

RESPONSE TO  
REMAINING ALACHUA COUNTY ISSUES OF CONCERN  
RELATED TO  
GAINESVILLE'S LONG TERM PLAN TO MEET  
FUTURE ELECTRICAL NEEDS

Gainesville Regional Utilities  
January 31, 2005

BACKGROUND

The Alachua County Board of County Commissioners (BoCC) has formally requested that the City Commission address the ten issues listed below. They have also requested that they be addressed before proceeding with the next stage of the planning process for Gainesville's long term plan for future electrical supplies. Further, the BoCC also requests that GRU Continue to keep County staff and EPAC involved in the planning process for any new facilities. Four of the issues (items 1-4 below) were identified by County staff at the January 11, 2005 BoCC meeting. The remaining six issues (items 5-10 below) were identified by the Alachua County Environmental Protection Advisory Committee (EPAC) at the January 25 BoCC meeting.

The issues were conveyed to the City Commission by the Chair of the BoCC and are repeated below in bold face font. Staff's responses immediately follow each issue, in italics. References cited in these responses refer to a document previously provided to the BoCC and City Commission that provides additional technical information and background for the responses provided here.

FUTURE INVOLVEMENT

GRU wishes to express its appreciation to the members of County staff and EPAC who have spent countless hours and meetings discussing the many issues and dimensions of meeting Gainesville's future needs for electrical supplies. GRU is committed to continuing this involvement and dialog.

ISSUES AND RESPONSES

**1. Very short term (<24 hour) modeling for fine particulates (PM 2.5) and a more thorough evaluation of potential health impacts of these fine particulates should be performed by GRU.**

*Alachua County has good air quality, and the City's existing coal, gas, and oil fired generation facilities at Deerhaven are not adversely affecting our community's health or quality of life. Nonetheless, the proposed plan voluntarily includes additional emission controls for existing facilities, taking advantage of fuel and other cost savings to allow additional emission controls to be affordable at this time.*

*Studies performed to date indicate that additional capacity in the form of a 220 net megawatt (MW) circulating fluidized bed (CFB) unit could be a good fit with Gainesville's needs. CFB is a proven, clean technology that would allow for the cost-effective use of biomass and excellent fuel mix flexibility. If the final plan were to include a unit of this size, studies indicate that substantial net reductions in air emissions would be obtained. These include a 60% net reduction in sulfur dioxide emissions, a 63% net reduction of NOx emissions, a 70% net reduction of mercury emissions, a net reduction of fine particulates (PM<sub>2.5</sub>), and a net reduction of total particulates (PM<sub>10</sub>) in excess of 700 tons per year when reduced emissions from open burning of waste wood are taken into account.*

*24-hour ambient air quality studies have been prepared to identify the areas with the maximum effect from GRU's power plant operations. Even under the worst case conditions, modeling results for these areas have shown that GRU contributes less than 3% of the ambient air quality standards ( Reference Page B-14). Staff has queried local, state and federal environmental protection agencies as well as members of EPAC and as yet has not been able to find a credible model with which to evaluate any potential health effects at these low levels.*

*Modeling results are useful only to the extent that they can be compared to standards or background conditions. Given the expected reduction of PM<sub>2.5</sub> in the ambient environment, the lack of any ambient background data or standards with which to compare, and the preliminary nature of the proposed plan at this point in time, GRU staff does not believe it would be beneficial to model PM<sub>2.5</sub> results for averaging periods less than 24 hours at this time.*

**2. A higher total carbon offset target should be established by GRU since some of the carbon offset credits previously claimed by GRU (e.g. the Landfill Gas to Energy Plant) are not sustainable and the magnitude of new greenhouse gas emissions is significant.**

*GRU's intent with respect to managing its existing portfolio of greenhouse gas reductions has apparently not been made clear, and wishes to clarify its intent. GRU has set a carbon reduction target of approximately 714,000 tons of CO<sub>2</sub> per year (t-CO<sub>2</sub>/yr). About 255,000 t-CO<sub>2</sub>/yr is expected to be met from existing GRU operations and conservation programs with the remaining 459,000 t-CO<sub>2</sub>/yr to be obtained through the proposed \$7,000,000 Greenhouse Gas Fund*

*(Reference Section E). GRU recognizes that some of the current 255,000 t-CO<sub>2</sub>/yr carbon offsets (such as from the Landfill Gas to Energy Plant) from its operations may have anticipated life spans less than that of the facility identified through the planning process to date. This is one of the reasons why GRU tracks the useful life of the conservation measures it has caused to be installed and does not claim credits beyond their projected useful lives (this has been discussed as "vintaging" in public meetings).*

*It is GRU's intent to maintain and increase greenhouse gas reductions from its operations through additional conservation programs, potentially moving its landfill gas facilities to other landfill sites in the region, the use of carbon neutral fuels, and other operational changes through time based on available opportunities as they emerge.*

**3. Additional data is needed on the estimated metals emissions and fugitive particulate emissions from the new coal plant and the magnitude of reclaimed water usage impacts.**

*GRU is committed to preparing these types of analysis, however additional detailed analysis would not be beneficial at this point in the planning process (Reference Page B-13 and B-2). The outcome of an analysis of trace metals emissions and fugitive dust depends upon detailed consideration of the boiler design, emission control processes, the layout and types of fuel handling facilities, and better definition of fuel sources. None of these decisions have been made yet.*

*An estimate of reclaimed water use had not been previously made public for a 220 net MW CFB through GRU's inadvertent omission. The current estimate is 1.8 million gallons per day. The determination of the source of this water (Kanapaha or Main Street Water Reclamation Facilities) is pending further conceptual design and discussions with the water management districts.*

**4. Plans for a new coal fired power plant need to be linked to a more definitive commitment from GRU to implement best available control technologies to achieve the maximum reduction of mercury emissions.**

