050879

STAFF RESPONSE TO
KEY POINTS PRESENTED TO THE
GAINESVILLE CITY COMMISSION ON MARCH 6, 2006
BY COMMISSIONER DONOVAN

Staff responses are provide in italics. Page numbers refer to ICF's March 13, 2006 final report unless otherwise noted.

1. Our primary task tonight: Schedule our decision process

Three Meetings have been scheduled: Commission workshops on March 21 and 30, 2006, and a special City Commission meeting on April 12, 2006 (tentative).

2. Pay GDS to come present on 3/13

Arrangements have been made for GDS to make a presentation at the first Commission Workshop on March 21, 2006

3. ICF analyzed a narrow range of options, with the expectation that the City Commission would figure out the best mix of policies on our own

Staff agrees that the additional options evaluated by ICF do not constitute an optimized plan, nor are they mutually exclusive. For example, combining Maximum Conservation with Options 1 or 2 might be beneficial by reducing expensive off-system power purchases inherent in Options 3 and 4. Staff is prepared to optimize a plan if directed to do so by the City Commission.

4. We (Gainesville) have adequate energy supply properly managed to allow years of delaying our "build new plants" decision

All the scenarios eventually require the construction of new capacity to assure reliable and affordable supplies. Staff has estimated that a delay in the availability will cost 11.3 to 21.7 million dollars per year (2004) by virtue of purchasing expensive off system replacement power. (Source: Black and Vetch May 2004 "Supplementary Study of Generating Alternatives for Deerhaven Generating Station").

5. We should act to delay our decision until we see:
a. How well we can control demand
b. How our uncertainties will play out (pollution regulation, fuel pricing, technology development)

Staff recommends that the City Commission adopt a Commission policy for developing energy conservation plans that either a) re-affirms the use of the Rate Impact Measure (RIM) test for conservation cost-effectiveness, or b)adopts a

new policy based on the use of the Total Resource Cost (TRC) test for conservation cost-effectiveness. If the Commission acts on the staff recommendation, the Commission could also choose to provide staff with direction to proceed with the pursuit of a solid fuel power supply option, beginning with the development of a market solicitation for alternative power supply proposals, The market solicitation could proceed in parallel with development of new conservation programs that embrace the Commissions conservation planning policy.

6. Several paths are possible (for us) as alternatives to the four "simple" options studied by the ICF. For example, one option would be the following:

a. Delay retirement of units by re-powering (for 7-8 years each?)

The table below shows the expected retirement dates and summer net capacities of generating units scheduled for retirement between now and 2025. These units when installed were originally expected to have 30 years of useful life, which staff has worked to extend as long as practical. Continued reliance on these units will require additional costs and will result in reduced reliability.

UNIT RETIREMENTS OVER STUDY PERIOD 2006-2025

Unit Name	Planned Retirement Year	Summer Net MW	Age Upon Retirement (Years)
Kelly Unit 7	2011	23	50
Kelly CT1	2018	14	50
Kelly CT2	2018	14	50
Kelly CT3	2019	14	50
Deerhaven Unit 1	2023	83	51
Total Retired MW	na	148	na

Note: by 2025, Deerhaven Unit 2 will have been in service 44 years.

Re-powering of Kelly Unit 7as a natural gas fired combined cycle unit was considered as part of the study that led to the re-powering of Kelly Unit 8. Kelly Unit 7 was smaller than Kelly 8 (which is 38 MW), and the matching combustion turbine (CT) could not provide the economies of scale or thermal efficiency of the size unit whose reject heat could power Kelly Unit 8. There were also concerns about over extending the life of this unit, due to the condition of the unit. Re-powering Deerhaven CT 3 into a natural gas combined cycle unit was also considered at that time. CT 3 is too small to be a match for Deerhaven 2, thus requiring the construction of a heat recovery steam generator, steam turbine, generator set, transformation and switch yard, none of which made economic sense for the amount of capacity thus obtained. Re-powering of Deerhaven 2 into a natural gas fired combined cycle, using a relatively large F class combustion turbine was included in the analysis of options studied as part of preparing a report presented to the City Commission in December 2003 entitled

Alternatives for Meeting Gainesville's Electrical Requirements Through 2022, see Chapters L and M. It did not prove to be as cost-effective.

b. Maximize & speed implementation of DSM

If the Commission is able to finalize a policy for conservation cost-effectiveness as suggested in 5.a. above, staff will be able to begin the development of an implementation strategy consistent with Commission policy.

