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Gainesville Regional Utilities
2019 Cash Balance Study

GRU℠
More than Energy

January 10, 2019 - UAB

January 17, 2019 – City Commission

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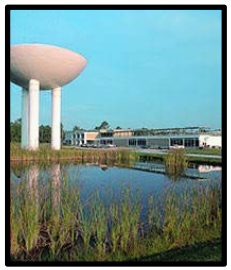

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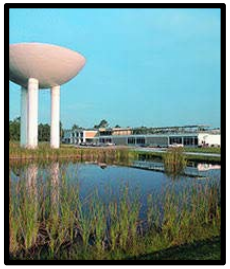
I. Executive Summary





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Executive Summary

Cash Balance ($ in Millions)	Minimum Level	Preferred Level	Estimated Cash Available 2019	Estimated Cash Available 2022	Sources of Current Funding
Cash Balance	$ 40.8 million	$ 73.6 million	$ 82.4 million	$ 60.6 million	Operating Cash, Rate Stabilization Fund, UPIF for Reserves

15 Day Buffer	$ 9.6 million
Lower Bound	$ 64.0 million
Upper Bound	$ 83.2 million

- Examining the risks and exposures to GRU's financial and operating environment provides insight into the amount of cash GRU should reserve for these contingencies
- By establishing a +/- 15 day range, staff has a buffer to address timing and other volatility issues that are experienced by utilities
  - Cash Balance Range of $64 million to $83 million
- Assumes rate increases in future budgets are approved at current forecasted levels:

	2020	2021	2022	2023	2024
Electric	4.0%	2.7%	2.3%	3.0%	2.0%
Gas	0.0%	0.0%	0.0%	0.0%	0.0%
Water	1.0%	1.0%	1.0%	1.0%	1.0%
Wastewater	4.8%	4.0%	3.0%	2.0%	2.0%

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Executive Summary

	Less Conservative Level	Moderate Level	More Conservative Level	
Revenue Risk				
General Sales Decrease	$3.5	$10.4	$17.3	Reflects recession
Large Customer Exposure	$.9	$1.7	$6.9	Generally stable economic base
Sales for Resale / UF Water	$.0	$.1	$.2	Immaterial Revenue
Other Revenue Exposure	$.0	$.1	$.5	Immaterial Revenue
Expense Risk				
Replacement Power Exposure	$2.6	$10.0	$22.1	Low probability but represents resiliency
Gas / Purchased Power exposure	$.3	$2.4	$6.1	Market risk for unhedged position
Renewable Performance Exposure	Not Applicable			Limited renewable exposure
Planned Outage / Replacement Power Exposure	Not Applicable			GRU long capacity and energy (internal gen)
Insurance	$.1	$.1	$.2	
Resiliency and Climate Exposure	$2.0	$4.0	$8.0	FEMA lag versus response time
Cyber Exposure	Not Applicable			Insurance coverage
Construction / CIP Exposure	Not Applicable			GRU's experience with projects
Operational Risk / Working Capital				
Working Capital	$31.5	$42.0	$52.5	Use of RSF and general payment lag

* Totals may not add due to rounding

Preferred Level	**$73.6**
15 Day Buffer	**$9.6**
Lower Bound	**$64.0**
Upper Bound	**$83.2**

- Study reviewed GRU's income statement and identified sources of risk
- Study determined 3 different levels of cash to address that risk
- Discussions of these risks and environments with GRU staff led to a "preferred" level for that particular risk
- Study then determined the cash balance across GRU's different systems

Cash Balance Targets: By System				
$ Million	**2019**	**2020**	**2021**	**2022**
Electric	56.3	58.0	59.7	61.5
Gas	4.5	4.6	4.7	4.9
Water	4.9	5.1	5.2	5.4
Wastewater	6.0	6.2	6.4	6.6
GRUCom	1.9	2.0	2.1	2.1
Total	**73.6**	**75.8**	**78.1**	**80.4**

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GRU Cash Reserves Policy Recommendations: FY18-22

- Current Cash and Liquidity Targets:

Cash Balance Study ($ million)	2019	2020	2021	2022
Proposed Cash Targets	**73.6**	**75.8**	**78.1**	**80.4**
Lower Bound	64.0	65.9	67.9	69.9
Upper Bound	83.2	85.7	88.3	90.9
Cash Available				
Operating cash	4.4	4.4	4.4	4.4
Rate stabilization	50.0	37.0	26.8	19.9
UPIF for Reserves	5.0	28.0	33.2	36.3
UPIF Reimbursement from 2019 Transaction	23.0	-	-	-
Total Cash Reserves	82.4	69.4	64.4	60.6
In Cash Balance Study Bandwidth	**Yes**	**Yes**	**No**	**No**
Over (Under) Lower Target	**18.4**	**3.5**	**(3.5)**	**(9.4)**

- GRU's use of UPIF for Reserves in recent years has depleted this account such that it is below prior cash targets. UPIF will be replenished with the 2019 transaction.
- Currently, if expected rate increases are implemented, GRU has sufficient cash through 2020 to stay above Lower Bound of the target. However...

Source: GRU data, expected balances based on Corporate Model

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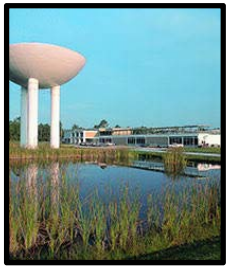
II. Prior Cash Studies





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GRU's 2019 Cash Balance Study

- GRU has developed cash and reserve targets in the past
- GRU has experienced significant change in its operating and economic environment over the past several years:
  - Integration of Deerhaven Renewable into portfolio
  - Joint dispatch with JEA
  - Economic recession of 2008 - 2012 and subsequent recovery
  - Natural gas penetration and falling natural gas prices
  - Distributed generation (solar and wind)

– Leadership felt time was appropriate to re-examine the risk facing the utility and its systems.

– "Zero Baseline" a risk overview of the utility and identify areas where cash balances can address market shocks

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Prior GRU Cash /Reserve Internal Policies

As presented to the Rating Agencies for GRU's 2012 Transaction

	FY 2012 Estimated Cash at Risk					
Source of Risk	**Electric**	**Gas**	**Water**	**Wastewater**	**GRUCom**	**Liquidity Targets**
Revenue CaFR$_{97.5}$[1]	$5,276,006	$1,201,874	$1,685,015	$1,135,460	$452,202	$9,750,557
Catastrophic Events						
Uninsured (Property Loss) Exposure[2]	5,575,298	1,040,733	1,897,596	2,180,797	866,689	11,561,113
Fixed Non-Fuel O&M (60 Days)[3]	25,143,128	2,542,927	5,548,491	6,482,461	2,294,225	42,011,232
Construction Risk (5%)[4]	2,024,542	216,391	585,981	1,358,426	480,373	4,665,713
Contingent Financial Liabilities[5]	5,304,664	1,687,855	561,044	1,400,115	129,155	9,082,833
Totals	$43,323,638	$6,689,780	$10,278,127	$12,557,259	$4,222,644	$77,071,448

1. Cash Flow at Risk at a 97.5% Confidence Level or only a 2.5% chance that the sales shortfalls will be greater than the reserved amount
2. A percentage of the value of self insured distributed assets plus the deductible applicable to insured assets
3. Sixty days of average annual non-fuel operating expenses
4. Five percent of expected annual capital expenses
5. A portion of swap termination payment risk

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Prior GRU Cash /Reserve Internal Policies

As presented to the Rating Agencies for GRU's 2017 Transaction

Between 2012 and 2017, Liquidity target revised lower by $15 million (approximately 20 days of cash)

Strong Liquidity Position Exceeds Cash Liquidity Targets

	2018	2019	2020	2021	2022
Liquidity Targets:	**$61,721,696**	**$62,861,136**	**$64,053,679**	**$65,863,464**	**$67,271,957**
Operating Cash[1]	8,413,557	8,413,557	8,413,557	8,413,557	8,413,557
Rate Stabilization	62,346,835	57,688,602	57,103,291	56,655,493	57,566,522
UPIF for Reserves[2]	23,381,159	25,439,366	29,289,961	24,284,692	28,155,560
Total Reserves	**$94,141,551**	**$91,541,525**	**$94,806,809**	**$89,353,742**	**$94,135,639**
TECP/TCP Lines[3]	40,000,000	40,000,000	40,000,000	40,000,000	40,000,000
Total Liquidity & Lines	**$134,141,551**	**$131,541,525**	**$134,806,809**	**$129,353,742**	**$134,135,639**
Over/(Under) Relative to Target	**$72,419,855**	**$68,680,389**	**$70,753,130**	**$63,490,278**	**$66,863,682**

1. 60 days operating cash – not previously included as source of liquidity
2. Consists of total UPIF balances less UPIF funds restricted for debt service and construction
3. GRU will add additional capacity in calendar year 2018

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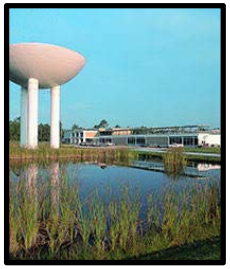
III. Revenue Exposure





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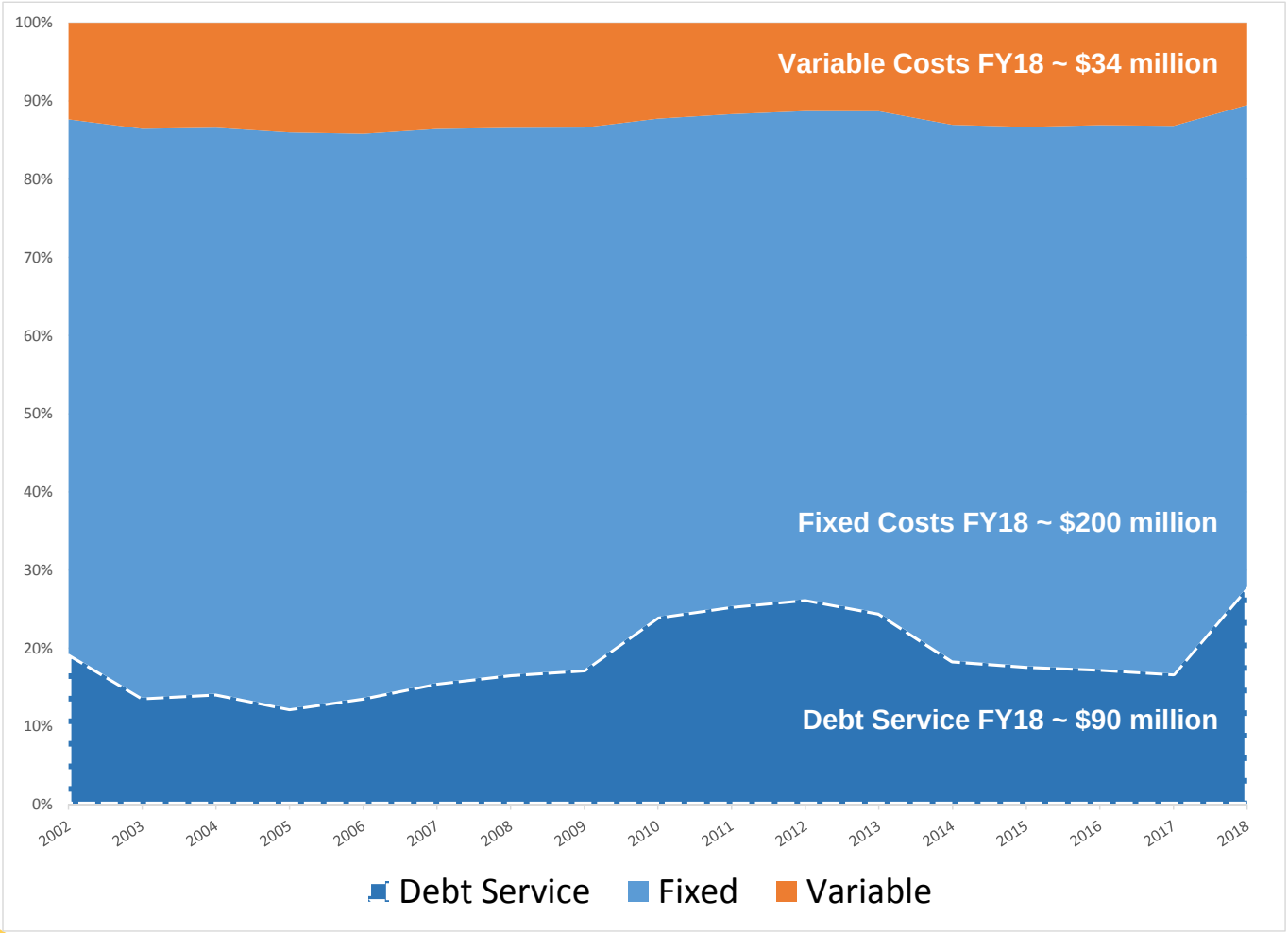
What are GRU's "Fixed Costs"?

- General stability of demand over time means many of GRU's costs are relatively fixed – even when driven by production volumes

Assumes for fixed expenses
- 80% of fuel costs are fixed
- 90% of overall O&M and A&G costs are also fixed



Source: GRU's Audit. FY18 Unaudited

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What are GRU's "Fixed Costs"?

