

State of Florida



Public Service Commission

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COMMISSION CLERK

DATE: January 28, 2010

TO: Office of Commission Clerk (Cole)

FROM: Division of Regulatory Analysis (S. Brown, Ellis)
Office of the General Counsel (Sayler, M. Brown)

SPB PoE TB JCB EA YMK

RE: Docket No. 090451-EM – Joint petition to determine need for Gainesville Renewable Energy Center in Alachua County, by Gainesville Regional Utilities and Gainesville Renewable Energy Center, LLC.

AGENDA: 02/09/10 – Regular Agenda – Post-Hearing Decision – Participation is Limited to Commissioners and Staff

COMMISSIONERS ASSIGNED: All Commissioners

PREHEARING OFFICER: Skop

CRITICAL DATES: 02/09/10 (135 day deadline pursuant to Rule 25-22.080(2), Florida Administrative Code, waived through this date).

SPECIAL INSTRUCTIONS: Issue 1 has been stipulated.

FILE NAME AND LOCATION: S:\PSC\RAD\WP\090451.RCM.DOC

Case Background

Gainesville Regional Utilities (GRU) is a vertically integrated electric power production, transmission, and distribution system that is wholly owned by the City of Gainesville. GRU also provides wholesale electric service to the City of Alachua and Clay Electric Cooperative. GRU's distribution system serves approximately 93,000 residential and commercial customers in both the incorporated and unincorporated areas of its service territory.

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In 2007, the Gainesville City Commission began an extensive solicitation for biomass power proposals, resulting in the selection of a proposal by American Renewables, LLC (American Renewables) on May 12, 2008. American Renewables created a wholly-owned subsidiary, Gainesville Renewable Energy Center, LLC (GREC LLC) for the proposed project. After a negotiation period, on May 7, 2009, the Gainesville City Commission unanimously approved a purchased power agreement (PPA) between GRU and GREC LLC for the purchase of energy and capacity from a proposed biomass-fueled facility for a term of thirty years.

On September 18, 2009, pursuant to Section 403.519, Florida Statutes (F.S.), and Rule 25-22.080 and 25-22.081, Florida Administrative Code (F.A.C.), GRU and GREC LLC filed a joint petition for determination of need for the proposed Gainesville Renewable Energy Center (GREC Project) at GRU's existing Deerhaven plant site in Alachua County, Florida. GREC LLC will build a new nominal rated 100 megawatt (MW) net biomass-fired electric generating facility with an in-service date of December 1, 2013, located on land leased from GRU. The unit qualifies as an electrical power plant requiring a determination of need, as defined by Section 403.503(14), F.S., because it exceeds 75 MW of steam electrical generation.

On December 9, 2009, the Commission convened a public hearing in Gainesville to take public comment on the proposed GREC Project. The Commission heard from several public witnesses with a range of concerns and comments, and collected several exhibits from those witnesses. Public witnesses also testified at the administrative hearing held on December 16, 2009, in Tallahassee. Below is a list of topics of interest voiced by the public and a reference to where they will be addressed below:

System Reliability and Integrity – Issue 2

Reasonable Cost of Electricity – Issue 3

Fuel Diversity & Supply Reliability – Issue 4

Renewables/Conservation/Demand-Side Management – Issue 5

Cost-Effectiveness – Issue 6

Other areas of interest that were discussed during the public hearing and public testimony phase of the hearing focused on subjects such as environmental and health concerns which are beyond the Commission's jurisdiction under its authorizing statutes. The public testimony regarding environmental concerns and health issues falls under the Department of Environmental Protection's (DEP) jurisdiction and may be relevant in certification proceedings before the DEP, the Division of Administrative Hearings (DOAH), and the Governor and Cabinet sitting as the Siting Board.

Power Plant Siting Process

The certification of an electrical power plant in the State of Florida is governed by Sections 403.501 to 403.518, F.S., entitled the “Florida Electrical Power Plant Siting Act” (Siting Act). Any planned electric power plant in excess of 75 MW in gross capacity must request approval pursuant to the Siting Act.¹ The Siting Act applies to all electric utilities within the state, including investor-owned utilities, municipalities, and rural electric cooperatives.² The Siting Act provides jurisdiction to the Florida Public Service Commission,³ the Department of Environmental Protection (DEP),⁴ and the Governor and Cabinet, sitting as the Siting Board,⁵ to approve or deny the certification of any electrical power plant submitted to the process. Other state and governmental agencies participate in the electrical power plant certification process.

The Siting Act certification process usually begins when an electric utility files a petition for a determination of need for an electrical power plant with the Commission.⁶ While the Commission is reviewing the determination of need petition, the electric utility may submit its application⁷ for power plant site certification to DEP,⁸ however, the Commission’s determination of need is a condition precedent to conducting an electrical power plant certification proceeding before DEP under the Siting Act. DEP will submit the application to the Florida Division of Administrative Hearings (DOAH) to conduct a hearing if there are disputed facts to be resolved.⁹ The DEP will submit the Commission’s determination of need order and DOAH’s recommended order to the Siting Board for final Certification.¹⁰

Determination of Need Process

Pursuant to Section 403.519(3), F.S., the Commission is the sole forum for the determination of need for an electrical power plant. The statute requires that in making its determination for any new electric power plant,

... the Commission shall take into account the need for electric system reliability and integrity, the need for adequate electricity at a reasonable cost, the need for fuel diversity and supply reliability, whether the proposed plant is the most cost-effective alternative available, and whether renewable energy sources and technologies, as well as conservation measures, are utilized to the extent reasonably available. The Commission shall also expressly consider the conservation measures taken by or reasonably available to the applicant or its members which might mitigate the need for the proposed plant and other matters within its jurisdiction which it deems relevant. . . .

¹ Section 403.503(14), F.S.

² Section 403.503(15), F.S.

³ Section 403.503(25), F.S.

⁴ Section 403.503(12), F.S.

⁵ Section 403.503(8), F.S.

⁶ Section 403.519, F.S.

⁷ Sections 403.5063-403.5064, F.S.

⁸ Section 403.504, F.S.

⁹ Section 403.5065, F.S.

¹⁰ Section 403.509, F.S.

The Commission has been given the broad authority to determine how each of these criteria may be weighted to address the continuous evolution of the electric industry. The Commission has the discretion to determine the need for an electrical power plant based upon one or more of the qualifications above, so long as each has been considered as a component of the final decision.

Section 403.519, F.S., applies to all utilities and directs the Commission to consider the cost-effectiveness of the power plant in the Commission's need determination proceeding. Pursuant to Section 366.04(1), F.S., the Commission has jurisdiction to regulate and supervise the rates and service of investor-owned electric utilities (IOU), which are defined as public utilities in Section 366.02(1), F.S. Since a determination of need is typically decided several years prior to the in-service date of the generating unit, the Commission would review the costs for recovery purposes when the generating unit comes on-line. If it were found that an IOU should have stopped construction or pursued a more cost-effective alternative, the Commission can adjust the IOU's rates accordingly. However, pursuant to Section 366.02(1), F.S., municipal electric utilities or rural electric cooperatives are not included in the definition of public utilities. Thus, unlike investor-owned utilities, the Commission would not review the final costs for recovery purposes or establish rates for municipal electric utilities or rural electric cooperatives.

The Commission has jurisdiction over the subject matter of this proceeding pursuant to Sections 366.04(2)(c), 366.05, 403.507(4), and 403.519, F.S.

Discussion of Issues

Issue 1: Are Gainesville Regional Utilities and Gainesville Renewable Energy Center, LLC proper applicants within the meaning of Section 403.519, F.S.?

Recommendation: At the December 16, 2009 hearing the Commission voted to approve the following stipulation:

Yes. Gainesville Regional Utilities (GRU) is a municipal electric, natural gas, water, wastewater, and telecommunications utility serving retail customers; it is owned and operated by the City of Gainesville in Alachua County, located in north-central Florida; and it is a valid applicant under the Florida Electrical Power Plant Siting Act (PPSA), Chapter 403, Part II, F.S.

