#050879
3/30/06

ICF FINAL REPORT
(RFP No. 2005-147)
CITY OF GAINESVILLE ELECTRICAL
SUPPLY NEEDS

EXECUTIVE SUMMARY AND DECISION MATRIX

Presentation to the
Gainesville City Commission
March 30, 2006

GRU
More than Energy

ENERGY SUPPLY OPTIONS EVALUATED
($x1,000,000)

PLAN CHARACTERISTICS	PLAN				
	1	2	3	4	5
Short Hand Label	CFB	IGCC	Small CFB + Max. DSM	Maximum DSM	NGCC
Conservation Cost-Effectiveness Test Used In Forecast	RIM	RIM	TRC	TRC	RIM
Base Load Capacity	220 MW	220 MW	75 MW	None	240 MW
Fuel For Base Load Unit	Coal Pet Coke Biomass	Coal Pet Coke Biomass	Biomass	Not Applicable	Natural Gas
Installed Cost [a] ($2003)	$470	$445	$229	$44	$129
Annual Fuel Cost For New Base Load Unit[b] ($2012)	$32/yr	$26/yr	$14/yr	$0/yr	$86/yr

RIM- Rate Impact Measure
TRC- Total Resource Cost
DSM – Demand Side Management
CFB – Circulating Fluidized Bed
IGCC – Integrated Gasification Combined Cycle

STUDY PERIOD 2006-2025
Average of All Cases Studied

PLAN CHARACTERISTICS	PLAN				
	1	2	3	4	5
Short Hand Label	CFB	IGCC	Small CFB + Max. DSM	Maximum DSM	NGCC
Additional Combustion Turbine Peaking Capacity Requirement[a] (MW)	159	141	174	249	140
Average Annual Energy Purchases MWH per Year[b]	-98	-151	357	731	3
Generation Revenue Requirements[c] ($NPV x 1,000,000)	$2,067	$1,904	$2,096	$2,085	$3,236
Typical Residential Bill (1,000 kWh)[d] $ per Month	$168	$158	$181	$182	$180

a. All options assumed 30 MW firm contractual peaking capacity. Exhibit 8-26, p. 207, ICF Report
b. Negative sign indicates net sales. Exhibit 8-26, p. 207, ICF Report

ENVIRONMENTAL EMISSIONS[a] AND HEALTH EFFECTS
($ x 1,000,000)

Parameter	Energy Supply Option				
	1	2	3	4	5
	CFB	IGCC	Small CFB + DSM	Max DSM	NGCC
SO_2	780	664	15	0	0
NO_x	517	143	76	0	76
Hg	< 0.01	< 0.01	< 0.01	0	0
PM	117	not estimated	not estimated	0	< 0.01
Compliance with Ambient Standards	Yes	Yes	Yes	Yes	Yes
Health Effects in 2020 - New Unit plus Purchased Power[b]	$5-50	$3-30	$2.5-25	$2-20	not estimated
Health Effects in 2020 - Total[b]	$14-140	$12-120	$11-110	$11-110	not estimated

a. Exhibit 6-12, p. 166, ICF Report.
b. Exhibit 6-17, p. 179, ICF Report, 2003 dollars in millions.

CO_2 EMISSIONS[a]
Cumulative Millions of Tons
2006-2025

Parameter	Energy Supply Option				
	1	2	3	4	5
	CFB	IGCC	Small CFB + DSM	Max DSM	NGCC
New Units + Purchased Power	45	43	29	30	44
Total Power Region	7,567	7,565	7,559	7,563	7,566

a. Exhibit ES-31, p. 24, ICF Report.

JOB CREATION[a]

Parameter	Energy Supply Option				
	1	2	3	4	5
	CFB	IGCC	Small CFB + DSM	Max DSM	NGCC
Total number of job years 2006-2025	13,192	11,986	18,288	1,500	n/a

a. Exhibit ES-35, p. 26, IFC Report.

QUALITATIVE AND QUANTITATIVE FINANCIAL RISKS[a]

Adverse Risk Due To:	Energy Supply Option				
	1	2	3	4	5
	CFB	IGCC	Small CFB + DSM	Max DSM	NGCC
Performance/Capital Cost/Financing Penalties	Low	Medium High	Medium High	Medium High	Low
High Market Power and/or High Oil/Gas Prices	Low	Low	High	Highest	High
Low Gas Prices	Medium	Medium	Low	Low	Low
Range in NPV of Revenue Requirements[b] ($ x 1,000,000)	758	720	812	952	1270

a. Exhibit ES-36, p. 28, ICF Report.
b. Exhibit 8-8, p. 195, ICF Report, and results of 18 EGEAS scenarios for NGCC

RANKING FACTORS

1. Affordability
Lowest residential bill = **5**
Highest residential bill = **1**

2. Environment and Health
Lowest mid-range of $ costs = **5**
Highest mid-range of $ costs = **1**

3. Climate Protection
Lowest carbon emissions = **5**
Highest carbon emissions = **1**

4. Economic Development
Highest Job -Years = **5**
Lowest Job -Years = **1**

5. Price Risk Exposure
Lowest NPV range = **5**
Highest NPV range = **1**

UNWEIGHTED RANKING FACTORS FOR EACH OPTION AND EACH CRITERIA

FACTOR 5 = Best 1 = Worst	CFB	IGCC	Small CFB + DSM	Max DSM	NGCC
Residential Bill -$/Month	$167.68	$157.54	$180.59	$181.77	$179.51
Rank	**3.33**	**5**	**1.19**	**1**	**1.37**
Health Effects -$M/Year	$22.50	$13.50	$11.25	$9.00	*$9.00*
Rank	**1**	**3.67**	**4.33**	**5**	**5**
CO_2 (tons)	45	43	29	30	44
Rank	**1**	**1.5**	**5**	**4.75**	**1.25**
Number of Job Years	13,192	11,986	18,288	1,500	*11,986*
Rank	**3.79**	**3.5**	**5**	**1**	**3.5**
Revenue Risk -NPV $M	$758	$720	$812	$952	$1,270
Rank	**4.72**	**5**	**4.33**	**3.31**	**1**

Decision Matrix Demonstration