- Cost structure of GRU indicates that the majority of costs are fixed
- 2018 fixed expenses ~$317 million:
  - ~$200 million in operating expenses
  - ~$90 million in debt service
  - ~$27 million in debt service coverage
- In the event that revenues do not materialize, GRU would still have to cover these costs
- Applying a *forward perspective* (FY2020 and 3% inflation), this fixed expense amount increases to $347 million

Fiscal Year 2018 (Unaudited) Operating Expenses ($ Million)			
Electric System			
	Total	**Fixed**	**Variable**
Fuel	$99.3	$79.4	$19.9
O&M	$66.0	$59.4	$6.6
A&G	$12.4	$11.2	$1.2
	System Total	$150.0	$27.7
Gas System			
Fuel	$7.8	$6.3	$1.6
O&M	$3.1	$2.8	$0.3
A&G	$2.1	$1.9	$0.2
	System Total	$10.9	$2.1
Water System			
O&M	$11.6	$10.5	$1.2
A&G	$4.6	$4.2	$0.5
	System Total	$14.6	$1.6
Wastewater System			
O&M	$15.7	$14.1	$1.6
A&G	$4.7	$4.2	$0.5
	System Total	$18.3	$2.0
GRUCom System			
O&M	$5.7	$5.1	$0.6
A&G	$.9	$0.8	$0.1
	System Total	$5.9	$0.7
Consolidated Operating Expenses	**$233.8**	**$199.7**	**$34.1**
Debt Service Requirements			
Debt Service Requirements, Including CP	$90.4	$90.4	$0.0
Coverage	$27.1	$27.1	$0.0
Total Debt Related Requirements	$117.6	$117.6	$0.0
Consolidated Operating Expenses and Debt Service	**$351.4**	**$317.3**	**$34.1**

* Totals may not add due to rounding

Source: GRU's 2018 Preliminary Audit

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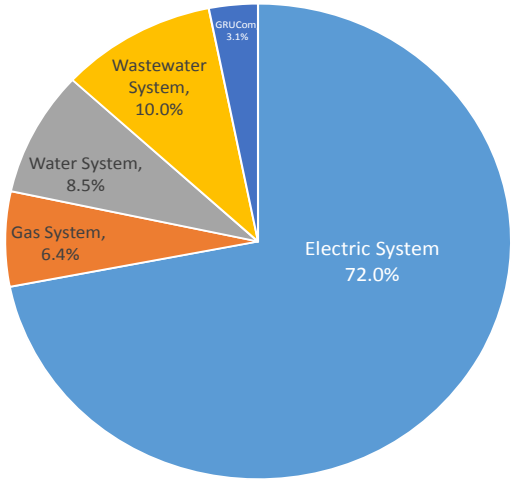
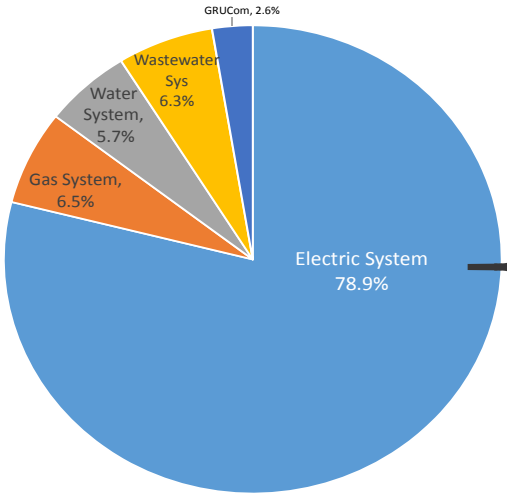
Revenue Exposure: General Sales Decrease

- Variability can have significant impacts if forecasts differ from actual results

GRU: Historical System Operating Revenues (2010-2018)



GRU: Historical System Operating Expenses (2010-2018)



Electric System drives the GRU

Represents annual change in operating revenue

% Change, Prior Year	2010	2011	2012	2013	2014	2015	2016	2017	2018
Electric	4.5%	-3.4%	-5.0%	-0.6%	1.4%	1.8%	3.0%	-2.1%	2.9%
Gas	5.7%	-3.9%	-17.9%	9.2%	7.9%	2.5%	-6.2%	-3.2%	16.1%
Water	-6.6%	5.5%	-5.2%	-5.5%	-2.0%	-0.5%	0.8%	5.5%	-4.0%
Wastewater	-6.2%	1.5%	0.9%	-2.2%	-1.6%	-0.8%	0.4%	3.3%	1.1%

Represents retail sales volumes, percent change from prior year. Historical GRU data

Source: GRU's Official Statements for debt transactions and continuing disclosure

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Revenue Exposure: General Sales Decrease

($ in Millions)	Less Conservative Level	Moderate Level	More Conservative Level
Assumed Fixed Base	$347	$347	$347
Assumed variance	1.0%	3.0%	5.0%
Months of coverage	12	12	12
Exposure	**$3.5**	**$10.4**	**$17.4**

- In the event of an economic downturn, GRU would be required to cover the expected fixed costs of the system
- Historically, GRU (the Electric System) has experienced:
  - 3 years of continued declining sales (2008 – 2010)
  - Annual sales decrease of as much as 5% (2012)
- Recommendation: Moderate level
  - "About" what was experienced in recent recession
  - More conservative level exceeds historical impacts

Source: GRU's Official Statements for debt transactions and continuing disclosure

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Revenue Exposure: Loss of a Major Customer

- Represents the risk that one of GRU's major customers leaves local area
- GRU has a very strong customer base across GRU's systems
- With the exception of GRUCom, limited customer concentration risk:

Top 10 Customers: Electric System		
#	Name	% of Expected System Revenue
1	GRU	2.9%
2	ALACHUA COUNTY PUBLIC SCHOOLS	2.2%
3	SHANDS	2.0%
4	NORTH FL REGIONAL MEDICAL CTR	1.7%
5	PUBLIX SUPER MARKETS INC	1.7%
6	VA MEDICAL CENTER	1.7%
7	UNIVERSITY OF FLORIDA	1.5%
8	ALACHUA COUNTY BOARD OF COMM	0.9%
9	SANTA FE COLLEGE	0.7%
10	CITY OF GAINESVILLE	0.7%
	Total, Top 10 System Customers	**16.1%**

Top 10 Customers: Gas System		
#	Name	% of Expected System Revenue
1	UNIVERSITY OF FLORIDA	4.4%
2	OLOGY BIOSERVICES INC	1.4%
3	ALACHUA COUNTY BOARD OF COMM	1.3%
4	SHANDS	1.1%
5	ALACHUA COUNTY PUBLIC SCHOOLS	1.0%
6	NORTH FL REGIONAL MEDICAL CTR	0.8%
7	RTI BIOLOGICS INC	0.7%
8	ST OF FL DEPT OF CH & FAM SVC	0.6%
9	SANTA FE COLLEGE	0.5%
10	ANDERSON COLUMBIA CO INC	0.4%
	Total, Top 10 System Customers	**12.3%**

Top 10 Customers: Water System		
#	Name	% of Expected System Revenue
1	UNIVERSITY OF FLORIDA	5.2%
2	GRU	1.4%
3	NORTH FL REGIONAL MEDICAL CTR	0.8%
4	ALACHUA COUNTY PUBLIC SCHOOLS	0.7%
5	VA MEDICAL CENTER	0.6%
6	CITY OF GAINESVILLE	0.6%
7	SHANDS	0.6%
8	CELEBRATION POINTE HOLDINGS LLC	0.6%
9	ALACHUA COUNTY BOARD OF COMM	0.5%
10	SIVANCE LLC	0.4%
	Total, Top 10 System Customers	**11.4%**

Top 10 Customers: Wastewater System		
#	Name	% of Expected System Revenue
1	UNIVERSITY OF FLORIDA	1.1%
2	ST OF FL DEPT OF CH & FAM SVC	0.8%
3	ALACHUA COUNTY PUBLIC SCHOOLS	0.7%
4	NORTH FL REGIONAL MEDICAL CTR	0.6%
5	SIVANCE LLC	0.6%
6	SHANDS	0.6%
7	CITY OF GAINESVILLE	0.6%
8	CABOT CARBON OPER JUMPSTART	0.5%
9	VA MEDICAL CENTER	0.5%
10	ALACHUA COUNTY BOARD OF COMM	0.5%
	Total, Top 10 System Customers	**6.6%**

Top 10 Customers: GRUCom		
#	Name	% of Expected System Revenue
1	GRU	12.2%
2	ALACHUA COUNTY BOARD OF COMM	9.0%
3	VERIZON WIRELESS PERSONAL COMM L	7.3%
4	ALACHUA COUNTY PUBLIC SCHOOLS	6.0%
5	C OF G	5.8%
6	AT&T WIRELESS	4.2%
7	INTERSTATE FIBERNET INC	4.0%
8	T-MOBILE USA INC	3.7%
9	FLORIDA PHONE SYSTEMS	3.2%
10	SHANDS	2.3%
	Total, Top 10 System Customers	**57.8%**

Source: GRU's database

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Revenue Exposure: Loss of a Major Customer

($ in Millions)	Less Conservative Level	Moderate Level	More Conservative Level
Assumed Fixed Base	$347	$347	$347
Assumed variance	1%	1%	2%
Months of coverage	3	6	12
Exposure	**$0.9**	**$1.7**	**$6.9**

- Across all systems, the largest customers account for ~2% of system sales
- Focusing on *utility* systems, this percentage falls to 1.2%
- The diversity and durability of these customers, in general, poses limited risk to GRU
- Recommendation: Moderate Level
  - GRU's largest customers represent stable entities
  - Minimal impact from these entities during the recession, but still a risk given Gainesville's recent growth
  - Question of how does GRU monitor the health of its key customers

Source: GRU's Official Statements for debt transactions and continuing disclosure

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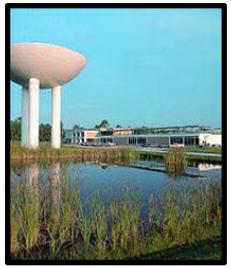
IV. Expense Exposure





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Expense Exposure: Replacement Power

- GRU has a diverse power supply portfolio

GRU's Generating Fleet					
Generating Station	Unit #	Primary Fuel	Alternative Fuel	Net Summer capacity (MW)	In Service
J.R. Kelly Station					
	Steam Unit 8	Waste Heat	NA	36.0	1965 / 2001
	CT 4	Natural Gas	Distillate Fuel Oil	72.0	2001
		Total Nameplate Capacity, J.R. Kelly		**108.0**	
Deerhaven Generating Station					
	Steam Unit 2	Coal	NA	228.0	1981
	Steam Unit 1	Natural Gas	Residual Fuel Oil	75.0	1972
	CT3	Natural Gas	Distillate Fuel Oil	71.0	1996
	CT2	Natural Gas	Distillate Fuel Oil	17.5	1976
	CT1	Natural Gas	Distillate Fuel Oil	17.5	1976
	DHR	Biomass	NA	102.5	2013
		Total Nameplate Capacity, Deerhaven		**511.5**	
South Energy Center					
	SEC-1	Natural Gas	NA	3.5	2009
	SEC-2	Natural Gas	NA	3.5	2017
Power Purchase Agreements					
	Base Landfill	Landfill Gas	NA	3.0	
			Total Nameplate Capacity	**626.0**	

Concentration Risk at Deerhaven

- While there is diversity in fuels, there is some concentration risk at the Deerhaven location, representing over 80% of GRU's capacity
- If some activity/event impacted the ability of GRU to provide power from Deerhaven, then market purchases would be required to meet demand until rectified

Source: GRU's Official Statement

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Expense Exposure: Replacement Power

- GRU has a diverse power supply portfolio, each with a different cost profile
- The following table provides an estimate of the cost for power from multiple generation stations based on a weighted average:

Estimating the Average Incremental Cost of power per MWh								
	Min Load	Average Costs	Total Cost*	Weighted Average	Max Load	Average Costs	Total Cost*	Weighted Average
CC1	86.0 MWs	18.88 / MWh	14,223,437	3.47	108.0 MWs	17.92 / MWh	16,953,754	2.03
DH2	51.0 MWs	45.83 / MWh	20,475,011	12.12	232.0 MWs	31.95 / MWh	64,932,624	13.85
DH1	22.0 MWs	32.37 / MWh	6,238,346	2.61	75.0 MWs	26.18 / MWh	17,200,260	3.01
CT3	49.0 MWs	29.28 / MWh	12,568,147	4.75	71.0 MWs	25.28 / MWh	15,723,149	2.65
GREC/DHR	70.0 MWs	39.00 / MWh	23,914,800	12.05	102.5 MWs	39.00 / MWh	35,018,100	9.12
			77,419,741	**35.00**			149,827,886	**30.65**

* Assumes that each facility operates at either min or max load

Source: GRU presentation, "Economic Dispatch". June 2016

- The FY19-20 Budget Book has an average system power cost of $39.09 per MWh
- This provides an approximation of what GRU budgets for power

Source: GRU's Official Statement, Budget Book for FY19-20

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Expense Exposure: Replacement Power

- Concern that if Deerhaven were unavailable, GRU would be required to purchase power on the spot market

GRU: Assumed Loss of Deerhaven (511.5 MWs)				
Fiscal Year	Net Summer System Capability (MW)	Peak Load (MW)	J.R. Kelly	Potential Shortfall
2012	662 MWs	415 MWs	108 MWs	307 MWs
2013	650 MWs	416 MWs	108 MWs	308 MWs
2014	639 MWs	409 MWs	108 MWs	301 MWs
2015	639 MWs	421 MWs	108 MWs	313 MWs
2016	631 MWs	428 MWs	108 MWs	320 MWs
2017	627 MWs	437 MWs	108 MWs	329 MWs
2018	627 MWs	444 MWs	108 MWs	336 MWs
2019	627 MWs	438 MWs	108 MWs	330 MWs
2020	627 MWs	441 MWs	108 MWs	333 MWs
2021	627 MWs	445 MWs	108 MWs	337 MWs

- Depending on the duration of the unplanned outage, time of year/day, this could expose GRU to replacement power risk

Source: GRU's Official Statement

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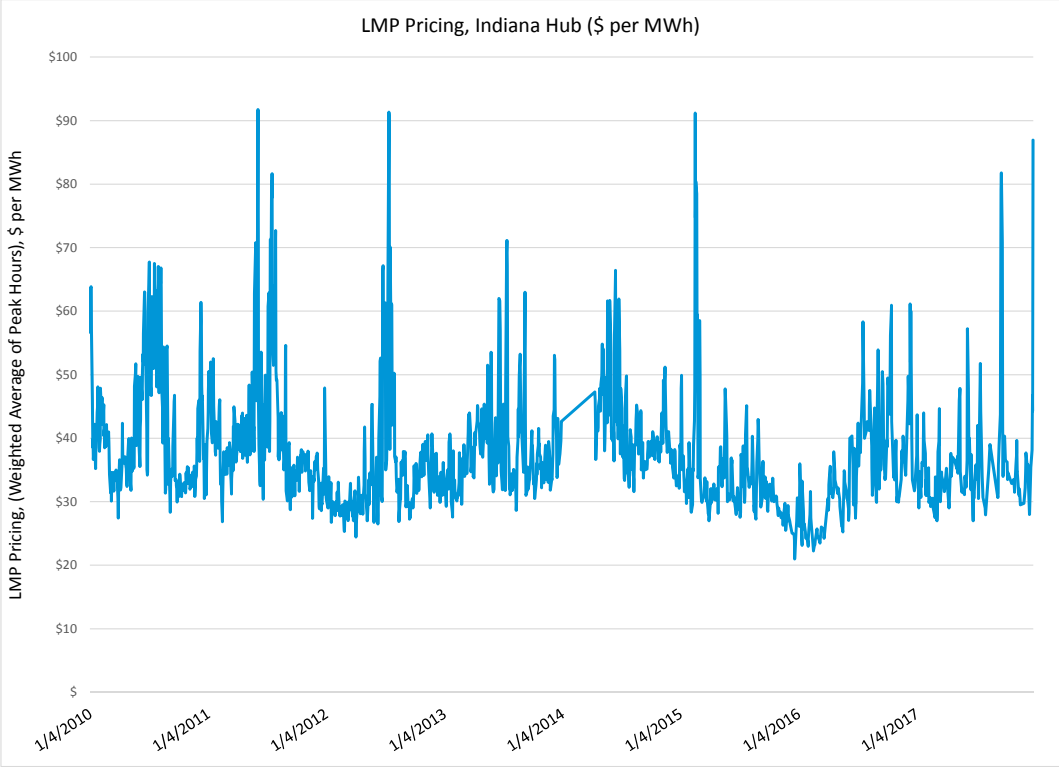
Expense Exposure: Replacement Power

- If a shortfall, GRU would likely have to rely on spot market purchases, based on local LMP pricing.
- The LMP market is driven by many factors, but does have wide fluctuations in pricing



LMP Pricing: Indiana Hub Peak Pricing, 2010-2017 ($ per MWh)					
Time Period	Average	Min	Max	Range	Standard Deviation
2010	41.32	27.43	67.74	40.31	9.75
2011	40.32	26.84	91.72	64.88	9.65
2012	34.56	24.44	91.31	66.87	9.23
2013	38.11	27.58	71.11	43.53	7.31
2014	41.36	31.58	66.40	34.82	6.49
2015	34.40	21.00	91.17	70.17	9.22
2016	34.94	22.25	61.11	38.86	8.25
2017	36.74	27.00	86.93	59.93	9.35
2010-2017	37.91	21.00	91.72	70.72	9.25