Gainesville Renewable Energy Center, LLC (GREC LLC) is a private renewable power producer that will own, operate, and maintain the proposed Gainesville Renewable Energy Center biomass facility and sell 100 percent of the facility's electric power output to GRU under a 30-year power purchase agreement (PPA). GREC LLC is an appropriate joint applicant pursuant to the Commission's decisions and the Florida Supreme Court's decision in Nassau Power Corp. v. Deason, 641 So. 2d 396 (Fla. 1994). (Sayler, M. Brown)

Positions of the Parties

GRU: Yes. GRU is a municipal electric, natural gas, water, wastewater, and telecommunications utility serving retail customers that it is owned and operated by the City of Gainesville in Alachua County, located in north-central Florida and is a valid applicant under the Florida Electrical Power Plant Siting Act (PPSA), Chapter 403, Part II, F.S.

GREC LLC is a private renewable power producer that will own, operate, and maintain the proposed GREC biomass facility and sell 100 percent of the facility's electric power output to GRU under a 30-year power purchase agreement (PPA). GREC LLC is therefore an appropriate joint applicant pursuant to the Commission's decisions and the Florida Supreme Court's decision in Nassau Power Corp. v. Deason, 641 So. 2d 396 (Fla. 1994).

Staff Analysis: At the December 16, 2009 hearing the Commission voted to approve the following stipulation:

Yes. Gainesville Regional Utilities (GRU) is a municipal electric, natural gas, water, wastewater, and telecommunications utility serving retail customers; it is owned and operated by the City of Gainesville in Alachua County, located in north-central Florida; and it is a valid applicant under the Florida Electrical Power Plant Siting Act (PPSA), Chapter 403, Part II, F.S.

Gainesville Renewable Energy Center, LLC (GREC LLC) is a private renewable power producer that will own, operate, and maintain the proposed Gainesville Renewable Energy Center biomass facility and sell 100 percent of the facility's electric power output to GRU under a 30-year power purchase agreement (PPA). GREC LLC is an appropriate joint applicant pursuant to the Commission's decisions and the Florida Supreme Court's decision in Nassau Power Corp. v. Deason, 641 So. 2d 396 (Fla. 1994).

Issue 2: Is there a need for the Gainesville Renewable Energy Center, taking into account the need for electric system reliability and integrity, as this criterion is used in section 403.519, F.S.?

Recommendation: GRU's current load forecast indicates that the company does not have a reliability need, based on a planning reserve margin of 15 percent, for additional capacity until the year 2023. However, the additional generation from the Gainesville Renewable Energy Center Project will enhance the overall reliability of the GRU system. (S. Brown, Ellis)

Positions of the Parties

GRU: Yes. GREC's capacity is needed to improve and maintain reliability of GRU's existing system, particularly in light of the increasing age of GRU's existing generating plants, and to replace capacity from GRU's lowest cost existing fossil fueled unit, Deerhaven 2, during maintenance and forced outages.

Staff Analysis:

PARTIES' ARGUMENTS

GRU contends that the capacity of the proposed GREC Project is needed to improve and maintain reliability of its existing system. (BR 13) GRU states that the capacity from the proposed GREC Project is needed to replace capacity resulting from maintenance and forced outages on its Deerhaven 2 unit. (BR 13) In addition, GRU states that the GREC Project is needed to provide reliable, low-cost baseload capacity in light of the fact that most of the remainder of GRU's capacity will be retired during the term of the GREC LLC PPA. (BR 13) Finally, GRU asserts that the overall decision to pursue the GREC Project was based on the conditions set forth in Section 403.519, F.S., and the City of Gainesville's commitment to address the environmental concerns of climate change, sustainability, and energy independence. (BR 14)

ANALYSIS

GRU developed forecasts for the number of customers, energy sales, and seasonal peak demands for 2009 through 2044. (TR 218) Staff reviewed GRU's forecast assumptions, regression models, and the projected system peak demands and believes they are appropriate for use in this docket. The forecast assumptions were drawn from independent sources, which the Commission has relied upon in prior cases. The regression models used to calculate the projected peak demands conform to accepted economic and statistical practices.

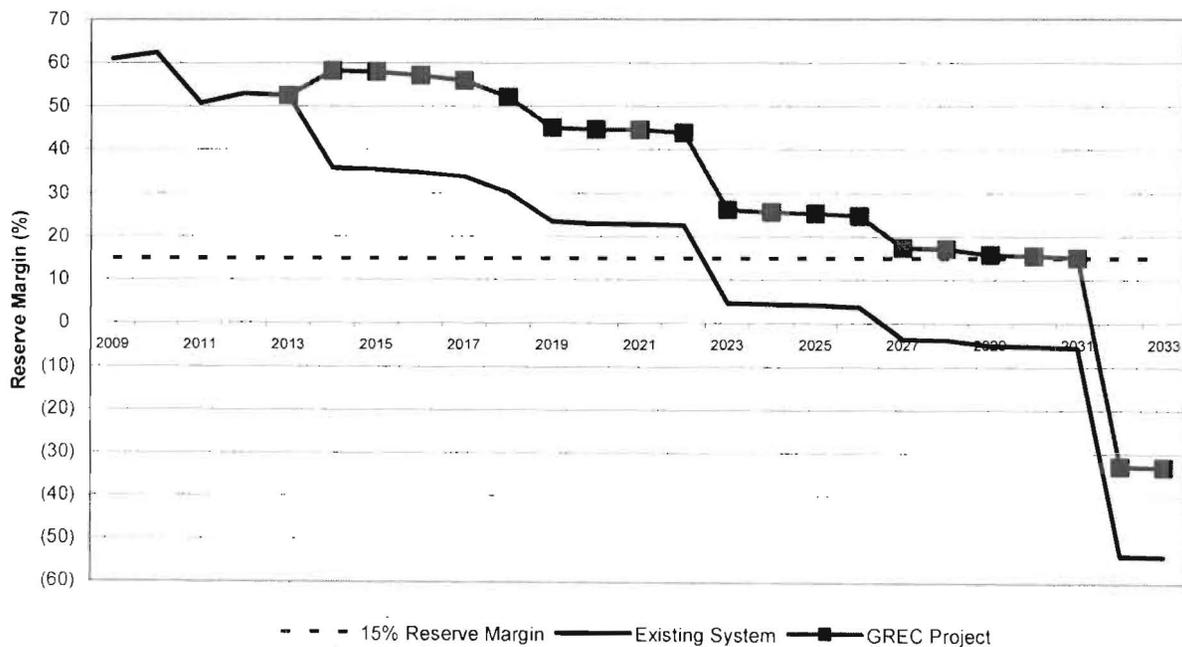
GRU uses the University of Florida's Business of Economic and Business Research (BEBR) to develop its population projections. (TR 158) GRU's base case annual net energy for load forecast projects usage growth in the 2009 through 2044 period, at an average annual growth rate of approximately 0.71 percent. (TR 220, EXH 27)

GRU's existing net summer generating capacity is approximately 608 MW. (TR 82) The Deerhaven and John R. Kelly generating facilities are the primary sites on the GRU system. Both the Deerhaven and John R. Kelly facilities consist of steam turbine and combustion turbine

units. The John R. Kelly facility also includes a combined cycle unit. Also included on the GRU system are: the South Energy Center, which provides combined heat and power services to the Shands HealthCare cancer hospital; a share of Progress Energy Florida, Inc.'s (PEF) Crystal River 3 nuclear unit; and distributed generation. (TR 82) For 2009, GRU projected a summer peak demand of 441 MW which results in a reserve margin of 269 MW or 61 percent. (EXH 24, p. 2 of 8)