c. Tier electricity rates to shift demand

Tiered electrical rates are already in place for residential and small commercial customers. The Commission may wish to re-evaluate the existing rates and structure of rates for all classes of customers in the future.

d. Eliminate wholesale contracts

Existing wholesale power contracts are listed in the following table. These contracts will expire naturally before additional new capacity is required under current forecasts. Unless action is taken to affirmatively make power costs competitive, it is unlikely that these contracts would be renewed. Early termination could be costly. In the mean time, wholesale customers pay the same fuel costs as other retail customers, as these contracts all include provisions to pass along fuel costs to end users. Non-fuel revenues from these contracts are beneficial to all our retail customers.

EXISTING WHOLESALE POWER CONTRACTS

Counter Party	*Current Load*	*Expiration Date*
Starke	*3 MW (fixed)*	*12/31/06*
Alachua	*22 (growing)*	*12/31/07*
Seminole	*15 (growing)*	*12/31/12*

e. Up-grade codes and incentives for residential & commercial energy efficiency (especially for rentals)

Local governments in Florida are currently not able to institute more stringent building codes pursuant to state law. There are other powers the City Commission could invoke to promote energy conservation, such as through housing, licensing, and development codes. Staff has recommended a review of these local regulations to improve the energy efficiency of local buildings, including rental property.

f. Encourage community spirit of cooperation for higher purposes (clean air, low bills, safe water, moral responsibility regarding pollution & global warming)

Staff supported the implementation of our existing GRUGreen energy program and the proposed Greenhouse Gas Fund as integral parts of a broad plan to support these worthwhile social goals while also providing the community with affordable energy costs.

7. Demand analysis problems:

a. Reliance on GRU forecast

ICF evaluated GRU's forecast, and described that forecast as "reasonable to conservatively low".

b. Reliance on short-term history

The econometric model employed by utility staff was developed based on historical data extending back to 1971. The average annual growth in summer peak demand over the last twenty years (1986 through 2005) was 2.7% per year. GRU's forecast projected demand growth is 12.5% lower than historical rates for the next ten years (at 2.4% per year), and 33% lower for the subsequent ten years (at 1.8% per year). Staff continuously re-evaluates the factors used in its modeling and takes into account factors from recent history, for example, the effect of changes in system losses on the calculation of seasonal peak demands from forecasted energy use.

c. Didn't use complex bottom up analysis (e.g. Its own HELM model)

Bottom-up end-use models require literally thousands of assumptions and parameters which are difficult to specify. These assumptions and parameters include the existing penetration, age, and condition of all consumer appliances (residential and commercial), the structure and condition of all building envelopes, and the on and off peak load shapes for each end-use technology, based on an hourly "typical meteorological year". The same features that make end-use models attractive (very detailed energy consumption characteristics) tend to make them unwieldy, time-consuming to construct and inaccurate. These models require calibration against aggregate sales and energy, either using historical data or some form of econometric forecast model. Staff does not know of any utility which uses such a model for long term forecasting of sales and peak demands.

8. DSM analysis:

a. Tiered rates not examined

As shown in the table below, GRU currently has tiered rates for residential and small commercial customers. GRU also currently offers a voluntary residential time-of-use rate and a voluntary large power curtailable rate. Each of these voluntary rates currently has two subscribers.

ELECTRIC RATE STRUCTURES

RESIDENTIAL	
Customer Charge	*$4.89*
Energy Charge per kilowatt-hour (kWh)	
0-750 kWh / On-peak	*$0.04613*
Over 750 kWh / Off-peak	*$0.05966*
RESIDENTIAL TIME OF USE	
Energy Charge per kilowatt-hour (kWh)	
On-Peak	*$0.0988*
Off Peak	*$0.0310*
GENERAL SERVICE NON-DEMAND	
0-1500 kWh	*$0.05090*
Over 1500 kWh	*$0.06087*

Energy Charges include $0.0065 of fuel costs. Fuel adjustment added separately.

b. GRU administrative inefficiency not examined

The apparently high overheads for GRU's conservation programs are an artifact of the accounting methods used for these programs. Staff's comments to ICF prepared in response to the first draft report on March 22, and ICF's comments explain this further and are repeated below.