Significant Historical Fluctuations in Market Prices for Power

Source: EIA data, https://www.eia.gov/electricity/wholesale/#history

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Expense Exposure: Replacement Power

($ in Millions)	Less Conservative Level	Moderate Level	More Conservative Level
Assumed shortfall	330 MWs	330 MWs	330 MWs
Length of Outage	30 days	60 days	90 days
MWh Shortfall	237,600 MWhs	475,200 MWhs	712,800 MWhs
Spot Purchase Cost*	50.00 / MWh	60.00 / MWh	70.00 / MWh
Budgeted MWh Cost**	39.00 / MWh	39.00 / MWh	39.00 / MWh
Net Replacement	11.00 / MWh	21.00 / MWh	31.00 / MWh
Exposure	**$2.6**	**$10.0**	**$22.1**

* Represents Indiana Hub, Peak weighted average LMP pricing + 1, 2 and then 3 standard deviations

** Source: Fuels and Purchased Power Expense Budget Book, 2019-2020 ($39.03 for all assets)

- GRU has *geographic* concentration risk with Deerhaven
- While unlikely, some risk that the facility will be unable to either generate or dispatch power
- Duration of issue, time of year and day to replace this power varies significantly
- Recommendation: Less Conservative Level
  - Probability of disruption low
  - Probability of catastrophic failure low

Source: GRU's Official Statements

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Expense Exposure: Replacement Treatment Facilities

- GRU has *some unit concentration* with the other utility systems
  - Water: the Murphree Plant and 19.5 million gallons of storage capacity (about 1 days supply)
  - Wastewater has 2 facilities
    - Main Street Water Reclamation Facility
    - Kanahapa Water Reclamation Facility

While these facilities are connected, the Kanahapa Facility could not take all of the diverted flows from Main Street, assuming average daily flows

- PFM has seen other combined utilities and water/sewer entities begin to plan for other facilities to reduce this exposure
  - A "decades" long effort requiring: Siting, Permitting, Environmental…
- Recommendation
  - Continued awareness
  - Contingency planning

Source: GRU's Official Statements

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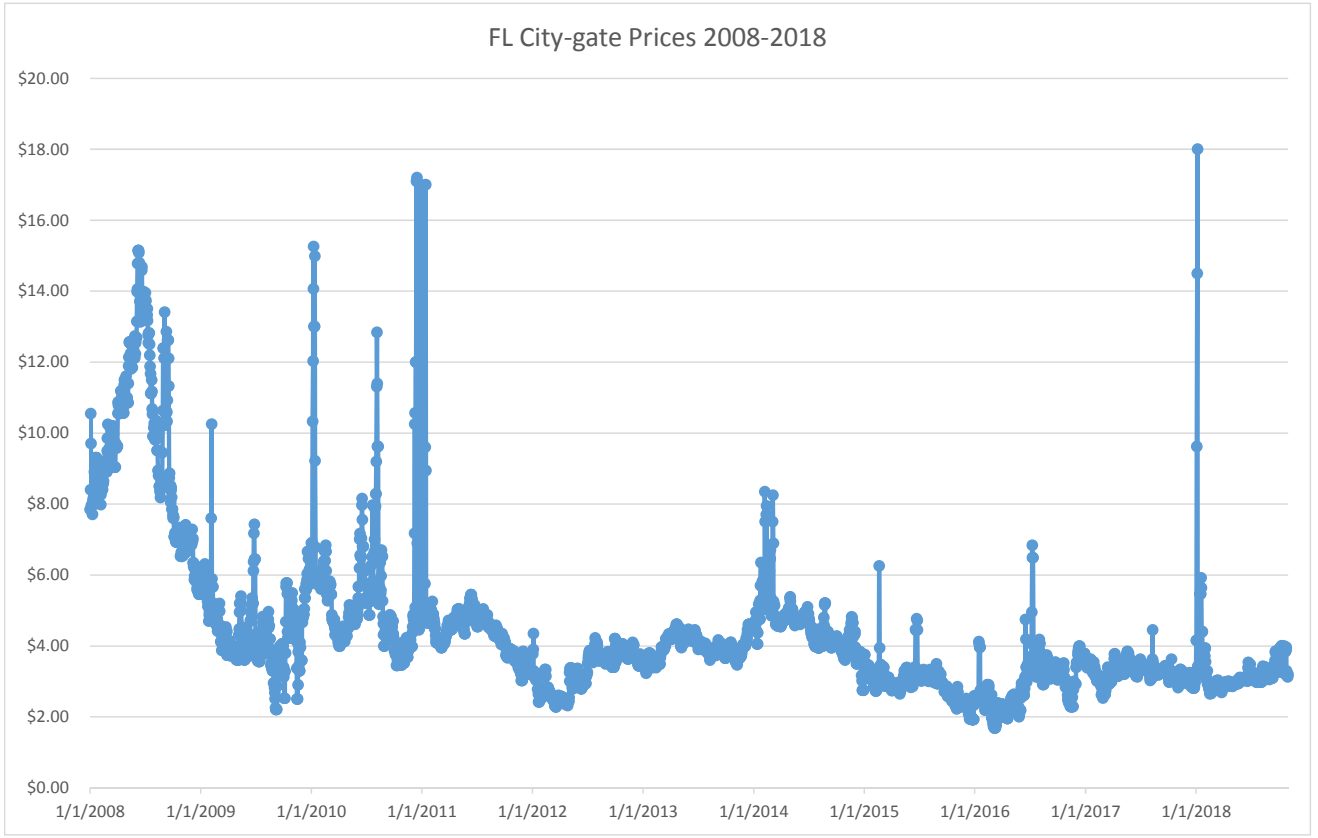
Expense Exposure: Gas Supply

- Natural gas prices drive the Florida electric markets
- GRU has a hedging policy to reduce exposure
- GRU requires natural gas for both the operation of generating stations, but also for the Gas System

Over the past decade
- $4.40 per MMBtu average price
- $18.00 per MMBtu max price
- $1.69 per MMBtu min price
- Standard deviation of $2.20 per MMBtu

Significant Historical Fluctuations in Market Prices for Natural Gas



Source: GRU

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Expense Exposure: Gas Supply

($ in Millions)	Less Conservative Level	Moderate Level	More Conservative Level
Daily Gas Volumes	26,500 MMBtu	26,500 MMBtu	26,500 MMBtu
Hedged Percentage	50.00%	50.00%	50.00%
Daily Market Exposure	13,250 MMBtu	13,250 MMBtu	13,250 MMBtu
Citygate Price	$4.40 per MMBtu	$6.60 per MMBtu	$8.79 per MMBtu
GRU Budget*	$3.64 per MMBtu	$3.64 per MMBtu	$3.64 per MMBtu
Net Exposure	$.76 per MMBtu	$2.96 per MMBtu	$5.15 per MMBtu
Days Exposure	30 days	60 days	90 days
Exposure	**$0.3**	**$2.4**	**$6.1**

* Data source: Fuels and Purchased Power Expense Budget Book, 2019-2020

- GRU has exposure to the natural gas market since a portion of its requirement remains unhedged
- Hedging the portfolio comes at a cost (financial and opportunity)
- Market has been stable recently, but does experience day-to-day volatility
- Recommendation: Moderate Level
  - GRU currently opportunistically hedging
  - Spot market for natural gas can be very volatile

Source: GRU

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Expense Exposure: Resiliency and Climate

- Climate change appears to have increased the frequency and intensity of storms and other natural events
- Florida, despite a respite of several years without a direct hit from a hurricane, has had to address several storms over the past few years
- For GRU, these expenses can be significant, unexpected and have unique impacts to each system
  - Irma $7.5 million
  - Hermine $0.8 million
- While FEMA does provide some reimbursement, the process can be extremely time consuming from an application perspective and then the approval/receipt of funds – in many instances taking multiple years

Source: GRU's Official Statement

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Expense Exposure: Resiliency and Climate

($ in Millions)	Less Conservative Level	Moderate Level	More Conservative Level
Average Storm Cost	$1.0	$1.0	$1.0
Expected Number of Storms	2	4	8
Exposure	**$2.0**	**$4.0**	**$8.0**

- GRU has experienced storms and other natural events, impacting the utility
- Reimbursement from the government can be a lengthy, time-consuming process
- Likely that the intensity and frequency of storm will remain at an elevated level
- Recommendation: Moderate level
  - Weather is more severe, more unpredictable
  - Reimbursement measured in years – utility response measured (graded) in hours

Source: GRU's Audit. System expenses from consolidated statements

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Working Capital: Day-to-Day Operations

- GRU has a need/requirement to maintain a certain amount of days cash available to meet operational needs and manage the day-to-day requirements of the utility
  - General billing cycle with customers has a 45 day lag from use to payment received
  - Commercial Paper issuance process takes 60-90 days for approvals and disclosures
- Costs include fuel, O&M and A&G by system:

Fuel, O&M, A&G ($ Million)	2010	2011	2012	2013	2014	2015	2016	2017	2018
Electric System	$184.2	$172.6	$160.6	$167.6	$203.5	$217.1	$225.3	$235.5	$177.7
Gas System	$19.7	$18.8	$15.3	$14.8	$16.7	$15.3	$14.6	$12.9	$13.0
Water System	$12.5	$12.4	$12.6	$13.1	$13.3	$13.6	$14.8	$15.5	$16.2
Wastewater System	$12.7	$13.6	$12.7	$13.6	$14.0	$14.3	$17.4	$19.1	$20.2
GRUCom	$5.4	$5.3	$5.9	$5.4	$6.5	$8.5	$7.4	$7.1	$6.5
Total	$234.4	$222.6	$207.1	$214.5	$254.0	$268.8	$279.5	$290.1	$233.6
Days Cash (Fuel, O&M, A&G)	$.642	$.610	$.567	$.588	$.696	$.736	$.766	$.795	$.640
Change from Prior Year		-5.0%	-7.0%	3.5%	18.4%	5.8%	4.0%	3.8%	-19.4%

* Totals may not add due to rounding

- Looking to future, given inflation, would expect this amount to increase to ~$0.70 million per day by 2021
  - Over time, GRU has to reserve more cash to address this risk due to general inflation associated with O&M and A&G expenses – basically GRU will need more dollars for one day's expenses

Source: GRU's Audit. System expenses from consolidated statements

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Working Capital: Day-to-Day Operations

($ in Millions)	Less Conservative Level	Moderate Level	More Conservative Level
Days Cash	$.70	$.70	$.70
Number of days	45	60	75
Exposure	**$31.5**	**$42.0**	**$52.5**

- GRU experienced consistent growth in expenses since from 2013 – 2017
- 2017 transaction shifted expenses from fuel to debt service, lowering the amount of dollars representing a days cash
- Billing cycle represents at least 30 days, and more likely 60, from incurring the expense to receipt of the payment from customers
- Represents the ability to manage the day-to-day operations of the utility
- Recommendation: More Conservative level
  - Billing cycle
  - Time it requires for an "off-cycle" rate change or issuance of commercial paper (60-90 days)

Source: GRU's Audit. System expenses from consolidated statements

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Working Capital: Day-to-Day Operations

Value of One Day's Cash	2019	2020	2021	2022
Target	$699,458	$720,441	$742,055	$764,316
Inflation	3%	3%	3%	3%
Change ($)		$20,984	$21,613	$22,262
Cumulative ($)		**$20,984**	**$42,597**	**$64,859**

- Inflation will increase the amount of cash to cover one day's expenses over time
- GRU should apply an inflation factor to address this loss of buying power and need to reserve more cash to stay in the bandwidth

Source: GRU's Audit. System expenses from consolidated statements

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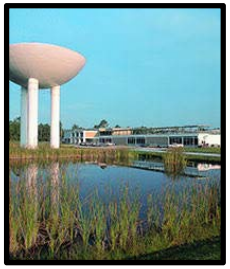
V. Recommendations





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Recommendations: Preferred Levels

	Less Conservative Level	Moderate Level	More Conservative Level	
Revenue Risk				
General Sales Decrease	$3.5	$10.4	$17.3	Reflects recession
Large Customer Exposure	$.9	$1.7	$6.9	Generally stable economic base
Sales for Resale / UF Water	$.0	$.1	$.2	Immaterial Revenue
Other Revenue Exposure	$.0	$.1	$.5	Immaterial Revenue
Expense Risk				
Replacement Power Exposure	$2.6	$10.0	$22.1	Low probability but represents resiliency
Gas / Purchased Power exposure	$.3	$2.4	$6.1	Market risk for unhedged position
Renewable Performance Exposure	Not Applicable			Limited renewable exposure
Planned Outage / Replacement Power Exposure	Not Applicable			GRU long capacity and energy (internal gen)
Insurance	$.1	$.1	$.2	
Resiliency and Climate Exposure	$2.0	$4.0	$8.0	FEMA lag versus response time
Cyber Exposure	Not Applicable			Insurance coverage
Construction / CIP Exposure	Not Applicable			GRU's experience with projects
Operational Risk / Working Capital				
Working Capital	$31.5	$42.0	$52.5	Use of RSF and general payment lag

* Totals may not add due to rounding

Preferred Level	**$73.6**
15 Day Buffer	**$9.6**
Lower Bound	**$64.0**
Upper Bound	**$83.2**

Cash Balance Targets: By System				
$ Million	**2019**	**2020**	**2021**	**2022**
Electric	56.3	58.0	59.7	61.5
Gas	4.5	4.6	4.7	4.9
Water	4.9	5.1	5.2	5.4
Wastewater	6.0	6.2	6.4	6.6
GRUCom	1.9	2.0	2.1	2.1
Total	**73.6**	**75.8**	**78.1**	**80.4**

Source: GRU's Audit.