The first step in analyzing the need for new generating capacity is to determine the timing of a unit addition. Typically, such analyses attempt to project when a utility's system will fall below a predetermined planning criterion, such as reserve margin. GRU uses a 15 percent reserve margin as a planning criteria for such analyses. Assuming load growth as discussed above, GRU's existing capacity would exceed the 15 percent criteria until the year 2023. In 2023, GRU will need an additional 48 MW of capacity. (EXH 27) This is attributed to the retirement of GRU's Deerhaven Steam Unit 1 which will result in a reduction of 83 MW of summer net capacity. Such a result indicates that from a system reliability viewpoint GRU's existing system is adequate to serve projected load for the next 13 years. As the graphs below indicate, if the GREC Project is added to GRU's system as proposed, then GRU's reserve margin would be greater than 15 percent until the year 2032. (EXH 27)

Figure 2-1 - GRU's Summer Reserve Margin and Impact of GREC Project



While not technically needed to maintain reliability of the GRU system, the addition of the GREC Project will not adversely affect the Statewide grid and will enhance GRU's system reliability and fuel diversity. The capacity from the proposed GREC Project will add value to GRU's generation portfolio by modernizing its generation fleet. (TR 92) Approximately two-thirds of GRU's existing capacity is at least 28 years old. (TR 92) It should also be noted that GRU plans a 50-year unit life for most of its current generating units. (EXH 27) However, GRU

Docket No. 090451-EM

Date: January 28, 2010

hopes the Deerhaven 2 unit will exceed its 50-year life expectancy. (TR 112) Some units such as coal-fired units can have a life expectancy as high as 60-years. Deerhaven Unit 2 is GRU's main generating unit; it is a 222 MW coal unit that has operated since 1981. (TR 82) The capacity from the proposed GREC Project would enhance reliability by replacing capacity lost during maintenance and forced outages at the Deerhaven 2 unit. (TR 80) Moreover, the GREC Project will improve GRU's generating system reliability from both a firmness of capacity perspective and from the perspective of exposure to high cost of replacement power. (TR 92) GRU's primary focus was fuel diversification and to provide a financial hedge against future carbon regulation. The issue pertaining to fuel diversification will be discussed in greater detail in Issue 4. The issue pertaining to future carbon legislation will be discussed in greater detail in Issue 6.

CONCLUSION

GRU's current load forecast indicates that the company does not have a reliability need, based on a planning reserve margin of 15 percent, for additional capacity until the year 2023. However, the additional generation from the Gainesville Renewable Energy Center Project will enhance the overall reliability of the GRU system.

Issue 3: Is there a need for the Gainesville Renewable Energy Center, taking into account the need for adequate electricity at a reasonable cost, as this criterion is used in Section 403.519, F.S.?

Recommendation: Based on current fuel forecasts and environmental requirements, the addition of the GREC Project would result in a cumulative net present value cost of approximately \$100 million over the life of the facility. However, if GRU re-sells half of the contracted capacity and if pending carbon legislation is enacted, the GREC Project could provide cumulative net present value savings of approximately \$400 million over the life of the facility. Therefore, the GREC Project could act as a hedge against increased costs associated with future regulation of carbon emissions. (S. Brown, Ellis)

Positions of the Parties

GRU: Yes. The GREC LLC PPA was evaluated on a levelized cost of energy (LCOE) basis against comparable supply-side alternatives over the term of the GREC LLC PPA. These analyses demonstrate that the GREC LLC PPA is lower in cost than all gas-fired alternatives and all coal-fired options including CO₂ Regulation.

Staff Analysis:

PARTIES' ARGUMENTS

GRU performed a levelized cost of energy (LCOE) and cumulative present worth (CPW) analysis of the GREC Project. GRU contends that when compared to multiple alternative technologies to be constructed by 2014, the GREC Project was the most cost-effective excluding coal. (BR 15) GRU asserts that while the GREC Project is not as cost-effective in an LCOE analysis as a pulverized coal unit, it is unlikely that a coal unit would be permitted in Florida. (BR 16) GRU contends that an extensive and competitive solicitation process was utilized under the guidance of the Gainesville City Commission. GRU argues that the GREC Project was and is the most cost-effective alternative available to meet the Gainesville City Commission's policy objectives, and will meet GRU's need for adequate electricity at a reasonable cost. (BR 16)

ANALYSIS

GRU has conducted a LCOE analysis of the GREC Project using multiple scenarios, including several alternative units. The alternate units include a combustion turbine unit, a combined cycle unit, a pulverized coal unit, and a pulverized coal unit with carbon capture and sequestration. (EXH 27, p. 10-1) The GREC Project has a lower LCOE value than any of the natural gas-fired alternatives, and is more cost-effective than the coal-fired alternatives when considering carbon regulation or carbon capture and sequestration. (EXH 18) On an annual basis the GREC Project does not always possess the lowest cost per kilowatt-hour. In the beginning years, the contract is more expensive than some of the alternative units in certain scenarios. (EXH 22) However, the LCOE analysis demonstrates that over the thirty-year term of the PPA, the GREC Project results in the lowest LCOE, as further discussed in Issue 6. (EXH 18)

Staff believes that while the LCOE analysis performed by GRU is a valuable screening tool, it may have misleading assumptions for the GREC Project. As discussed in Issue 2, GRU's current generating fleet is sufficient to adequately supply electricity to GRU's ratepayers until 2023. (EXH 2, pp. 98-101) The LCOE analysis conducted assumes all units would be placed in commercial operation by 2014. (EXH 22) As a result, staff believes that a more appropriate comparison would be between the GREC Project and no new construction until 2023. Other issues concerning the appropriateness of the LCOE analysis are elaborated on in Issue 6.

At staff's request, GRU conducted a cumulative present worth analysis of its system revenue requirements. (EXH 7, pp. 56-58, pp. 98-104) The GREC Project was compared to GRU's system cost assuming no new construction until 2023. (TR 152) Under current economic conditions, GRU would receive the full capacity of the GREC Project for the entire thirty-year period. Such a scenario would result in a cumulative net present value cost of approximately \$100 million over the contract's term. (EXH 24, p. 4 of 8)

GRU states in its petition that it intends to resell approximately half the capacity of the GREC Project during the first ten-year period, and thereafter receive the full capacity till the expiration of the agreement. (EXH 27, p. 9-5) As part of its analysis, GRU assumes that it will be able to resell the power from the GREC Project at the full contract rate. With this assumption, GRU estimates that the GREC Project will show a total savings of approximately \$62 million over the thirty-year period. (EXH 24, p. 4 of 8) Staff believes it is likely that GRU would be able to resell some or all of the GREC Project's capacity, though GRU may not receive the full contract price. Therefore, the values for resale and no resale form a range of possible results.

Whether or not GRU is able to resell some or all of the GREC Project's capacity and associated energy, the LCOE analysis is not impacted. The possibility of resale does have a significant impact on the GRU's system costs in the cumulative present worth analysis. (EXH 24, p. 4 of 8)

Another major influence on GRU's system cost is the potential of carbon regulation, which was modeled in series of scenarios by GRU. As discussed further in Issue 6, GRU modeled the potential cost impact of future carbon regulations based on pending carbon legislation, specifically House Resolution 2545, or the Waxman-Markey Bill. (TR 302) The GREC Project shows large savings with carbon regulation, ranging from \$311 million without resale, to as much as \$409 million with resale. (EXH 24, p. 4 of 8) The cumulative present worth analysis is detailed further in Issue 6.

While these values mentioned here represent either the levelized cost of electricity or the cumulative system revenue requirements over the life of the contract, it should be noted that the initial system and customer impact is greater than most of the alternatives analyzed by GRU. (EXH 22; EXH 24) The magnitude of customer rate impacts is discussed in Issue 6.