Staff Comment March 22, 2006:

ICF assumed that marketing, admin and other costs are typically about 50% of the incentive paid. Our marketing, admin and other costs are reported to be about 3 times the incentives paid. In an "aggressive" implementation state, is it likely that the costs would be considerably higher than 50% of the rebate amount? It should be noted that in our accounting we include free residential surveys, free HVAC load sizing, free commercial lighting surveys, free commercial energy surveys, and numerous internal and external energy consultations by staff in the cost multiplier over the rebate amount.

ICF Answer:
ICF believes that its assumptions are reasonable, and expects that the primary difference between ICF and GRU assumptions about average cost levels is based in the classification of costs for accounting purposes and the fact that GRU chooses to "self-implement" many programs, not on a fundamental disagreement about the costs to provide the services.

c. ICF methodology skews sense of effectiveness

Staff is concerned that the inclusion of programs with TRC Benefits over costs as low as 0.5, as well as other assumptions, may potentially over estimate the achievable potential. The speculative nature of the estimates that have been developed to date by ICF are illustrated by the following ICF response to a question from staff made February 22, 2006, as part of a review of the draft ICF report.

Staff Comment:
Regarding ICF's estimated conservation potential ICF states on Page 72: "...this assumption is at the upper end of the range used in similar studies across the country." Are there any studies to demonstrate if any utility has achieved these sorts of market penetrations?

ICF Answer:
ICF is not aware of any studies that tie a potential study with actual achievement for that same service territory after a prolonged period of implementation.

d. Reduced risk of DSM not accounted for

ICF has actually presented DSM as being more risky than other options – largely because of the reliance of DSM programs upon human purchasing behavior, and the possibility that new technologies using more electricity might be introduced. For example, electric bicycles and plug-in hybrid cars are experiencing a nation-wide increase in use. Staff agrees that if managed properly, and as part of a portfolio of options, the granularity of DSM program implementation and the ability to measure program effectiveness through time provide means by which to hedge these risks.

9. Supply Side analysis: No numerical examination of delayed retirement or re-powering (e.g. The 10 year old 78 MW gas turbine at Deerhaven)

See response to item 6a above.

10. No examination of heightened risks of elevated debt. S&P has raised a red flag regarding the GRU plan

Standard & Poors (S&P) and Moody's Investors Service (Moody's) have been provided the same costing and customer bill comparison information that staff has shared with the Commissioners and citizens. In the last ratings letter from both agencies they discussed the potential impacts of the proposed plan but indicated that they would not review the financing plan and related impacts until time of issuance.

Moody's Aa2 rating was based on the "system's relatively competitive electric power costs, well-managed financial operations with good debt service coverage and strong cash position, stable economic base, and good utility management."

S&P affirmed GRU's AA rating based on strengths such as low production costs, generally strong financial profile, experienced and proactive management team, and a stable economy. These strengths were somewhat offset by a general fund transfer that is a large percentage of total revenue and a shift towards greater debt financing.

11. The significance of jobs and economic development were not adequately examined – at least, requires more examination

The IMPLAN model utilized by ICF is an external (independent) economic impact modeling software that utilizes data primarily from federal government sources including the US Bureau of Economic Analysis, the US Bureau of Labor Statistics, and the US Census Bureau for evaluating economic development projects. The analyses performed by ICF were conducted at the county (Alachua County) level, and ICF appropriately recognized that some of the multiplier impacts associated with a project in Gainesville would fall outside of Alachua County.

ICF specified that the job creation potential associated with the DSM scenario should be interpreted differently from the other three scenarios where most of the new jobs were associated with the construction of a new plant while the remaining new jobs were associated with the operation and maintenance of the plant over 30 years. The DSM scenario creates fewer jobs because it is not meant to be a stand-alone option to fully meet the increased demand. It only replaces part of the increased demand. Jobs created in the DSM scenario are counted in the years that DSM programs are implemented, compared with the continuous level of jobs associated with the operation and maintenance of a new plant over 30 years.

12. Transmission line up-grades require more examination regarding cost of import and export of energy

Staff has conducted and will continue to conduct relevant studies. Transmission costs tend to be small compared to those of power production. For example transmission costs for GRU are less than 3.5% of total revenue requirements.

13. GDS's key conclusion is found on page 1 of its report, at bullet # 2

GDS has chosen to recommend ICF's "Maximum DSM" option solely on the basis of avoiding capacity without regard to any other consideration, such as affordability.