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Recommendations: Rating Agency and Comparables

Comparable Utilities	Summary Metrics from Fitch Analytical Tool										
Issuer	Retail Customers	Retail Elec Sales	Total Operating Revs	Debt Service Coverage	Coverage of Full Obligations	Debt/FADS	Net Adj Debt / Adj FADS	Days Cash on Hand	Days Liquidity on Hand	Transfers / OpRevs (%)	Debt / Elec Customer ($)
Chattanooga Electric Power Board	182,082	5,734,048	582,337	3.50	1.23	3.90	6.70	66	102	3.1	1,626
Colorado Springs Utilities	229,909	4,561,951	839,822	1.59	1.41	8.60	8.80	138	265	3.8	10,420
Gainesville Regional Utilities	96,272	1,759,974	460,541	1.70	1.43	8.40	9.20	178	259	7.8	19,617
JEA	459,853	12,050,135	1,299,592	2.55	1.83	4.50	4.20	262	401	11.7	5,146
Lakeland	128,535	-	303,484	2.23	1.51	4.50	4.50	193	193	9.8	3,223
Lincoln Electric System	138,482	3,194,682	321,549	2.50	1.66	6.90	7.20	174	300	6.3	5,347
Orlando Utilities Commission	200,497	6,531,844	878,649	2.25	1.67	5.80	5.00	316	316	12.7	7,601
Springfield Public Utility, MO (City Utilities)	114,093	2,935,750	432834	2.27	1.83	5.20	4.10	266	266	3.4	5,551
Tallahassee	89,070	-	295,046	2.50	1.73	5.00	4.30	429	429	10.9	6,164
Fort Pierce	28,287	553,418	102,650	2.49	1.42	2.7	4.5	124	124	5.8	2,570
Jacksonville Beach Combined Utility	34,738	-	94,447	4.65	1.57	0.7	1.8	437	437	4.1	418
Kissimmee	71,770	-	188,161	2.35	1.15	1.9	4.3	236	236	8.9	1,093
Leesburg	25,758	474,093	63,072	3.8	1.02	4.8	7.6	181	181	8.9	1,481
Vero Beach	35,610	715,857	86,654	1.55	0.9	2.9	7.2	79	79	6.2	698
Winter Park	15,061	425,029	45,100	1.78	1.23	7.5	9.9	—	81	6.1	4,433

- GRU generally "middle of the pack" compared to peer utilities with the following comments:
  - Generally elevated amount of debt on the balance sheet
  - Coverage levels trending lower
- Both Fitch and S&P implementing new criteria for retail electric systems
  - Expectation that 20% of rated entities will be downgraded

Source: GRU's Audit. System expenses from consolidated statements

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Recommendations: Cash Available to Address Preferred Level

Cash Balance Study ($ million)	2019	2020	2021	2022
Proposed Cash Targets	**73.6**	**75.8**	**78.1**	**80.4**
Lower Bound	64.0	65.9	67.9	69.9
Upper Bound	83.2	85.7	88.3	90.9
Cash Available				
Operating cash	4.4	4.4	4.4	4.4
Rate stabilization	50.0	37.0	26.8	19.9
UPIF for Reserves	5.0	28.0	33.2	36.3
UPIF Reimbursement from 2019 Transaction	23.0	-	-	-
Total Cash Reserves	82.4	69.4	64.4	60.6
In Cash Balance Study Bandwidth	**Yes**	**Yes**	**No**	**No**
Over (Under) Lower Target	**18.4**	**3.5**	**(3.5)**	**(9.4)**

- GRU does meets targets for 2019 and 2020 – but falls short of the lower bandwidth for 2020 and 2021
- Future action needed to move to within the bandwidth
- Rating agencies will appreciate the policy, but expect GRU to adhere with a Board Approved policy
- Besides risk exposure, other important areas considered:
  - Aggressive use of Rate Stabilization Fund
  - Periodic use of UPIF for debt service
  - Compressing net operating margins (Revenue – expenses)
  - 90 day process to access available commercial paper capacity

Source: GRU's financial forecast

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Recommendations: Other Observations

- GRU is leader in Florida for renewables
- GRU benefits from a stable customer base
- Resiliency is an issue across all utilities, establishing Resiliency Reserve a first step
- "Cash is King". GRU has been recognized by the rating agencies for having strong cash position and this helps cement GRU at its current ratings levels
- Inflation will impact the cash reserve target – study should be periodically (3-5 years) reviewed to confirm / deny risks as well as levels
- Monitor and prepare for cyber threats
- Policy can be reviewed and updated, but the expectation is that, if formally approved as the policy, that GRU will live within these bounds

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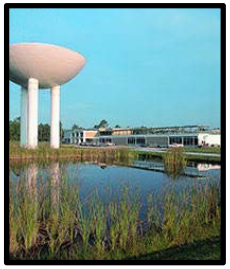
VI. Next Steps





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Feedback and Schedule:

10 January	UAB Discussion and Comments
17 January	City Commission Discussion and Comments
18 January – 7 February	Refinements to Policy
14 February	UAB Review
21 February	City Commission Policy Approval
22 February	Review with Rating Agencies

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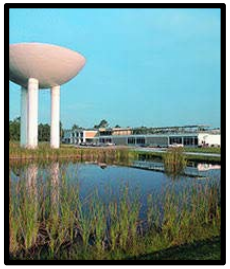
Backup and Supporting Slides





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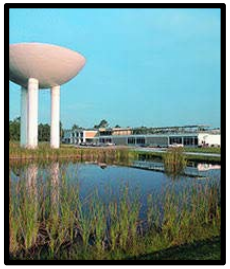
II. Reasons for and Observations from Study





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Reasons for the Cash Reserves Policy

- Utility Customers at all Levels Prefer Price Stability – allows for budgetary certainty
  - However, Price Signals to ratepayers also have Value
- GRU Should Contribute to the "Stability Chain"
  - Volatility Weakens the Chain
  - While most understand there are some events out of GRU's control, insulating ratepayers from these shocks and externalities seen as important
- Cash Reserves Represent One of Several Tools Aimed at Maintaining Price Stability along with Other Methods:
  - *Insurance*
  - *Hedging*
  - *Budgeting*
  - *Borrowing*

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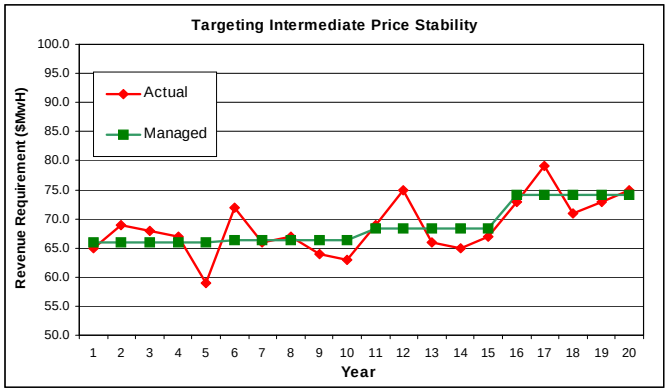
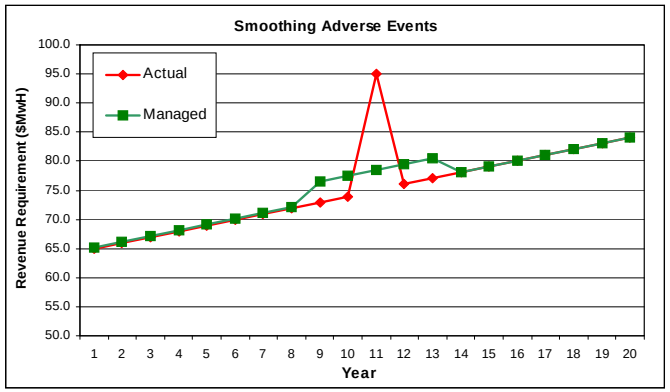
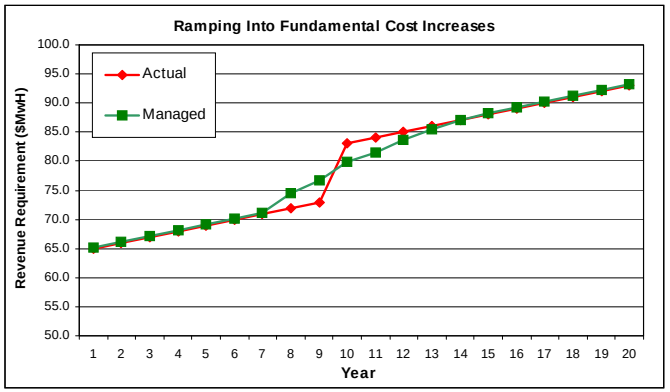
Reasons for the Cash Reserves Policy

- Examples of Financial Reserves Applications
  - Managing Revenue Requirement Fluctuations



  - Managing Single Event Impacts





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Reasons for the Cash Reserves Policy

- Decisions Regarding Financial Reserves
  - Choosing Where to Apply Reserves vs. Other Methods
    - Insurance is more appropriate in some cases – e.g. major equipment, but it doesn't usually apply in all circumstances
    - Pass-through may be more customary – e.g. fuel cost adjusters
    - Capitalized interest to ramp into higher debt costs for large asset additions
  - Sizing Financial Reserves
    - Quantifying event impacts is the easier part (usually)
    - Anticipating the event is the challenge
      - *Timing, Probability, Duration, Correlations*
  - Reserve Decisions Translate to Rate Making Decisions
    - Near Term – funding the reserves if necessary
    - Long Term – raising rates when event impacts exceed reserves
    - Borrowing is an alternative, but potentially costly

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GRU's 2018 Cash Reserves Policy

- GRU's 2018 Cash Reserves Policy
  - Risk Categories
    - Specific operating events:

Member demand volatility
Other – off system & interest income
Fuel, purchased power
Power marketing net revenue
Deerhaven unplanned outage
Deerhaven planned outage

    - Working capital for cash flow timing and volatility

  - Recommended Cash Reserve Levels
    - Range of $64 million to $83 million based on a bandwidth of +/- 15 days
    - Largest components were:
      - *Working capital ($53 million)*
      - *Economic downturn / loss of a customer ($10 million)*

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Prior GRU Cash Reserves Policy Recommendations

- 2012 Cash Target examines several areas across GRU's operations:

As presented to the Rating Agencies for GRU's 2012 Transaction

	FY 2012 Estimated Cash at Risk					
Source of Risk	**Electric**	**Gas**	**Water**	**Wastewater**	**GRUCom**	**Liquidity Targets**
Revenue CaFR$_{97.5}$[1]	$5,276,006	$1,201,874	$1,685,015	$1,135,460	$452,202	$9,750,557
Catastrophic Events						
Uninsured (Property Loss) Exposure[2]	5,575,298	1,040,733	1,897,596	2,180,797	866,689	11,561,113
Fixed Non-Fuel O&M (60 Days)[3]	25,143,128	2,542,927	5,548,491	6,482,461	2,294,225	42,011,232
Construction Risk (5%)[4]	2,024,542	216,391	585,981	1,358,426	480,373	4,665,713
Contingent Financial Liabilities[5]	5,304,664	1,687,855	561,044	1,400,115	129,155	9,082,833
Totals	$43,323,638	$6,689,780	$10,278,127	$12,557,259	$4,222,644	$77,071,448

1. Cash Flow at Risk at a 97.5% Confidence Level or only a 2.5% chance that the sales shortfalls will be greater than the reserved amount
2. A percentage of the value of self insured distributed assets plus the deductible applicable to insured assets
3. Sixty days of average annual non-fuel operating expenses
4. Five percent of expected annual capital expenses
5. A portion of swap termination payment risk

Source: GRU's rating agency presentation for the 2012 Transaction

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Prior GRU Cash Reserves Policy Recommendations

- 2017 Cash Target examines several areas across GRU's operations:

As presented to the Rating Agencies for GRU's 2017 Transaction

Between 2012 and 2017, Liquidity target revised lower by $15 million (approximately 20 days of cash)

Strong Liquidity Position Exceeds Cash Liquidity Targets

	2018	2019	2020	2021	2022
Liquidity Targets:	**$61,721,696**	**$62,861,136**	**$64,053,679**	**$65,863,464**	**$67,271,957**
Operating Cash[1]	8,413,557	8,413,557	8,413,557	8,413,557	8,413,557
Rate Stabilization	62,346,835	57,688,602	57,103,291	56,655,493	57,566,522
UPIF for Reserves[2]	23,381,159	25,439,366	29,289,961	24,284,692	28,155,560
Total Reserves	**$94,141,551**	**$91,541,525**	**$94,806,809**	**$89,353,742**	**$94,135,639**
TECP/TCP Lines[3]	40,000,000	40,000,000	40,000,000	40,000,000	40,000,000
Total Liquidity & Lines	**$134,141,551**	**$131,541,525**	**$134,806,809**	**$129,353,742**	**$134,135,639**
Over/(Under) Relative to Target	**$72,419,855**	**$68,680,389**	**$70,753,130**	**$63,490,278**	**$66,863,682**

1. 60 days operating cash – not previously included as source of liquidity
2. Consists of total UPIF balances less UPIF funds restricted for debt service and construction
3. GRU will add additional capacity in calendar year 2018

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GRU More than Energy

Source: GRU's rating agency presentation for the 2017 Transaction

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GRU Cash Reserves Policy Recommendations: FY18-22

- Current Cash and Liquidity Targets:

Cash Balance Study ($ million)	2019	2020	2021	2022
Proposed Cash Targets	**73.6**	**75.8**	**78.1**	**80.4**
Lower Bound	64.0	65.9	67.9	69.9
Upper Bound	83.2	85.7	88.3	90.9
Cash Available				
Operating cash	4.4	4.4	4.4	4.4
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Total Cash Reserves	82.4	69.4	64.4	60.6
In Cash Balance Study Bandwidth	**Yes**	**Yes**	**No**	**No**
Over (Under) Lower Target	**18.4**	**3.5**	**(3.5)**	**(9.4)**

- GRU's use of UPIF for Reserves in recent years has depleted this account such that it is below prior cash targets

Source: GRU data, expected balances based on Corporate Model

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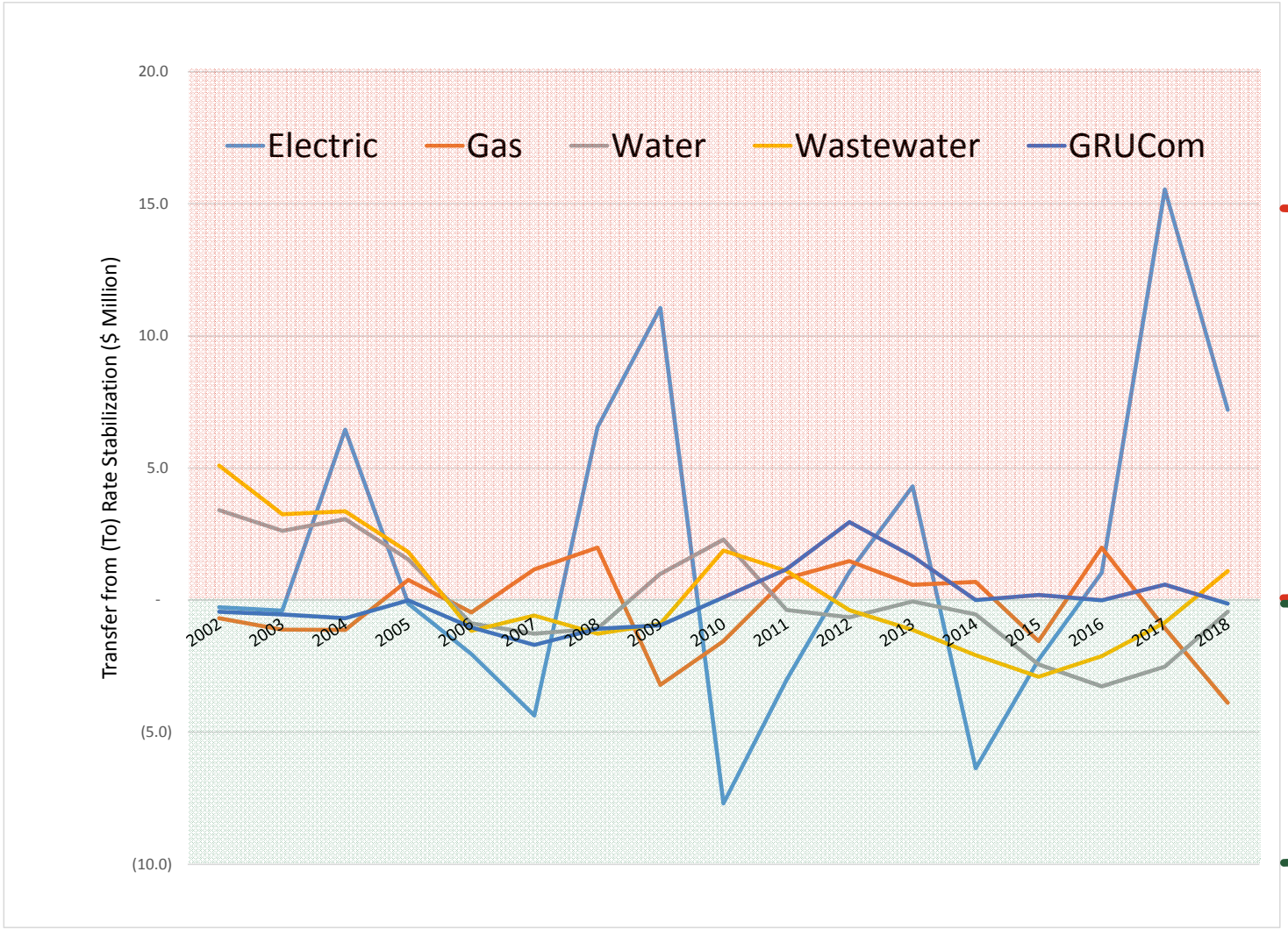
Observed Trends: Dynamic Use of Rate Stabilization