CONCLUSION

Based on current fuel forecasts and environmental requirements, the addition of the GREC Project would result in a cumulative net present value cost of approximately \$100 million. However, if GRU re-sells half of the contracted capacity and if pending carbon legislation is enacted, the GREC Project could provide cumulative net present value savings of approximately \$400 million over the life of the facility. Therefore, the GREC Project could act as a hedge against increased costs associated with future regulation of carbon emissions. This subject is more thoroughly discussed in Issue 6.

Issue 4: Is there a need for the Gainesville Renewable Energy Center, taking into account the need for fuel diversity and supply reliability, as this criterion is used in Section 403.519, F.S.?

Recommendation: Yes. The GREC Project would add a biomass fuel source that would significantly reduce coal and natural gas usage on the GRU system. Multiple studies have demonstrated that there is sufficient biomass for the proposed GREC Project. (S. Brown, Ellis)

Positions of the Parties

GRU: Yes. The Project is needed to diversify GRU's existing fuel mix, which is dominated by coal and natural gas. Coal is at risk under future CO₂ emissions regulations. Natural gas prices are highly volatile, and the continuous availability of natural gas is also a risk due to GRU's reliance on a single pipeline.

Staff Analysis:

PARTIES' ARGUMENTS

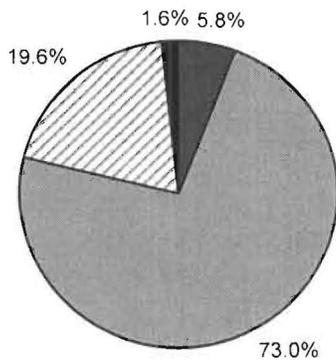
GRU asserts that the Gainesville City Commission fully considered all aspects of the impact of the GREC Project on GRU's system, in rendering its unanimous decision to approve the GREC Project. (BR 16) Multiple factors contributed to the GREC Project approval, with a significant focus on the ability of biomass to provide baseload energy and provide a hedge against future carbon legislation, given GRU's current coal-heavy fuel mix. (BR 17) The City Commission also considered other environmental and economic benefits from selecting biomass over other renewable or fossil fuel alternatives. (BR 17) The GREC Project will meaningfully and substantially improve GRU's fuel diversity and supply reliability. (BR 18)

ANALYSIS

GRU's existing system consists primarily of coal-fired baseload generation at Deerhaven Unit 2, supplemented by natural gas-fired intermediate and peaking generation from the rest of its fleet. (EXH 27, p. 3 of 3.1) The only non-fossil fueled unit is GRU's 1.4079 percent of ownership of the Crystal River 3 nuclear plant. (EXH 7, p. 34) GRU also receives a significant portion of its energy from purchased power agreements. GRU's largest single purchase power agreement is with PEF, through which GRU receives a portion of the utility's baseload system including coal and natural gas. (EXH 7, p. 35) GRU also receives renewable energy from other purchase agreements with a local landfill gas operation and distributed solar photovoltaic systems through its Solar Feed-in-Tariff system, discussed further in Issue 5.

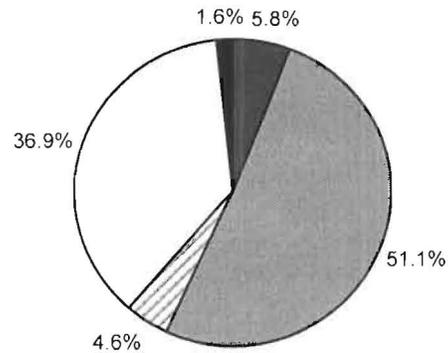
GRU's purchased power agreements with PEF expire in 2013. (EXH 7, p. 36) As discussed in Issue 2, GRU has sufficient generation capacity to serve its projected needs until 2023, even with the expiration of the PEF purchased power agreements. With the expiration of the PEF purchased power agreements, GRU's existing generation fleet relies more heavily upon coal, increasing its percentage share from 61.4 percent in 2008 to 73 percent of system energy by 2014. (EXH 24, p. 1 of 8) GRU's usage of natural gas is also projected to increase from 16.3 percent in 2008 to approximately 19.6 percent by 2014 without the addition of the GREC Project. (EXH 24, p. 1 of 8)

2014 Fuel Mix - No New Construction



■ Nuclear ■ Coal ■ Natural Gas ■ Other PPAs

2014 Fuel Mix - Including GREC



■ Nuclear ■ Coal ■ Natural Gas ■ GREC ■ Other PPAs

The addition of the GREC Project would significantly reduce fossil fuel consumption for GRU's customers. As illustrated in the charts above, if GRU retains all capacity from the GREC Project, the percentage of renewable generation increases from 1.6 to 38.5 percent, while coal drops from 73.0 to 51.1 percent and natural gas drops from 19.6 to 4.6 percent. (EXH 24, p. 1 of 8) The potential resale of a portion of the GREC Project's capacity reduces the fuel diversity benefits somewhat, but GRU's system would still show a notable reduction in fossil fuel usage. The economic impact of this reduction of fossil fuel usage is more thoroughly discussed in Issue 6.

Fuel Transportation

In addition to having a diverse set of fuel types from which to supply electricity to its ratepayers, utilities generally desire to have diversity in transportation and delivery mechanisms for their fuels. Multiple methods of transportation limit the risk of interruption and allow flexibility in fuel delivery. As an inland utility, GRU is restricted to overland transport for its fuel. Currently, for deliveries of coal and natural gas, a single transit method is available for each fuel. As testified by witness Regan, there is only a single rail spur for coal, and a single pipeline for natural gas available to GRU at this time. (TR 98-99)

With the addition of biomass, GRU would be able to use surface roads as a fuel transport system for its baseload generation, diversifying the fuel transportation methods available to GRU to satisfy its ratepayers' energy requirements. (TR 93) Witness Levine testified that approximately 130 to 150 truck loads of biomass fuel will be required by the facility daily. (TR 274) Witness Levine also testified that preliminary traffic analyses show that no change will occur to the level of service of several major routes, though ongoing studies are being conducted. (TR 276)

Biomass Supply Concerns

A primary concern for development of any power plant is access to sufficient fuel supply. Unlike traditional fossil fuels, biomass would not typically be shipped for long distances from centralized production facilities. Biomass for the GREC Project would come from a region approximately 75 miles in radius around the plant site. (TR 273) This radius is developed as a result of economics, rather than any technological limitation. A visual of the fuel catchment area, with forested areas highlighted, was provided as part of GRU's presentation during the public hearing. (EXH 29, p. 27) Multiple studies have been conducted on the area, and suggest that there is sufficient biomass for the proposed GREC Project. (EXH 27, p. 8-9 to 8-11) These studies also suggest that additional biomass would be available in the region for other proposed biomass facilities. (TR 160-163) The economic impact of competition for biomass is more thoroughly discussed in Issue 6.

The GREC Project would use a range of biomass for fuel, including forest residue, mill residue, pre-commercial thinnings, used pallets, urban wood waste, and opportunity fuels. (TR 255-256) Opportunity fuels include trees requiring disposal from storm damage or disease, for which the GREC Project may be eligible for a tipping fee. (EXH 27, p. 9-4 to 9-6) A concern highlighted by several members of the public was that the GREC Project may use construction and demolition debris as a fuel source. As explained by witness Bussing, construction and demolition debris, while a source of low moisture content wood, could contain contaminants that would be released into the atmosphere by their combustion. (TR 23-24) Witness Regan testified that GRU had similar concerns, and that it has not applied to use construction and demolition debris due to the uncertainty of fuel quality and possible environmental impacts. (TR 199-200)

CONCLUSION

The GREC Project would add a biomass fuel source which would significantly reduce coal and natural gas usage on the GRU system. Multiple studies have demonstrated that there is sufficient biomass for existing operations and the proposed GREC Project.

Issue 5: Are there any renewable energy sources and technologies, as well as conservation measures, taken by or reasonably available to Gainesville Regional Utilities which might mitigate the need for the proposed Gainesville Renewable Energy Center?

