undertake.	03/2016
2) Develop and implement an action plan to verify the specification of biomass fuel used by the contractor to determine if it is in compliance with the many contract specifications.	Agree AGM of Energy Supply to undertake.	03/2016
3) Conduct periodic assessments of regional biomass fuel prices to determine if the contractor's prices paid are reasonable.	Agree AGM of Energy Supply to undertake.	03/2016