Represents GRU using Rate Stabilization to balance the systems' books

Represents GRU using "excess" revenue from the systems to transfer to Rate Stabilization

Source: GRU's Audit. FY18 Unaudited

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Observed Trends: Rate Increases to Support GRU

Historical Planned

	2012	2013	2014	2015	2016	2017	2018	2018 (DHR)	2019	2020	2021	2022	2023	2024
Electric	1.7%	0.0%	-5.6%	-8.5%	0.0%	0.0%	2.0%	31.4%	2.0%	4.0%	2.7%	2.3%	3.0%	2.0%
Gas	0.0%	0.0%	0.9%	4.3%	4.8%	9.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Water	8.4%	3.5%	3.9%	3.8%	3.8%	0.0%	0.0%	0.0%	0.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Wastewater	4.4%	3.0%	2.4%	4.9%	4.9%	3.0%	0.0%	0.0%	0.0%	4.8%	4.0%	3.0%	2.0%	2.0%

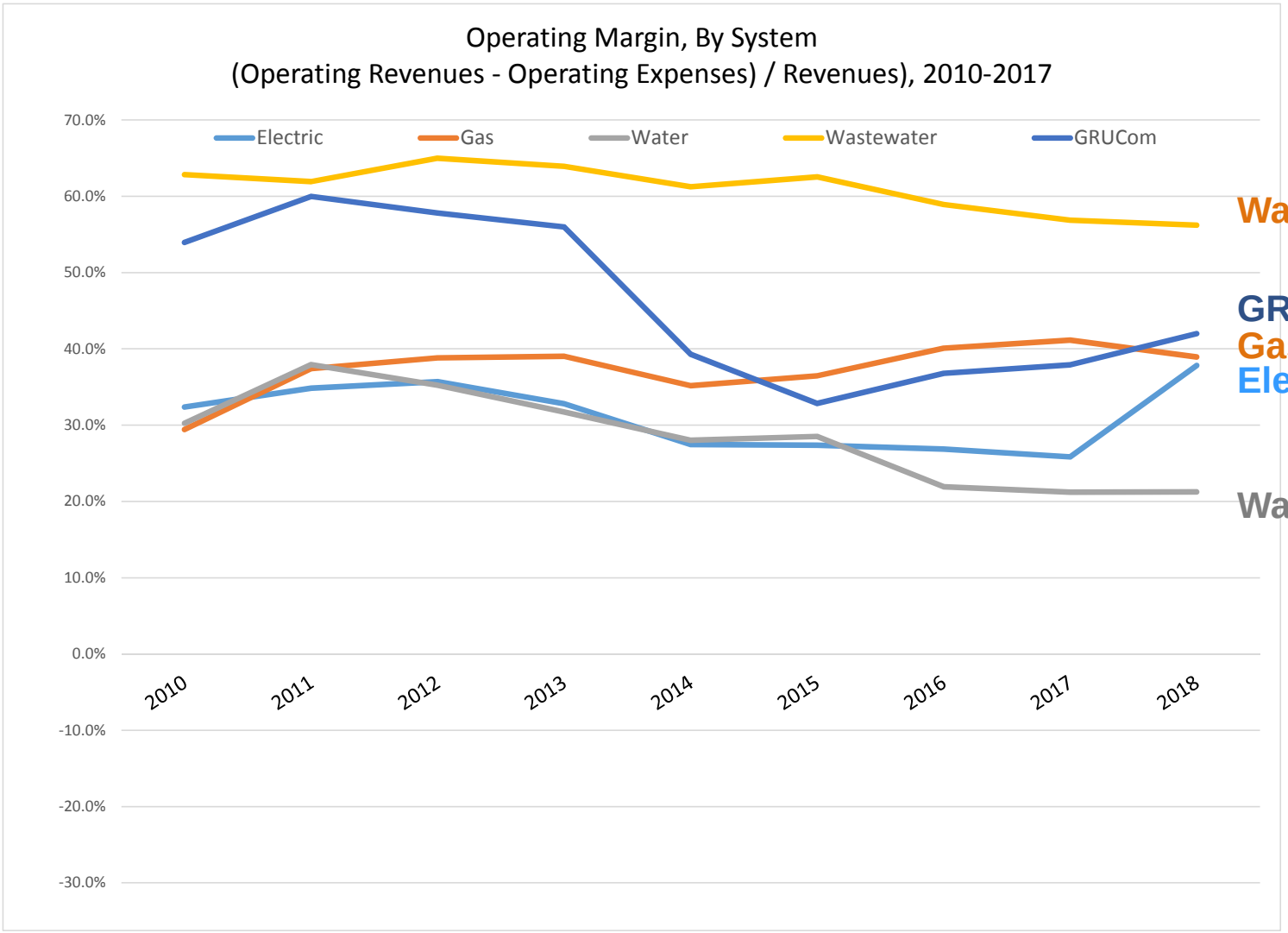
The 31.4% base rate increase associated with the DHR transaction in February of 2018 was accompanied by a 50% reduction in the fuel adjustment, resulting in bill reductions of plus or minus 8.5%

- Rate increases required to maintain the financial footing of the utility system, as well as provide for reliable service
- On the one hand, recognized by Rating Agencies as prudent to make "at least" inflationary adjustments" to cover routine costs as well as renewal/repair of the system for reliability
  - Rating agencies also look at ability to automatically pass through fuel and O&M price increases
  - Time it takes to implement an off-cycle rate change
- On the other hand, affordability and rate competitiveness an issue

Source: GRU's Official Statements

DRAFT

Observed Trends: Strong Operating Margins…



Source: GRU's Official Statements and Audits. FY18 Unaudited. Revenues include primary and secondary system sales. Expenses include O&M, A&G.

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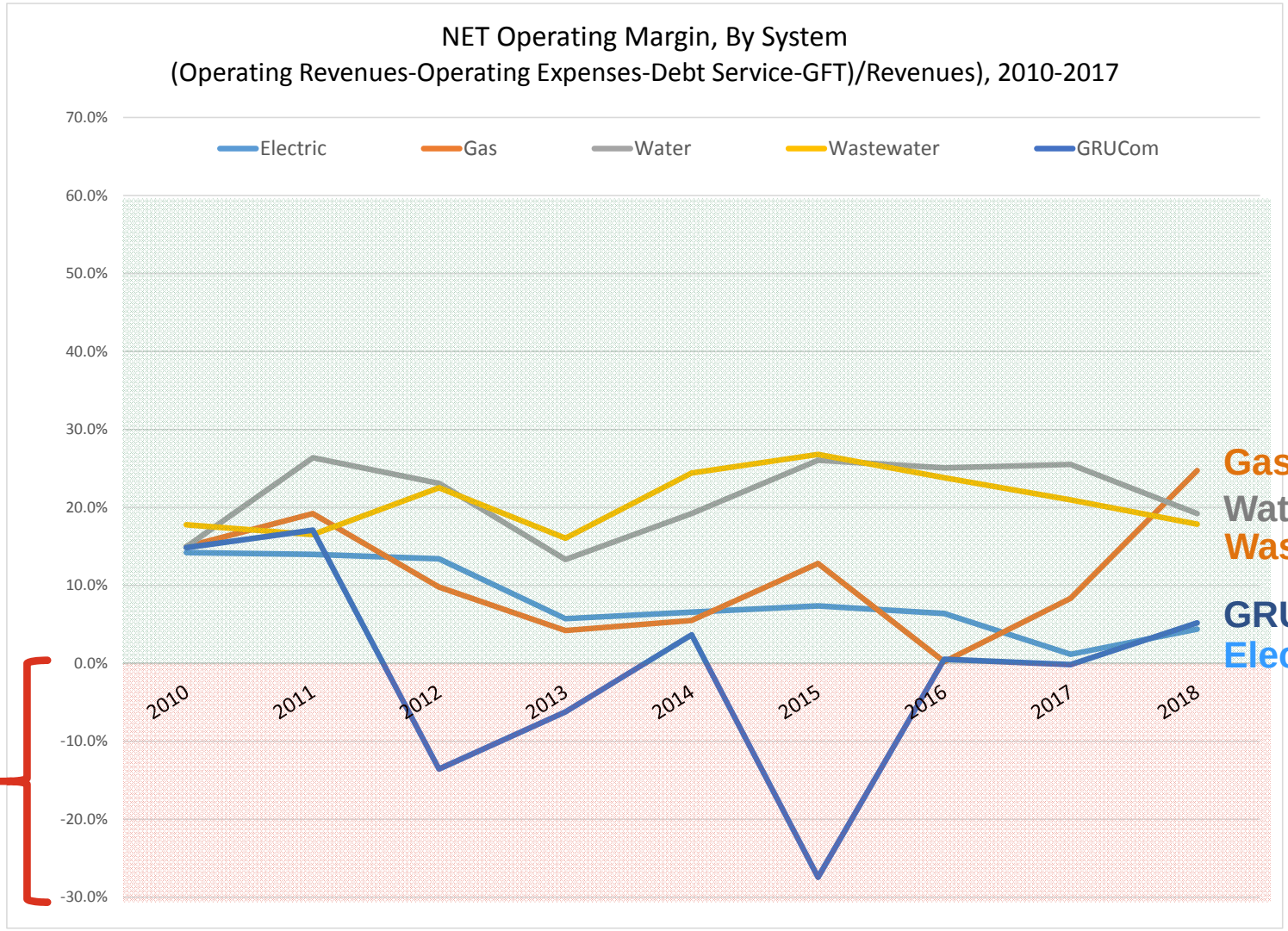
Observed Trends: However…Weakening Net Margins



Represents the system operating at a deficit

Source: GRU's Official Statements and Audits. FY18 Unaudited. Revenues include primary and secondary system sales. Expenses include O&M, A&G, Debt Service and GFT. Revenues exclude RSF and BABs

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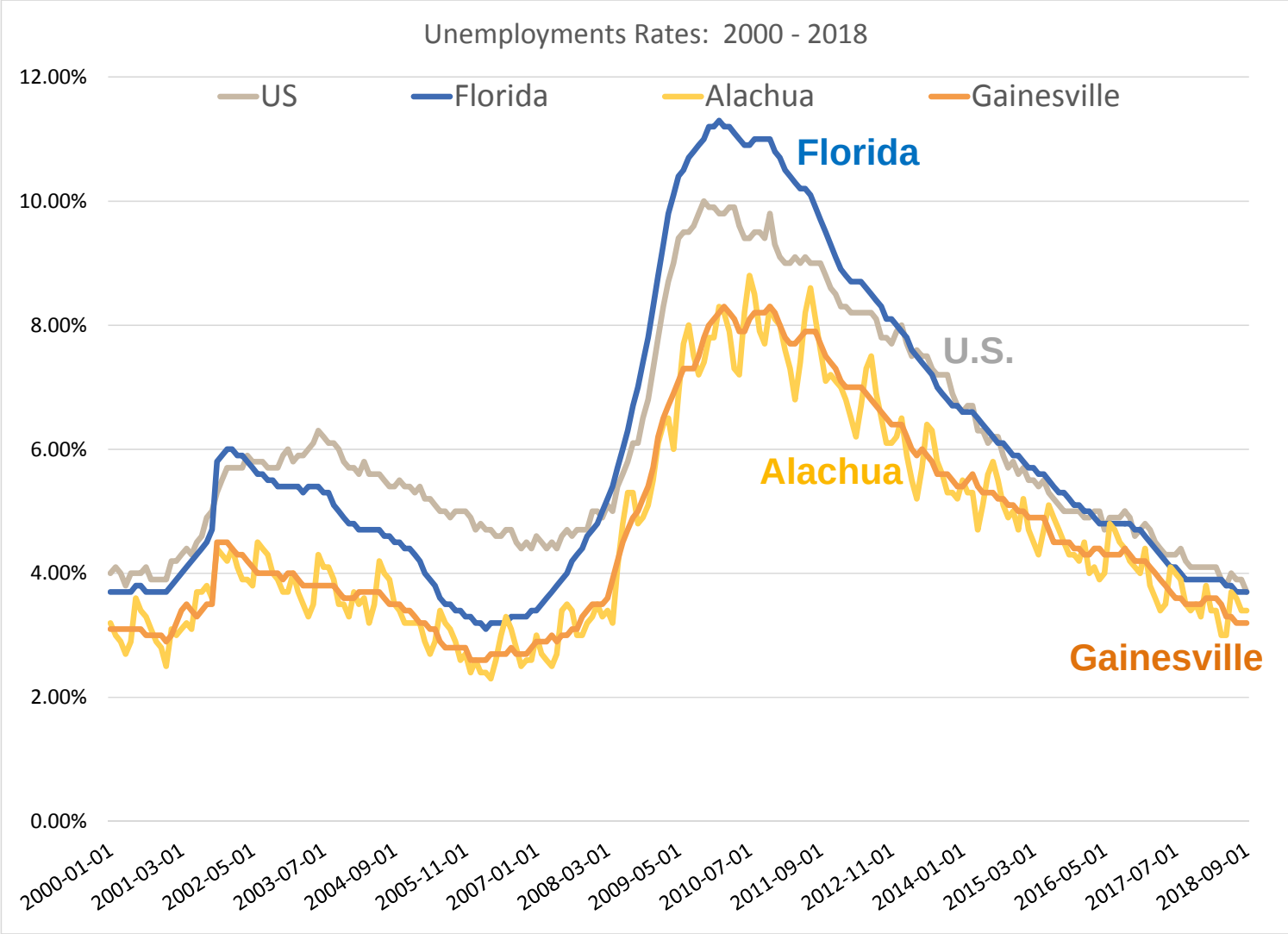
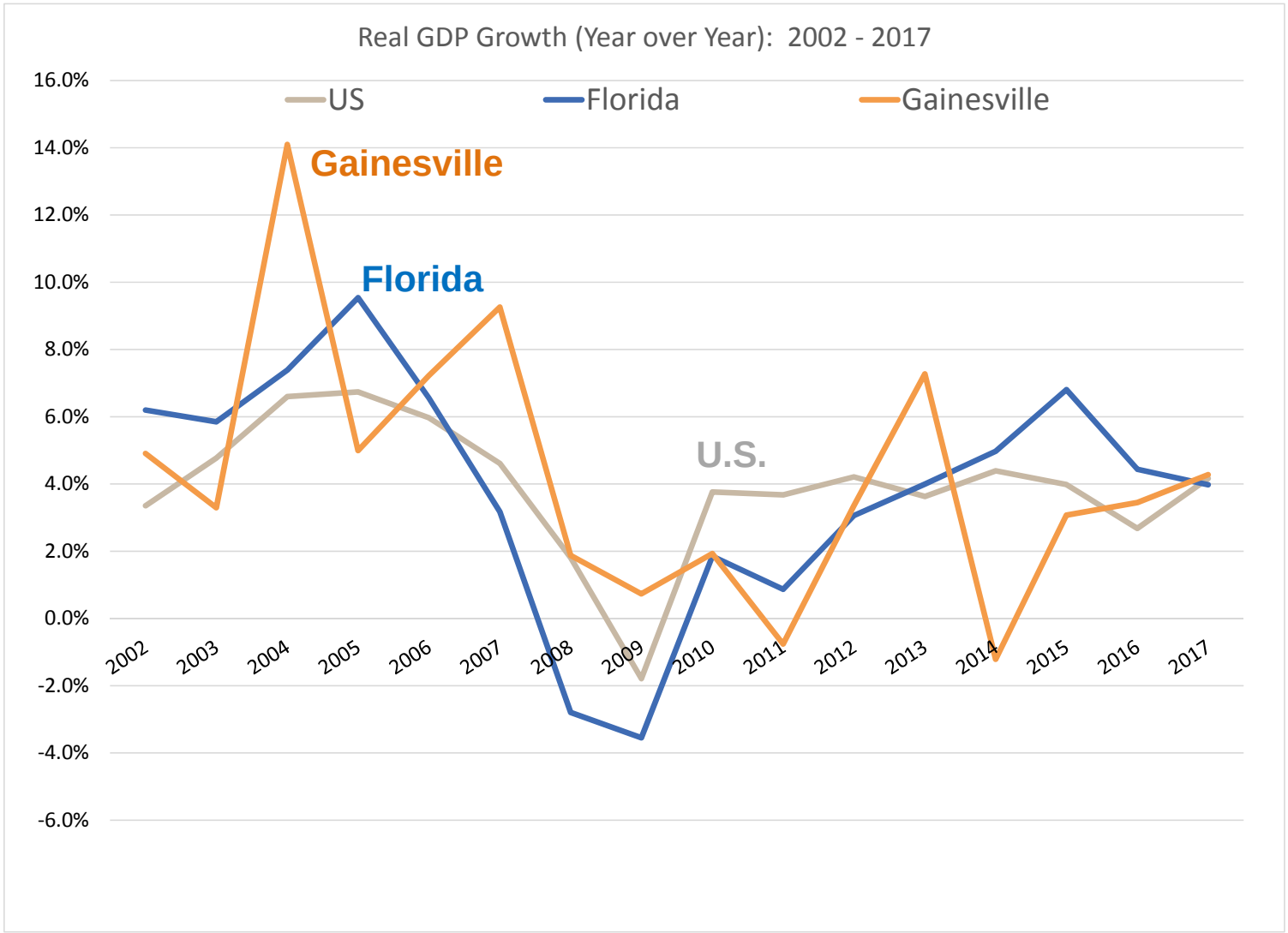
Observed Trends: Low Unemployment in Region