*GRU proposes to meet the regulatory standard known as the Maximum Available Control Technology (MACT) for mercury which is a standard set by the USEPA for the limits of technically feasible reductions.*

**5. Off-System Sales -The GRU plan requires that both large base generators be used continuously generating far more energy than is needed in the local service area, which requires off system sale of excess energy. EPAC recommends a public discussion of the facts, policy implications, and the health and financial risks of these sales.**

*GRU agrees that this is an important issue worthy of public discussion. There will be excess base load capacity for a few years following construction of a new unit. No technology selections were made with any financial consideration of any form of sales other than to serve local customers, including the City of Alachua. All of the emission studies performed to date have assumed that the proposed and existing facilities were operated at their maximum capacities, regardless of for whom the electricity was being produced. The ability to obtain revenues from excess capacity has been publicly discussed at several City Commission meetings and in numerous other community meetings. This topic was addressed in explicit detail in presentations before the Gainesville City Commission and publicly discussed on March 22, 2004 and November 15, 2004.*

**6. Lack of Real Alternatives – GRU’s solid fuel proposal was compared with two expensive alternatives as a means of demonstrating the superiority of the GRU plan. EPAC recommends no decision be made until alternative plans responsive to the express desires of the public are developed and compared to GRU’s favored proposal. These plans must incorporate extensive use of renewable fuels, extensive conservation measures and avoidance of coal.**

*Alternatives considered in the development of this plan included renewable energy, especially solar and biomass, and a wide range of alternatives for using conventional fuels, including both re-powering existing units and additional new units. Not only were a wide range of technologies considered, but a wide range of sizes were considered. Three alternative plans to meet future capacity needs through 2023 were developed for detailed financial and environmental comparisons as follows:*

- 1. No-build (“renting” capacity from the open market);*
- 2. Natural gas fired capacity (240 MW combined cycle); and*
- 3. Solid fuel fired capacity (220 MW CFB).*

*The natural gas fired alternative was the least cost natural gas plan developed upon the recommendation of an independent review performed at GRU’s request by a nationally recognized consulting firm with extensive experience in the power industry ( R.W. Beck). The solid fuel fired capacity alternative was the one selected for additional evaluation by the City Commission on February 9, 2004.*

*GRU is committed to continue examining additional energy conservation and renewable energy as the long term plan is further developed. Coal and petroleum coke are an important part of the proposed plan as the cost savings they provide make other features of the plan, such as overall net emission reductions, affordable, as well as other benefits related to fuel supply reliability.*

**7. Biomass Alternative – EPAC recommends that GRU develop a realistic biomass alternative taking into consideration the many advantages of biomass and its own consultant’s technology recommendations.**

*The biomass element of the proposed plan includes 30 MW from forest waste wood. This proposal was made after careful consideration of the resource and technology studies commissioned by GRU, as well as discussions and a workshop held with representatives of the north central Florida forestry industry. Co-firing with other fuels enables a better heat rate to be obtained, lower capital costs, and avoids the risk of stranded assets should biomass not be available. The uncertainty of the delivered cost of processed biomass, potential seasonality, and existing and future competition for forest waste products as fuel, has resulted in the current estimate of sustainable, reasonably priced biomass. GRU intends to further explore options to position its facilities to take greater advantage of this resource if it is shown to have a higher availability than currently expected.*

**8. GRU should re-evaluate Conservation and Demand Side Management using a range of evaluation methods and alternative conservation schemes.**

*GRU intends to periodically re-examine and re-evaluate its conservation plans to accommodate changing technologies, energy prices, and consumer trends. The six new conservation rebate programs and on-going pilot study for a duct leak repair program are an example of GRU’s commitment. As a result of GRU’s recent request for innovative demand side management programs, studies are underway to develop: a) a better program to deliver low income weatherization program through inter-agency co-ordination and b) an innovative program to improve commercial HVAC efficiency. GRU’s planning criteria for conservation program design is the rate impact measure (RIM) test, the proposed Greenhouse Gas Fund is designed to allow consideration of other planning criteria (Reference Section E).*

**9. As both the City of Gainesville and Alachua County are members of the Cities for Climate Protection Campaign, GRU should focus on minimizing greenhouse gas emissions from all utility operations.**

*GRU has already committed substantial resources towards minimizing greenhouse gas emissions from its operations as discussed under issue #2 above. GRU’s proposed renewable and conservation plan, coupled with existing carbon offsets, will result in a 14% carbon intensity reduction from 2003 levels for electrical production by 2012. The Greenhouse Gas Fund proposal widens the range of potential carbon reduction projects to include transportation, manufacturing, and agricultural sectors of our local economy (Reference Section E). The proposed funds will be an important aspect of the City’s participation in*

*the Cities for Climate Protection program. If the proposed Greenhouse Gas Fund is able to obtain its target of 460,000 t-CO<sub>2</sub>/yr local carbon reductions, GRU's carbon intensity for electrical production will be reduced by 32% from 2003 levels by 2012.*

**10. Our community faces an energy future radically different from anything in our past. EPAC recommends that GRU and our community develop a plan for completing the transition to a renewable energy future.**

*The proposed goal of meeting 10% of electrical demand with renewable energy and conservation by 2012, in addition to the 5% already achieved, is the most aggressive of any utility in Florida. It was formulated only after extensive benchmarking against utilities nationally recognized for their conservation leadership and after careful study of locally available natural resources. The ability to co-fire biomass with solid fuels in a cost-effective manner makes the proposed goal financially feasible.*

#### REFERENCE

Staff Response to Long term Electrical Supply Plan Questions, Issues, and Recommendations Made in November 2004 to the Gainesville City Commission  
prepared by Gainesville Regional Utilities, December 2004.