Recommendation: Since GRU does not have a need for capacity until 2023, GRU did not perform a formal evaluation to determine whether there are any demand-side management or conservation measures available that could mitigate the need for the proposed GREC biomass facility. The decision to build the GREC Project was made to enhance fuel diversity and act as an economic hedge against future carbon regulation. (S. Brown, Ellis)

Position of the Party:

GRU/GREC: No. The Gainesville Renewable Energy Center is needed to provide the Project's many benefits to GRU and the Gainesville community, even taking into account GRU's aggressive renewable energy initiatives and energy conservation programs.

Staff Analysis:

PARTIES' ARGUMENTS

GRU asserts that its existing renewable energy and demand-side management (DSM) programs have deferred the need for additional capacity by several years. (BR 21) As a result of its DSM efforts, GRU has been able to increase the number of available DSM programs to its customers. (BR 20) Moreover, GRU contends that the economic benefits from the American Recovery and Reinvestment Act of 2009 are significant enough to justify approving its proposed need for determination. (BR 19)

ANALYSIS

The City of Gainesville, and by extension its municipal utility GRU, has a history of emphasizing renewable energy over conventional generation and has voluntarily entered into agreements to reduce its carbon emissions in line with the Kyoto Protocol. (TR 87) GRU's existing renewable programs include landfill gas to energy, solar thermal, and photovoltaic rebates, using a European style solar feed-in-tariff. (TR 51, 101, BR 19) Gainesville's Feed-in-Tariff, or FIT, provides a purchase power agreement for a twenty-year term for fixed payments to distributed solar generators at a rate significantly above the current avoided cost. (EXH 27, pp. 3-6)

GRU's current DSM portfolio is based on the Total Resource Cost (TRC) test, which was adopted in 2006, and offers a wide range of conservation programs. (TR 52, EXH 27, BR 20) GRU's energy conservation programs have resulted in an average monthly residential consumption of approximately 831 kilowatt hours. (TR 52) Furthermore, GRU's DSM programs have resulted in cumulative energy reductions of 151 gigawatt-hours (GWh) and cumulative peak demand savings of 30 MW. (TR 90, BR 20)

GRU asserts that its existing renewable energy and DSM programs have deferred the need for additional capacity by several years. (BR 21) As discussed in Issue 2, GRU does not

Docket No. 090451-EM

Date: January 28, 2010

have a need for additional capacity until 2023. As such, GRU did not perform a formal evaluation to determine whether there are any DSM or conservation measures available that could mitigate the need for the proposed GREC biomass facility, a renewable source in and of itself. (EXH 27) The decision to build the GREC Project, which is a renewable generator, was made to enhance fuel diversity and act as an economic hedge against future carbon regulation. The need for fuel diversity is discussed previously in Issue 4. The cost-effectiveness of the proposed plant is discussed in Issue 6.

CONCLUSION

Since GRU does not have a need for capacity until 2023, GRU did not perform a formal evaluation to determine whether there are any demand-side management or conservation measures available that could mitigate the need for the proposed GREC biomass facility. The decision to build the GREC Project was made to enhance fuel diversity and act as an economic hedge against future carbon regulation.

Issue 6: Is the Gainesville Renewable Energy Center the most cost-effective alternative available, as this criterion is used in Section 403.519, F.S.?

Recommendation: Based on current fuel forecasts and environmental requirements, the addition of the GREC Project would result in a cumulative net present value cost of approximately \$100 million. However, if GRU re-sells half of the contracted capacity and if pending carbon legislation is enacted, the GREC Project could provide cumulative net present value savings of approximately \$400 million over the life of the facility. Therefore, the GREC Project could act as a hedge against future regulation of carbon emissions. (S. Brown, Ellis)

Positions of the Parties

GRU: Yes. The GREC is lower in cost than any of the natural gas alternatives considered, and lower in cost than coal units when CO₂ regulation is considered. Additionally, the Project is the most cost-effective alternative available to GRU to meet its need for reliable, sustainable electric power.

Staff Analysis:

PARTIES' ARGUMENTS

GRU considers the GREC Project to be the most cost-effective alternative unit available in 2014, and that it represents the most cost-effective method of achieving its stated policy goals. In an LCOE Analysis, GRU believes the GREC Project in an LCOE Analysis shows savings in 23 of 28 scenarios, with only those scenarios involving coal-fired generation without carbon legislation or carbon capture technology as more cost-effective. (BR 15) The Gainesville City Commission and community have fully considered the impacts of coal-fired generation, and have rejected it as a component of their long-term energy planning. (BR 22) In addition, GRU does not believe that new coal-fired generation could be permitted and constructed due to state and federal government positions regarding carbon emissions. (BR 22)

GRU states that the most likely scenario is enactment of carbon legislation, and resale of capacity at full contract price during the first ten-year period of the PPA. GRU believes that it is highly likely that carbon emissions will be subject to further regulation that would increase power production costs for fossil fuel-fired units, especially coal. (BR 17, 25) Given that several utilities have expressed interest in purchasing capacity from the GREC Project, GRU believes it will have no difficulty reselling capacity at full contract price. (BR 24-25)

GRU asserts that it has conducted a thorough solicitation process to result in the most cost-effective renewable energy generation consistent with GRU's long-term energy policy requirements. (BR 16, 24) The PPA between GRU and GREC LLC features fixed pricing for most costs with fuel being the primary variable cost. GRU suggests fuel prices for the GREC Project will be less volatile than natural gas or coal over the period of the contract. (BR 10) The timing of the contract also allows access to stimulus funding from the American Recovery and Reinvestment Act of 2009, which GRU considers a significant economic benefit and justification, along with other policy objectives, for constructing the GREC Project before capacity need due to reserve margin. (BR 19)

In summary, the Gainesville City Commission unanimously approved the GREC Project on the basis of long-term energy policy goals, including risk reduction and environmental concerns of conventional generation. (BR 17) The Gainesville City Commission, GRU, and the community have been made aware that the GREC Project does produce short-term impacts on rates, including increases from 2014 to 2020. (BR 25) GRU's projection of estimated long-term savings with consideration of carbon regulation and resale is \$480 million over the life of the PPA, and a net reduction of average monthly customer bills between \$6 to \$40, from 2025 to 2040.

ANALYSIS

RFP Process

In rendering its unanimous decision to approve the GREC Project, staff believes the Gainesville City Commission fully considered all aspects of the impact the GREC Project would have on its system. Multiple factors contributed to the GREC Project approval. A significant focus was on the ability of biomass to provide baseload energy. (TR 62) The City Commission also considered the ability of GREC to provide a hedge against future carbon legislation, given GRU's current coal heavy fuel mix. As part of its policy to encourage the development of renewable resources, the Gainesville City Commission directed the GRU to solicit proposals for a baseload renewable generation facility excluding municipal solid waste. (TR 232-233) In October 2007, GRU issued a Request for Proposals (RFP) for biomass-fueled electric generation. (EXH 27) In May 2008, the City of Gainesville unanimously directed GRU to negotiate a purchased power agreement with American Renewables, the developer of the GREC Project. (TR 49, 50) In May 2009, the Gainesville City Commission unanimously approved the American Renewables PPA. (TR 49) As a result of this process, staff believes the GREC Project can reasonably be considered the least cost biomass generator commercially available. Moreover, due to the timing of the GREC project, it may be eligible for significant economic benefits from the American Recovery and Reinvestment Act of 2009. (EXH 7, p. 8)

Contract Payment Terms and Protections

The PPA between GRU and GREC LLC represents a performance agreement, in which capacity payments are paid on a dollar per megawatt-hour basis, instead of the traditional kilowatt per month basis. (TR 128) The contract payments can be divided into two generic groups: (1) non-fuel energy charges based upon the availability of the unit, and (2) fuel charges based upon the dispatch of the unit. (TR 129)