Source: Bureau of Labor Statistics

DRAFT

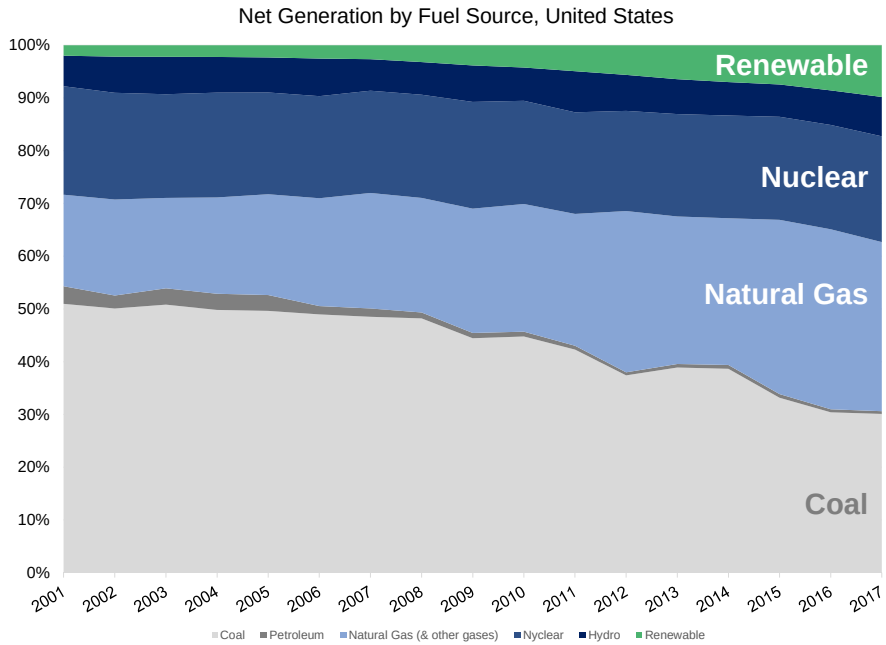
Observed Trends: GDP Growth

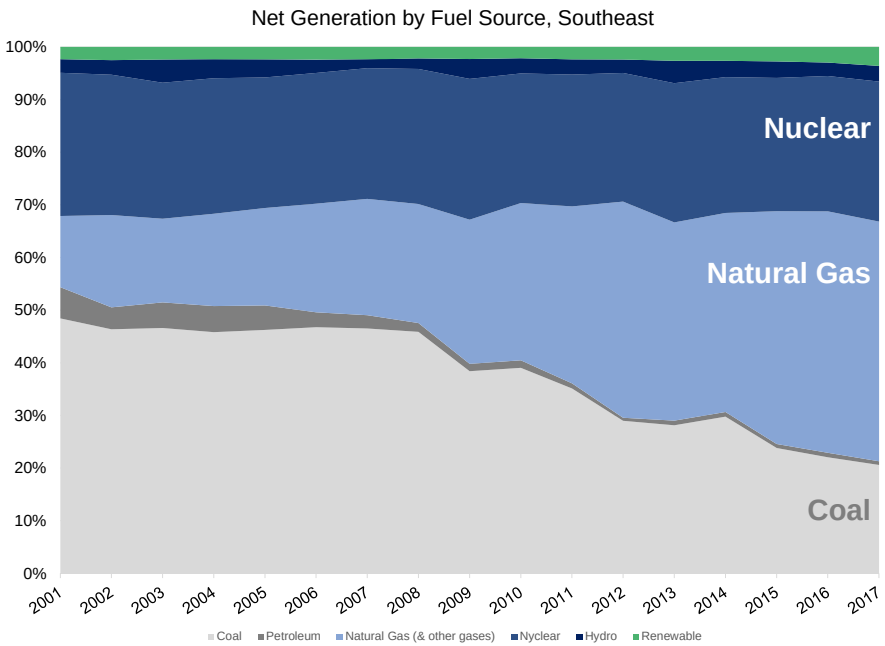


Source: Bureau of Economic Analysis

DRAFT

Observed Trends: Renewables





- Compares fuel sources of US and Regional utilities
- Southeast exceeds nation in terms of natural gas and reducing coal
- Southeast well behind with the penetration of renewables

Source: Energy Information Administration

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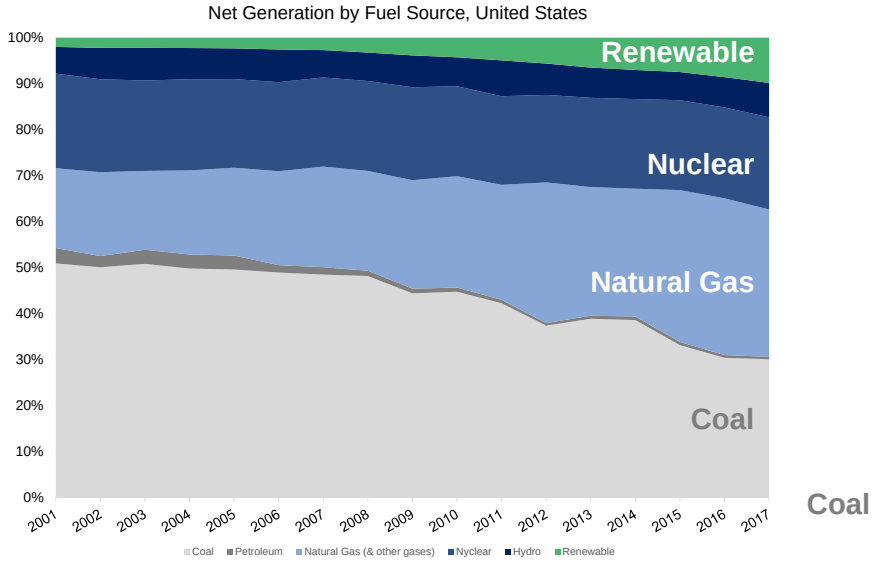
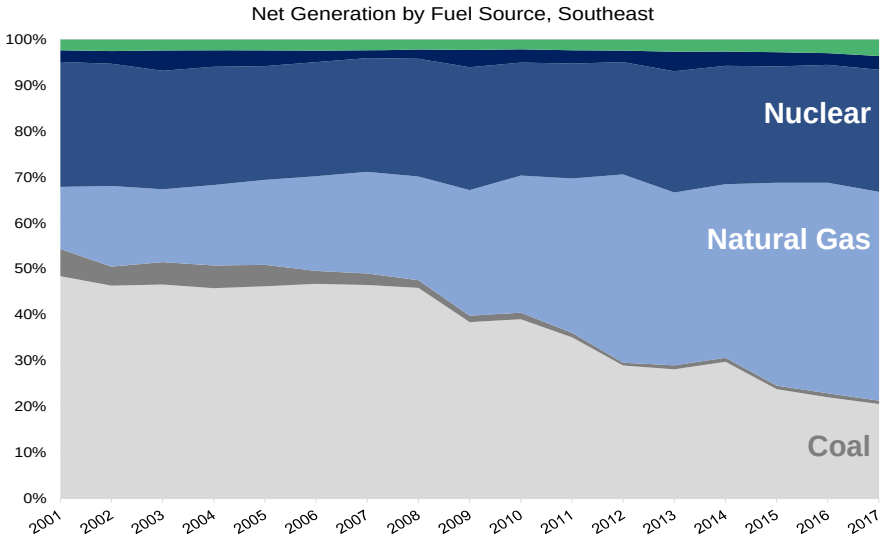
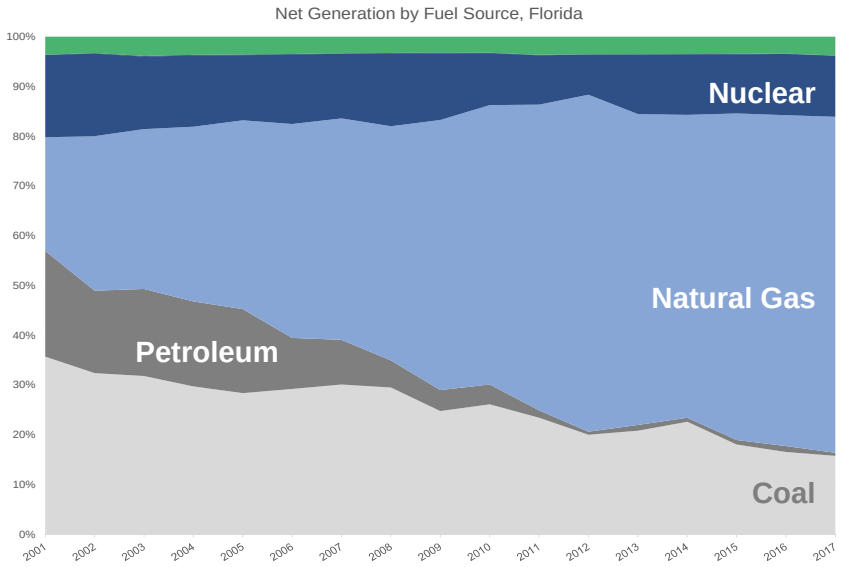
Observed Trends: Renewables





2017 Comparison

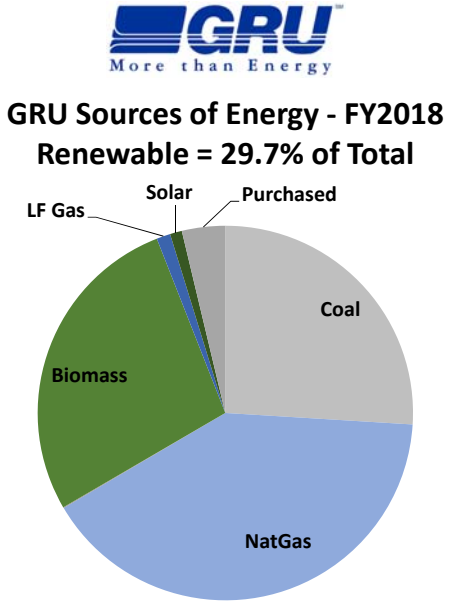
Fuel	U.S.	Southeast	Florida
Coal	30.1%	20.6%	15.8%
Petroleum	0.5%	0.7%	0.6%
Natural Gas	32.1%	45.5%	67.5%
Nuclear	20.0%	26.6%	12.3%
Renewable Inclds Hydro)	17.3%	6.6%	3.8%

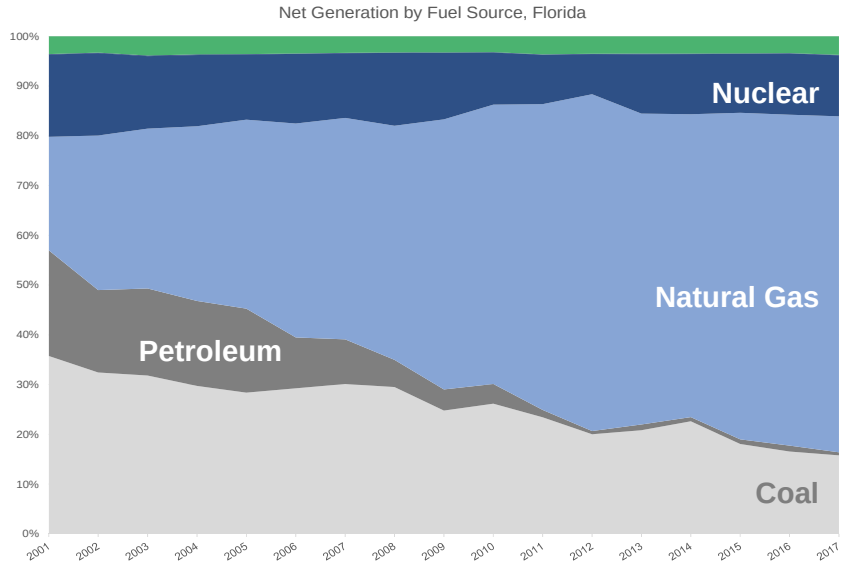


Source: Energy Information Administration

DRAFT

Observed Trends: Renewables





- While the Southeast is well behind with the penetration of renewables (~5%), GRU has a very strong renewable portfolio (~30% of generation assets)
- Using other sources of data, FRCC shows renewable penetration in Florida to be *just 2%* of firm summer capacity

Source: Energy Information Administration

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Observed Trends: Age and Concentration of Generation Fleet

Schedule 1

EXISTING GENERATING FACILITIES (as of January 1, 2018)

(1)	(4)	(5)	(6)	(7)	(8)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
								Gross Capability		Net Capability		
	Unit	Primary Fuel		Alternate Fuel		Commercial In-Service	Expected Retirement	Summer	Winter	Summer	Winter	
Plant Name	Type	Type	Trans.	Type	Trans.	Month/Year	Month/Year	MW	MW	MW	MW	Status
J. R. Kelly								**110.0**	**120.0**	**108.0**	**118.0**	
	CA	WH	PL	DFO	TK	[4/65 ; 5/01]	2035	37.5	38.0	36.0	37.0	OP
	CT	NG	PL	DFO	TK	5/01	2051	72.5	82.0	72.0	81.0	OP
Deerhaven								**438.5**	**459.0**	**409.0**	**428.0**	
	ST	BIT	RR			10/81	2031	251.0	251.0	228.0	228.0	OP
	ST	NG	PL	RFO	TK	8/72	2022	80.0	80.0	75.0	75.0	OP
	GT	NG	PL	DFO	TK	1/96	2046	71.5	82.0	71.0	81.0	OP
	GT	NG	PL	DFO	TK	8/76	2026	18.0	23.0	17.5	22.0	OP
	GT	NG	PL	DFO	TK	7/76	2026	18.0	23.0	17.5	22.0	OP
South Energy Center								**12.3**	**12.3**	**10.9**	**10.9**	
	GT	NG	PL			5/09	2039	4.5	4.5	3.5	3.5	OP
	IC	NG	PL			12/17	2047	7.8	7.8	7.4	7.4	OP
Deerhaven Renewable												
	ST	WDS	TK			12/13	2043	**116.0**	**116.0**	**102.5**	**102.5**	OP
System Total										**630.4**	**659.4**	

Fuel Type
BIT = Bituminous Coal
DFO = Distillate Fuel Oil
NG = Natural Gas
RFO = Residual Fuel Oil
WH = Waste Heat
WDS = Wood Waste Solids

Status
OP = Operational

Source: GRU data

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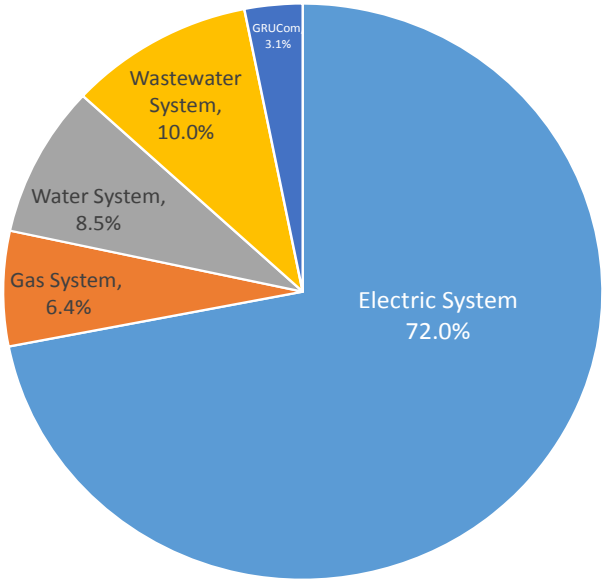
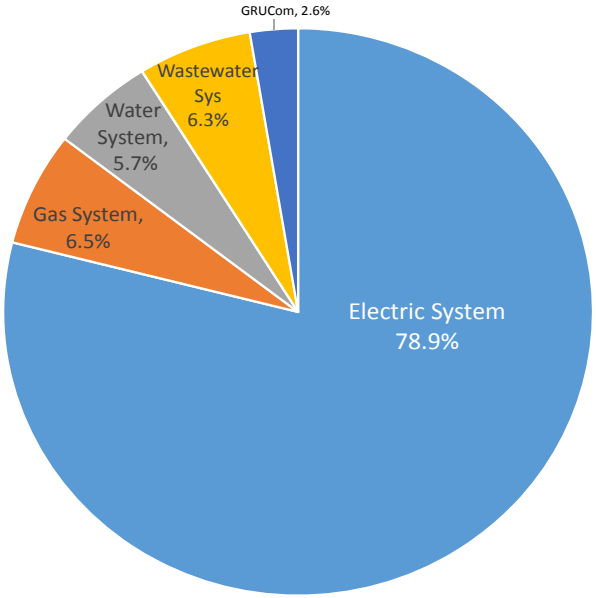
Observed Trends: Electric System Drives Performance

GRU: Historical System Operating Revenues (2010-2018)



GRU: Historical System Operating Expenses (2010-2018)



- Since 2010, the electric system is responsible for over 72% of operating revenues
- For operating expenses, that percentage increases to ~79%
  - Overweighted due to GREC PPA, would expect this to return to a "normal" level in the future

Source: GRU data

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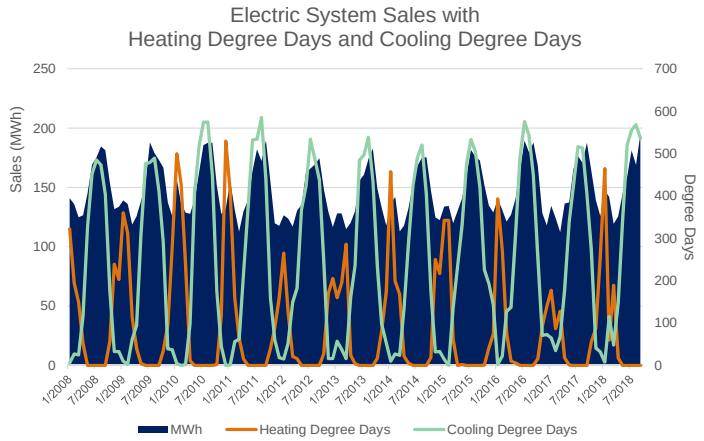
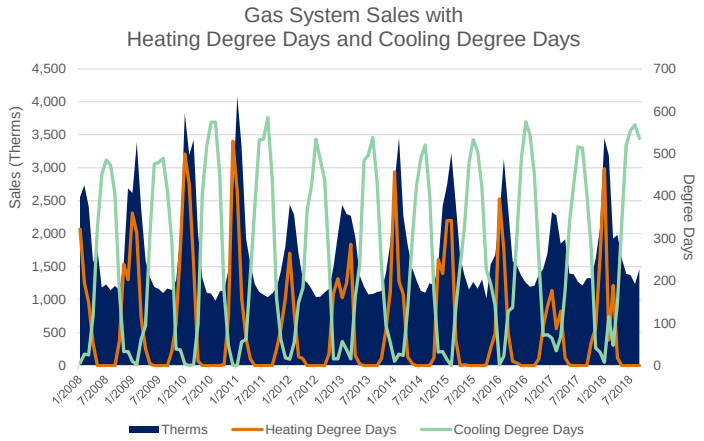
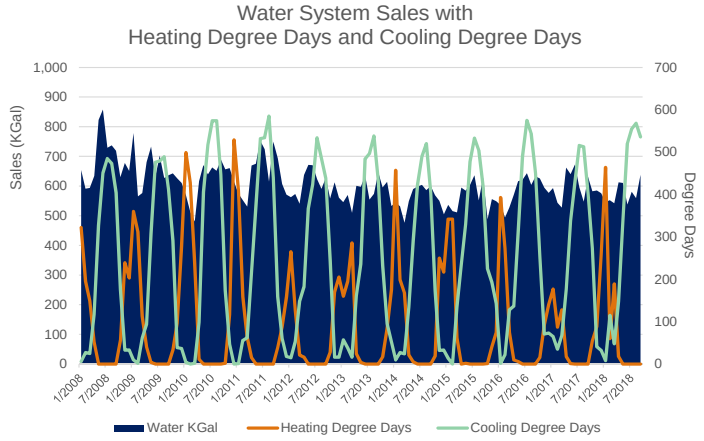
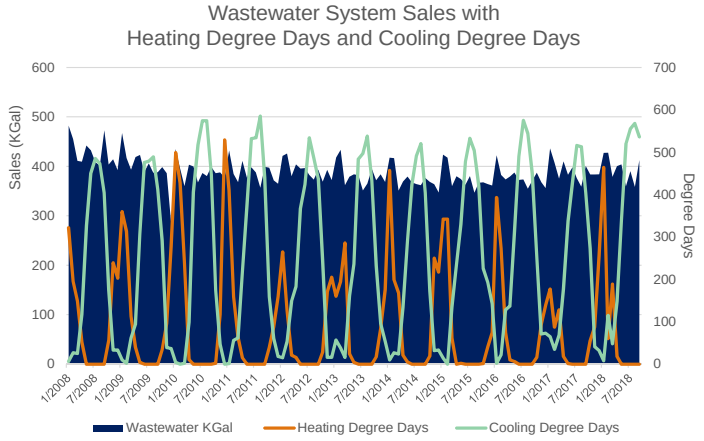
Observed Trends: Weather Impacts









- Electric System and Gas Systems driven more by weather (Cooling or Heating Degree Days) than Water and Wastewater systems

Source: GRU data

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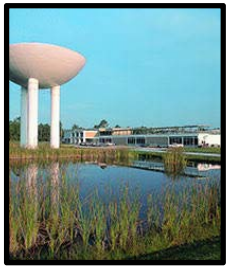
III. Revenue Exposure

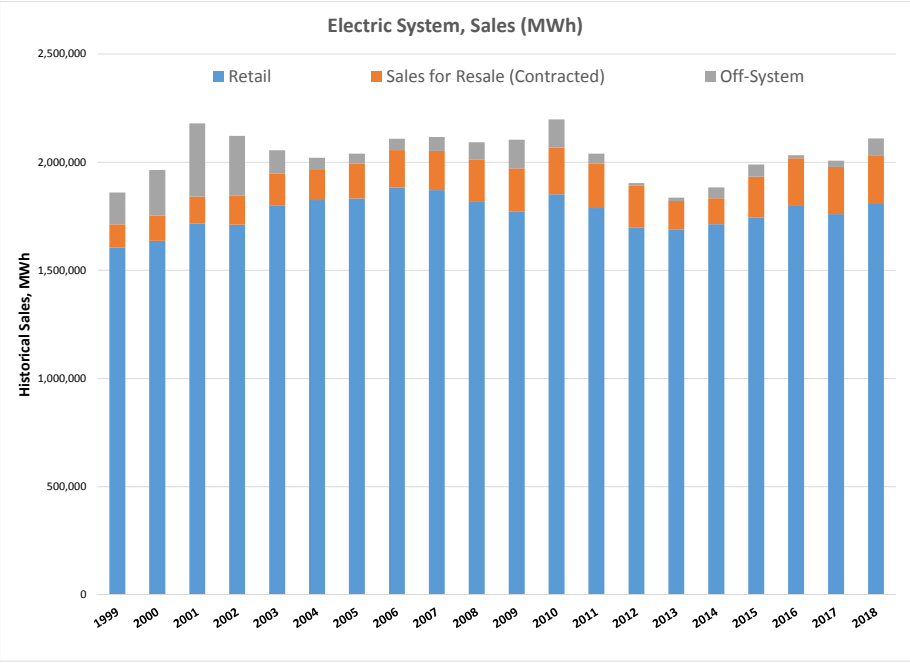


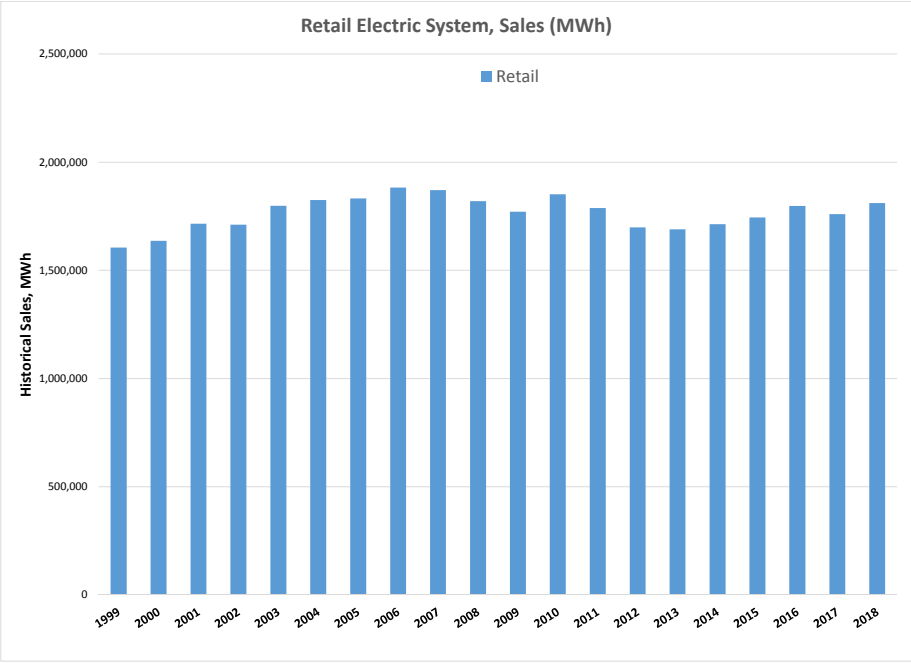


DRAFT

What are GRU's "Fixed Costs"?