The non-fuel energy charges can be broken down into the capacity payment, which will be adjusted based upon the construction price index difference from the signing of the contract and the beginning of construction, and the fixed operations and maintenance expenses, which will not be escalated. Prices for non-fuel energy charges are based upon the availability of the unit, which has minimum requirements outlined in the contract, and performance incentives to maintain that availability. (Exhibit 27, p. 9-3) The non-fuel energy charge will be paid regardless of the actual energy output of the facility, and are thus a 'sunk' cost when considering economic dispatch. (TR 129) Based upon GRU's economic analysis of the GREC Project, these charges will constitute the majority of payments to the facility for almost the entire thirty-year

term. In the event that the Facility is unable to operate, GRU would not be responsible for any payments. However, if the Facility is able to operate, but GRU opts not to dispatch it, GRU would still be required to pay the non-fuel component of the charges in the amount of energy as if the Facility was dispatched. The fuel charges are based upon a combination of the variable operations and maintenance, escalated at 2.50 percent, and the biomass fuel itself, which was escalated for analysis purposes at the consumer price index. Combined, the fuel charge would be used for dispatch purposes, and is comparable to that of a coal unit. (TR 124)

The PPA between GRU and GREC LLC includes multiple contractual protection mechanisms to ensure that GRU's ratepayers are safeguarded from non-performance by the GREC Project. Protection is also provided for if the facility suffers from non-performance, with GRU able to draw upon financial instruments to purchase replacement power. (TR 150-151) If GREC LLC goes into default the contract becomes void.

Levelized Cost of Electricity (LCOE) Analysis

The GREC Project was compared to several fossil-fueled alternative units in a levelized cost of electricity analysis performed by witness Kushner. (EXH 22) LCOE serves well to screen a variety of technologies on an 'apples to apples' basis, meaning in the case of electrical utilities that similar technologies are approximately interchangeable with an existing system. (TR 307) The four alternate units include a combustion turbine, a combined cycle unit, a pulverized coal unit, and a pulverized coal unit with carbon capture and sequestration (CCS) equipment. (TR 302) Of the four alternate units utilized in GRU's analysis, only the coal-fired units are considered baseload generation similar to the GREC Project.

The LCOE analysis performed by witness Kushner included a range of scenarios, including variations in fuel prices, capital costs, and carbon regulation for the alternative units. (EXH 22) The results of the LCOE analysis at its base capacity factor is featured in Table 6-1 below. Additional scenarios were performed for each alternative unit. (TR 302) For example, the analyses included multiple capacity factors for the base case, and the sensitivities on fuel, capital cost, and carbon regulation were conducted at a 90 percent capacity factor for all units as well.

As the GREC LCOE value is confidential, the values are compared on a percentage basis to GREC. As shown in Table 6-1, the pulverized coal unit is the only alternative more cost-effective than the GREC Project, excluding both carbon cases. (TR 309-310)

Table 6-1: Levelized Cost of Electricity Analysis at Base Capacity Factors¹¹

GREC and Alternative Unit Comparison					
Scenario	GREC	Combustion Turbine	Combined Cycle	Pulverized Coal	Pulverized Coal w/CCS
Capacity Factor (%)	90%	10%	65%	85%	85%
Output (GWh)	788	84	677	930	700
Percentage of LCOE Compared to GREC					
Base Case	100%	203%	111%	86%	148%
High Fuel	100%*	208%	116%	86%	149%
Low Fuel	100%*	196%	105%	85%	147%
High Capital	100%*	218%	115%	94%	166%
Low Capital	100%*	188%	108%	78%	131%
Regulated CO2	100%*	225%	131%	156%	181%
High Regulated CO2	100%*	310%	203%	296%	204%
* - The GREC LCOE Value does not change between scenarios, instead holding the 'Base Case' value constant. GRU did not model any changes in biomass fuel price, capital cost of the GREC Project, or impact of carbon regulation on biomass fuel prices.					

This form of LCOE analysis may be misleading due to several assumptions utilized. First, the use of differing capacity factors results in different amounts of energy production, and therefore would interact with GRU's existing system in a dissimilar fashion. For example, all the alternative units, excluding pulverized coal, produce less energy than the GREC Project. (EXH 22) GRU would be required to increase production of other units or purchase market energy, either solution increasing costs to the alternative scenarios.

Second, GRU's LCOE analysis used the assumption that any alternative unit would be constructed so as to have a commercial in-service date identical to the proposed GREC Project, by January 1, 2014. (EXH 22) Providing for permitting and construction time, neither of the two coal-fired units proposed as alternatives would be able to begin operation by the 2014 timeframe. (TR 309) Even if construction timing was not a factor, witness Kushner states that it is unlikely that a new coal unit would be approved in Florida given the current regulatory climate. (TR 309) The remaining units, both natural gas-fired, likely could be constructed by 2013. However, only the natural gas-fired Combined Cycle unit is designed to operate in a similar fashion to GREC, as a baseload unit.

The GREC Project is assumed for all comparisons to have a 90 percent capacity factor, which is derived from the performance requirements of the purchased power contract. Table 6-2, below, provides a comparison between the performance of those units able to enter service by 2013 and the GREC Project at an identical capacity factor. Due to confidentiality, the LCOE values are compared on a percentage basis to GREC's LCOE. As shown in Table 6-2, the GREC Project still represents the least cost unit in an LCOE analysis, though the difference between the various units is reduced, substantially in the case of the combustion turbine.

¹¹ EXH 27.

Table 6-2 - Levelized Cost of Electricity at Identical Capacity Factors¹²

GREC and Alternative Unit Comparison			
Scenario	GREC	Combined Cycle	Combustion Turbine
Capacity Factor (%)	90%	90%	90%
Output (GWh)	788	937	760
Percentage of LCOE Compared to GREC			
Base Case	100%	106%	117%
High Fuel	100%*	110%	122%
Low Fuel	100%*	100%	110%
High Capital	100%*	108%	118%
Low Capital	100%*	103%	115%
Regulated CO2	100%*	125%	139%
High Regulated CO2	100%*	198%	224%
* - The GREC LCOE Value does not change between scenarios, instead holding the 'Base Case' value constant. GRU did not model any changes in biomass fuel price, capital cost of the GREC Project, or impact of carbon regulation on biomass fuel prices.			

The analyses presented in Tables 6-1 and 6-2 consist of the LCOE over the entire thirty-year term of the PPA. As a result, it does not model possible short-term rate impacts of the units analyzed. On an annual LCOE basis, the GREC Project becomes more cost effective than the natural gas-fired combined cycle unit by 2027 at a 90 percent capacity factor. (EXH 22) When compared to the combustion turbine operating at a 90 percent capacity factor, the GREC Project does not begin to produce energy at a lower cost per kilowatt-hour until after 2021. (EXH 22) Such results indicate that the initial capital costs of the GREC Project are not offset by fuel savings until seven to 13 years into the contract term.

An LCOE analysis is useful as a screening tool once a decision has been made to construct a unit and can assist in selecting between similar technologies. (TR 307) However, the LCOE analysis conducted by GRU assumes a need exists to construct a unit of approximately 100 MW capacity by 2014. This is not the case for GRU, as no need exists until approximately 2023 based upon reserve margin criteria, as discussed in Issue 2. If the GREC Project is not constructed, it is unlikely that one of the alternate units mentioned above would be constructed to begin service by 2014. As a result, staff believes it is more appropriate to compare the GREC Project to a scenario of no new construction until 2023, which is more easily conducted using a cumulative present worth analysis of GRU's revenue requirements.

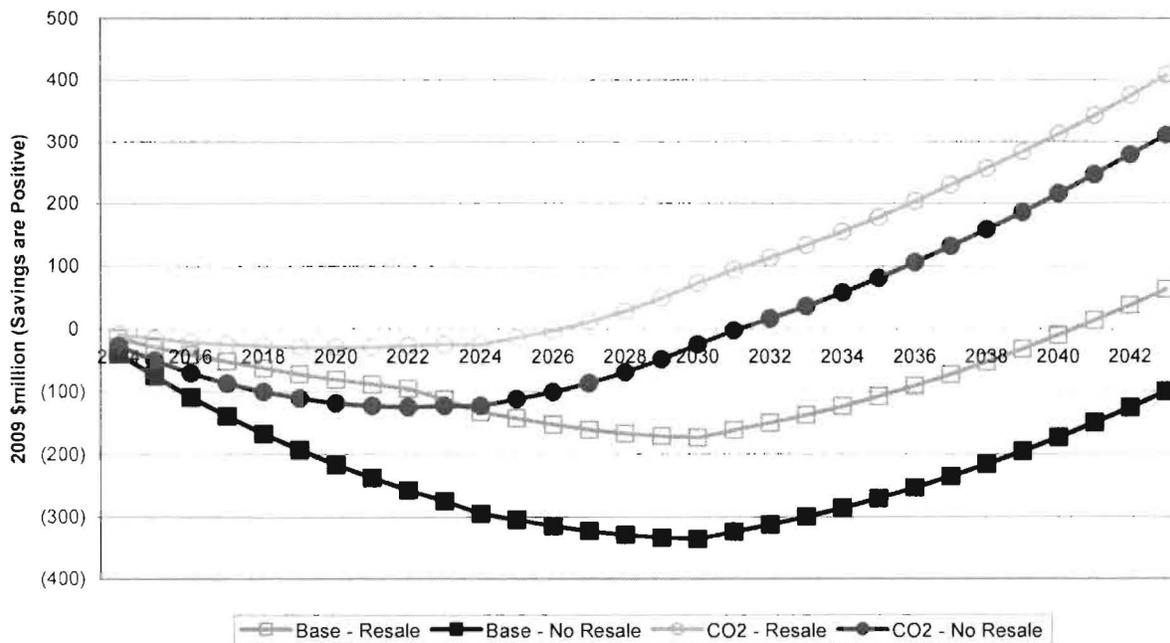
Cumulative Present Worth Analysis

GRU provided a cumulative present worth analysis for GRU's system with the GREC Project and with no new construction until 2023. (EXH 7, pp. 56-58, pp. 98-104) Multiple scenarios were conducted including a resale of half of the GREC Project's capacity for ten years, and the estimated impact of pending carbon legislation. Staff had requested additional scenarios to be conducted using the cumulative present worth analysis method, but GRU was unable to

¹² EXH 22.

provide them due to time constraints. (EXH 7, pp. 55-56) The annual results of these analyses are summarized in Figure 6-2, below.

Figure 6-2 - Cumulative Present Worth Differential from No New Construction¹³



As shown in the graph above, the ‘Base – No Resale’ scenario results in a net present value cost of approximately \$100 million by the year 2043. (EXH 24, p. 4 of 8) GRU’s analyses indicates that the only scenarios where the GREC Project could provide meaningful economic benefits are if pending legislation regarding CO₂ emissions is enacted.

GRU did not include any new construction for the thirty-year term of the GREC PPA, but as witness Regan stated, GRU’s analysis included projected market costs for capacity and energy in its projected requirements. (TR 128) Typically, “filler units” are used to represent future capacity additions that are outside of the utility’s normal planning period. Filler units consist of natural gas-fired combustion turbines or combined cycle units dependent upon projected capacity and energy requirements. Instead, the use of market purchases for energy begins in 2024 with the retirement of Deerhaven Unit 1 and increases as other units on the GRU system are retired. (EXH 7, pp. 78-90) The most significant increase occurs in 2031, with the retirement of Deerhaven Unit 2, when market purchases for power represent approximately 30 percent of net energy for load. In addition to market purchases, the existing units on GRU’s systems were heavily utilized, especially in the outer years. For example, the Deerhaven Combustion Turbine Unit 3 was modeled at a capacity factor equal to 96.3 percent in the no new construction scenario by 2032. (EXH 7, pp. 65-77)

¹³ EXH 26, pp. 10 – 16.

Staff believes it is unlikely that GRU would operate its units in this manner, and that it is more likely that new, efficient units would be constructed at some point during the period to meet customer demand. Also, witness Regan testified that GRU hopes to get more than 50 years out of the Deerhaven Unit 2, which would push the retirement date of this unit further into the future. (TR 111, 112) Due to the lack of the use of “filler units,” variability of retirement dates, high amount of market purchases, and unusually high capacity factor for peaking resources, staff believes the cumulative present worth analyses conducted by GRU provides no clear answer to the economic viability of the GREC Project. However, the analyses do indicate that the primary driver of estimated savings comes from the estimated impacts associated with pending environmental regulations affecting CO₂.

The enactment of pending carbon legislation will have the greatest impact upon the cost-effectiveness of the GREC Project. (EXH 24, p. 4 of 8) If the GREC Project is considered carbon neutral, and is able to reduce the requirement of GRU to purchase carbon credits or allocations, then the facility may provide significant economic benefit. As testified by witness Regan, the GREC Project acts as a hedge against potential carbon legislation that may have a negative effect upon the cost effectiveness of coal-fired generation, which GRU heavily relies upon. (TR 88, 98)

The GREC Project’s output would assist GRU in meeting its voluntary carbon emission goals under its policy statement to meet the Kyoto Protocol. (TR 123) In addition, the GREC Project would operate as a hedge against possible future regulation of carbon emissions at the federal level. (TR 139-140) House Resolution 2545, or the Waxman-Markey Bill, was used by GRU to develop the economic impact of carbon legislation. (TR 302) In addition, the GREC LLC PPA provides all the environmental attributes associated with the facility to GRU. The impact of possible sale of these credits are not included in GRU’s economic analysis, as the City Commission policy concerning retirement or resale of renewable energy credits is unknown. (TR 149)

While GRU’s economic analysis is based upon pending legislation, the regulation of carbon emissions and federal renewable portfolio standard are not guaranteed to remain in its current draft form, or be implemented into law. Significant changes, delays, or withdrawal of the pending legislation could impact the anticipated rate impact of the GREC Project. For example, the Waxman-Markey Bill and multiple federal and international organizations consider biomass to be a renewable and sustainable resource. In fact, the collection and combustion of biomass can serve to reduce carbon emissions by reducing methane emissions related to rotting biomass. (TR 135) However, biomass generation typically involves the use of fossil fuels for transport of fuel to the facility, which amounts to approximately four percent of the equivalent carbon emissions had the fuel been coal. (TR 135) As a result, until legislation is enacted, there will be some uncertainty as to whether biomass facilities would be considered fully carbon neutral, or partially so dependent upon fuel source and transportation.

Customer Bill Impact

The customer impact of the GREC Project is affected greatly by the degree to which GRU is able to resell capacity at or near the full contract price, and whether pending carbon legislation is enacted. The customer rate impact numbers are lower per average GRU customer,

as they use approximately 831 kWh monthly, compared to the state average of approximately 1,200 kWh per month. (TR 142-143) In addition, GRU anticipates this value to decrease in the future. (TR 159)

Without resale and under current regulations, the average residential customer on GRU's system would see an initial bill increase of \$18.27 (or 17.2 percent) per month starting in 2014. (EXH 24, p. 31) The rate impact could be reduced to an estimated \$7.33 per month (or 6.7 percent) bill increase, assuming resale at full contract price. Pending carbon legislation if enacted, reduces the initial and long-term customer bill impact of the GREC Project significantly. The initial impact is estimated to be as low as \$4.13 (or 3.4 percent) per month in the carbon regulated, resale scenario. Based on the above, the purchased power from the GREC project is projected to increase the cost of electricity for GRU's customers. However, the Commission does not have rate-setting authority over the GRU and therefore any rate impact would be the result of the Gainesville City Commission's policy decisions.

As mentioned above, GRU plans to resell 50 MW of capacity from the GREC Project for the first ten years of the contract. Several utilities have expressed interest in purchasing this capacity, including Florida Municipal Power Agency, Orlando Utilities Commission, Reedy Creek Improvement District, and City of Lakeland. (TR 193) While these utilities, or others, may purchase portions of the GREC Project's capacity, it is not known if GRU would be able to secure resale purchased power agreements for the full price of the contract that GREC LLC is guaranteed by GRU. Staff believes it is likely that GRU would be able to resell capacity from the GREC Project, and that the no resale scenario represents a worst-case situation.

In regard to the short-term resale of the GREC Project's capacity as previously mentioned. GRU did not consider the possibility of resale of existing system capacity during the early period of the PPA. This would have the net result of reducing the system costs with and without the GREC Project, as otherwise underutilized assets could receive payments based upon the market price of capacity, or are possibly salvaged. (TR 210)

Biomass Supply Considerations

GREC LLC intends to enter into several contractual agreements for 'call' options on biomass sufficient for the operation of the GREC Project. (TR 256) It also suggests it is in the position to enter into more binding arrangements, but it has not executed any fuel contracts, at this time. (TR 258-259) GREC LLC also states its intention to avoid locking in prices for the full amount of biomass required by the GREC Project, as opportunity fuels may become available due to a storm event, land development, or other situation. It is conceivable that in some situations, the GREC Project would be paid a tipping fee to accept wood in these situations. (TR 249)

While sufficient supply of biomass may be available for the GREC Project, the existence of competition for the resource may result in price increases. (TR 163-164; 249; 268-269) GRU proposes that biomass fuel will escalate at the level of the Consumer Price Index, based upon the usage of labor and equipment required for forestry operations. (TR 249)

GRU intentionally has selected a larger biomass unit with an earlier in-service date in order to take advantage of the current biomass market. By being the “first in the door,” the GREC Project will be able to access a broader fuel supply than future competitors, or discourage future development by contracting all the available fuel. (TR 42, 12/09/09 Public Meeting) A notable possible competitor is a similar facility to GREC being planned in Hamilton County by American Renewables. (TR 240) This facility, to be known as the Hamilton County Renewable Energy Center (HCREC), would feature a 100 MW biomass plant approximately half-way between Jasper and White Springs along Route 41. (TR 267) This places the HCREC facility well within the 75 mile radius of the GREC Project’s fuel catchment area previously discussed. (TR 266-267) Witness Levine testified that at least two other planned biomass facilities are being planned, one in Gadsden and the other one in Hamilton County. (TR 271) Witness Levine further testified that announcements of future biomass facilities tend to out-number the actual development and construction. (TR 272)

In its planning process, GRU and GREC LLC expected a reasonable level of competition for its biomass fuel resource, and included the effects of increased pressure on the prices of biomass due to several planned biomass facilities. Witness Levine testified that current and future competition was considered in the planning process, and is confident that the confidential biomass price can be met. (TR 267-269)

As testified by witness Levine, there is also risk sharing built into the contract’s fuel provisions. (TR 281-282) A confidential target price for biomass is established based upon the contract, which is then compared to the actual price for fuel paid during the period. GREC LLC would receive approximately 15 percent of the difference between the target and actual values, either as savings if below the target or as additional cost if above. (TR 281-282)

CONCLUSION

Based on current fuel forecasts and environmental requirements, the addition of the GREC Project would result in a cumulative net present value cost of approximately \$100 million. However, if GRU re-sells half of the contracted capacity and if pending carbon legislation is enacted, the GREC Project could provide cumulative net present value savings of approximately \$400 million over the life of the facility. Therefore, the GREC Project could act as a hedge against future regulation of carbon emissions. The purchased power from the GREC project may increase the cost of electricity for GRU’s customers. However, the Commission does not have rate-setting authority over the GRU and therefore any rate impact would be the result of the Gainesville City Commission’s policy decisions.

Issue 7: Based on the resolution of the foregoing issues, should the Commission grant the petition to determine the need for the proposed Gainesville Renewable Energy Center?

Recommendation: Yes. The additional generation from the GREC Project will enhance the overall reliability of the GRU system and significantly increase the amount of renewable generation on GRU's system. If GRU re-sells half of the contracted capacity and if pending carbon legislation is enacted, the GREC Project could provide cumulative net present value savings of approximately \$400 million over the life of the facility. Therefore, the GREC Project could act as a hedge against future regulation of carbon emissions. Any rate impact would be the result of the Gainesville City Commission's policy decisions. (S. Brown, Ellis)

Positions of the Parties

GRU: Yes. The Commission should grant the petition for determination of need for the Gainesville Renewable Energy Center (GREC) because it satisfies the statutory need criteria, is the most cost-effective option that allows GRU to meet future power requirements, promotes renewable energy, and provides substantial strategic benefits to GRU.

Staff Analysis:

PARTIES' ARGUMENTS

GRU argues that the Commission should grant the petition for determination of need for the Gainesville Renewable Energy Center because it meets the statutory need criteria and represents the most cost-effective option that allows GRU to meet its customers' future power requirements. (BR 26-27) Furthermore, GRU contends that the proposed GREC Project would promote renewable energy. (BR 26) GRU asserts that the Commission should approve its need determination based on the events of the Gainesville City Commission that led to the project gaining unanimous approval from the City Commission to proceed with the GREC project. (BR 26-27).

ANALYSIS

As discussed in Issue 2, GRU does not have a capacity need until 2023. However, the addition of the capacity from the proposed GREC Project would enhance reliability and eliminate GRU's need for additional capacity until 2032.

As discussed in Issue 4, GRU has chosen to place more emphasis on renewable generation and therefore sought to replace its expiring purchased power contracts with generation from a renewable energy source capable of baseload operation. GRU's existing system consists primarily of coal-fired baseload generation. The addition of capacity from the proposed GREC Project will provide renewable baseload capacity while replacing purchased power, thereby, reducing coal and natural gas usage on GRU's system. The GREC Project was selected by GRU as the least-cost renewable proposal during an RFP process for biomass facilities and is a continuation of GRU and the Gainesville City Commission's efforts to encourage renewable energy.

Docket No. 090451-EM

Date: January 28, 2010

As discussed in Issue 6, the addition of the GREC Project would result in a cumulative net present value cost of approximately \$100 million under current economic conditions. However, if GRU re-sells half of the contracted capacity and if pending carbon legislation is enacted, the GREC Project could provide cumulative net present value savings of approximately \$400 million over the life of the facility. Therefore, the GREC Project could act as a hedge against future costs associated with the regulation of carbon emissions.

CONCLUSION

The additional generation from the GREC Project will enhance the overall reliability of the GRU system and significantly increase the amount of renewable generation on GRU's system. If GRU re-sells half of the contracted capacity and if pending carbon legislation is enacted, the GREC Project could provide cumulative net present value savings of approximately \$400 million over the life of the facility. Therefore, the GREC Project could act as a hedge against future regulation of carbon emissions. Any rate impact would be the result of the Gainesville City Commission's policy decisions.

Docket No. 090451-EM
Date: January 28, 2010

Issue 8: Should this docket be closed?

Recommendation: Yes. Upon issuance of a final order addressing GRU and GREC LLC's joint petition to determine the need for the GREC Project, the docket should be closed when the time for filing an appeal has run. (Sayler, M. Brown)

Positions of the Parties

GRU: Yes. This docket should be closed after expiration of the time for filing an appeal of the Commission's final order granting the petition for determination of need

Staff Analysis: Upon issuance of a final order addressing GRU and GREC LLC's joint petition to determine the need for the GREC Project, the docket should be closed when the time for filing an appeal has run.