- An important first step with determining cash reserve levels is to examine the demand for GRU's products
- For the Electric System, there is large variability in sales across the 3 categories (retail, sales for resale and off-system).
- However, looking at just retail, the demand is more stable





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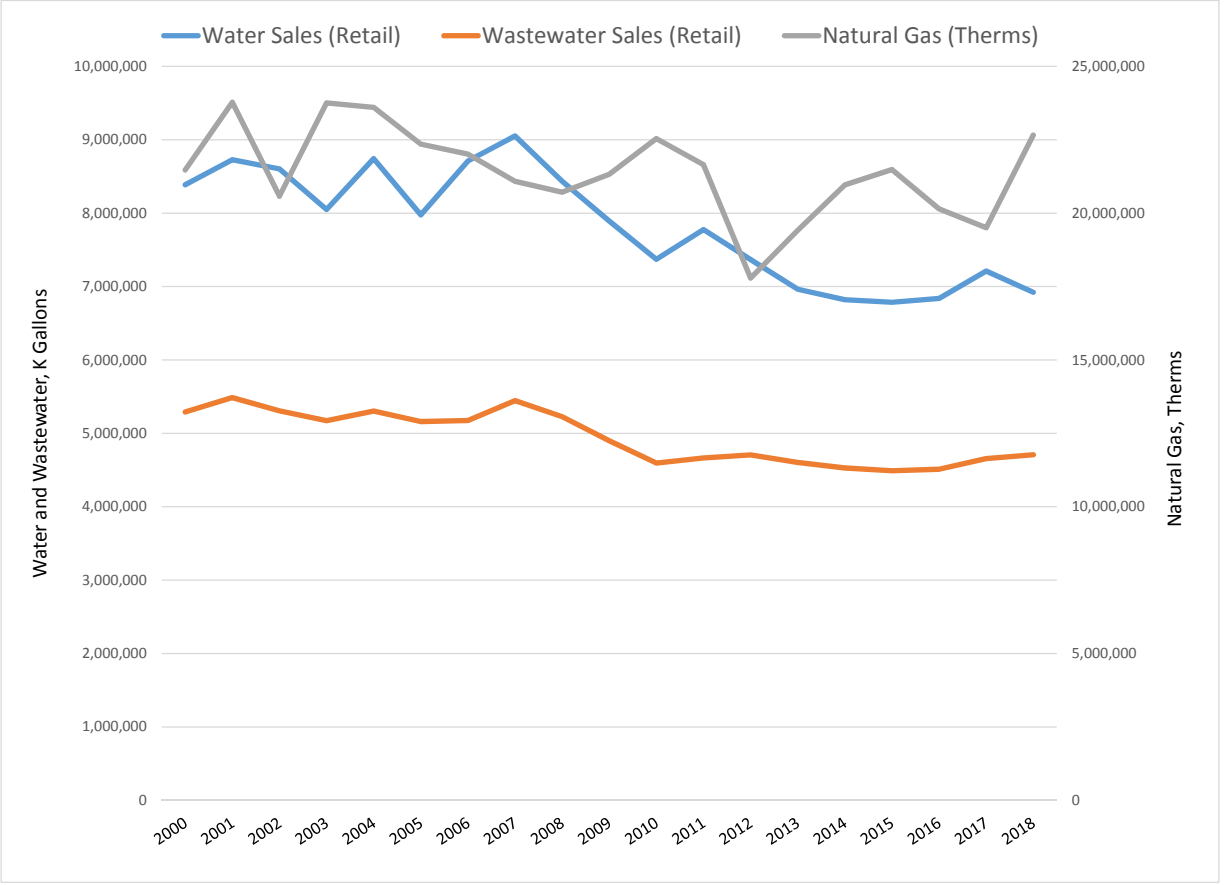
What are GRU's "Fixed Costs"?

- Looking at the demand for the other systems…
  - Water and Wastewater are on the decline (conservation works)
  - Gas highly dependent on weather



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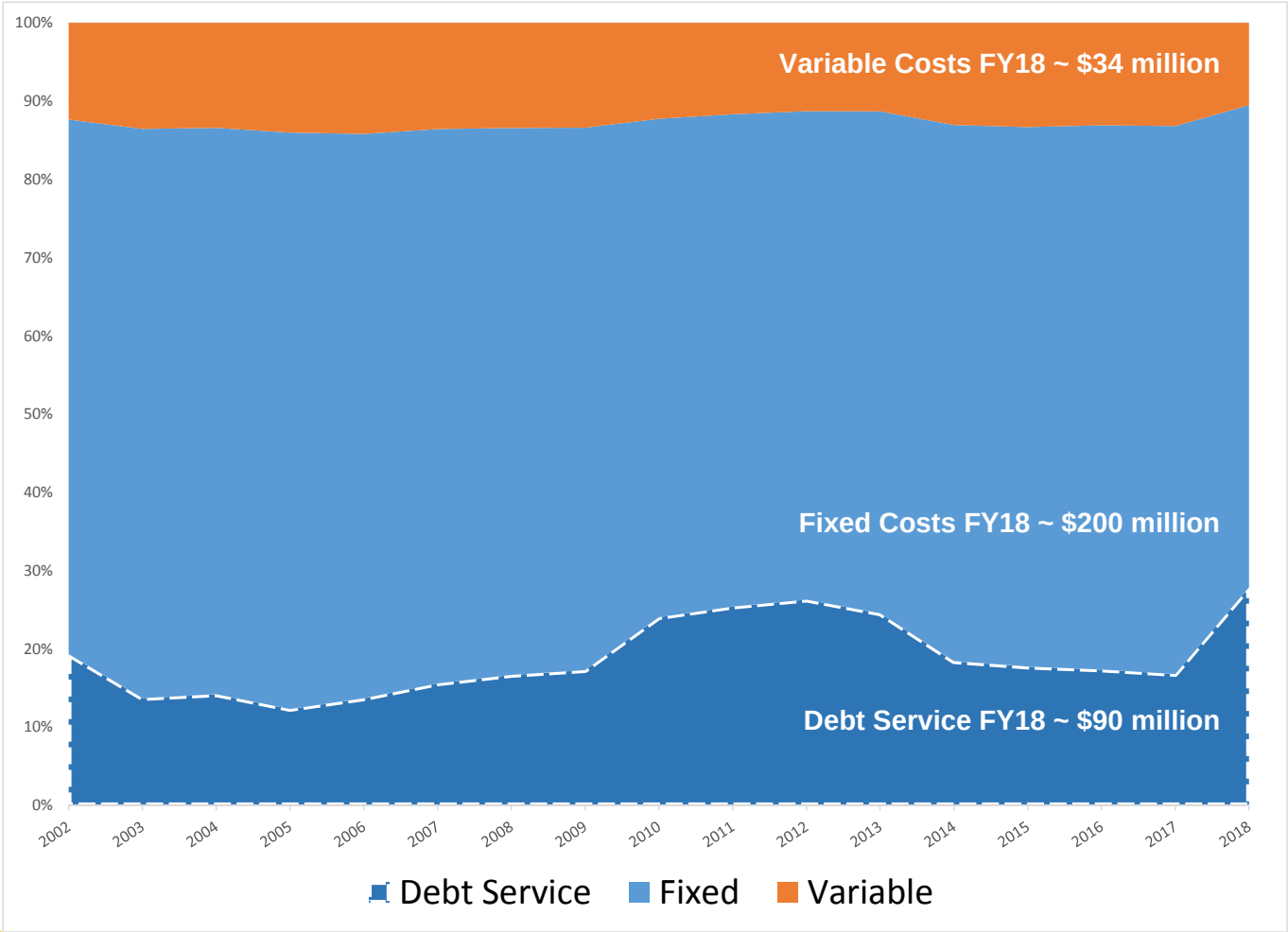
What are GRU's "Fixed Costs"?

- General stability of demand over time means many of GRU's costs are relatively fixed – even when driven by production volumes

Assumes for fixed expenses
- 80% of fuel costs are fixed
- 90% of overall O&M and A&G costs are also fixed



Source: GRU's Audit. FY18 Unaudited

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What are GRU's "Fixed Costs"?

- Cost structure of GRU indicates that the majority of costs are fixed
- 2018 fixed expenses ~$317 million:
  - ~$200 million in operating expenses
  - ~$90 million in debt service
  - ~$27 million in debt service coverage
- In the event that revenues do not materialize, GRU would still have to cover these costs
- Applying a *forward perspective* (FY2020 and 3% inflation), this fixed expense amount increases to $347 million

Fiscal Year 2018 (Unaudited) Operating Expenses ($ Million)			
Electric System			
	Total	**Fixed**	**Variable**
Fuel	$99.3	$79.4	$19.9
O&M	$66.0	$59.4	$6.6
A&G	$12.4	$11.2	$1.2
	System Total	$150.0	$27.7
Gas System			
Fuel	$7.8	$6.3	$1.6
O&M	$3.1	$2.8	$0.3
A&G	$2.1	$1.9	$0.2
	System Total	$10.9	$2.1
Water System			
O&M	$11.6	$10.5	$1.2
A&G	$4.6	$4.2	$0.5
	System Total	$14.6	$1.6
Wastewater System			
O&M	$15.7	$14.1	$1.6
A&G	$4.7	$4.2	$0.5
	System Total	$18.3	$2.0
GRUCom System			
O&M	$5.7	$5.1	$0.6
A&G	$.9	$0.8	$0.1
	System Total	$5.9	$0.7
Consolidated Operating Expenses	**$233.8**	**$199.7**	**$34.1**
Debt Service Requirements			
Debt Service Requirements, Including CP	$90.4	$90.4	$0.0
Coverage	$27.1	$27.1	$0.0
Total Debt Related Requirements	$117.6	$117.6	$0.0
Consolidated Operating Expenses and Debt Service	**$351.4**	**$317.3**	**$34.1**

Source: GRU's 2018 Preliminary Audit

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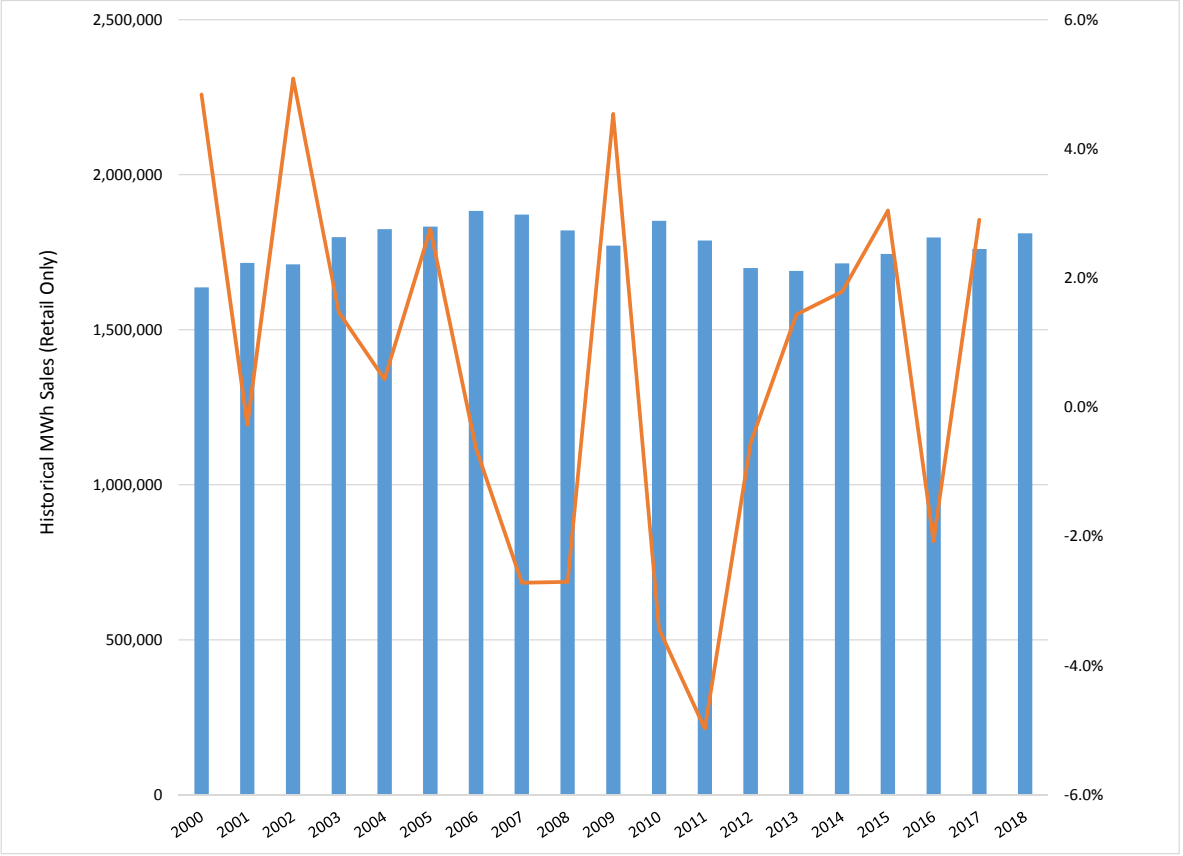
Revenue Exposure: General Sales Decrease

- While demand on GRU's electric system has been relatively stable when examining long periods of time, there is significant year to year variability
- Changes in sales (MWh) between years has ranged from +5% to -5%



Source: GRU's Official Statements for debt transactions and continuing disclosure

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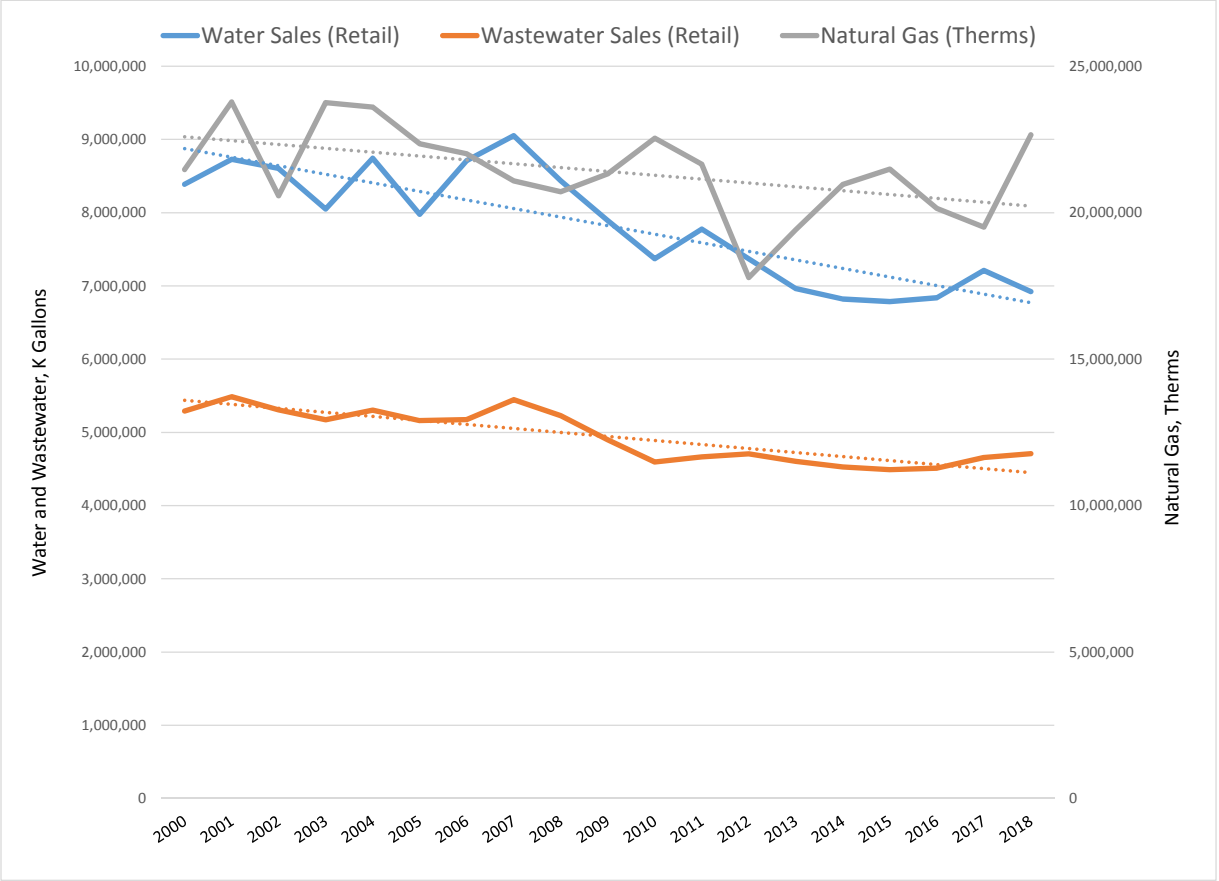
Revenue Exposure: General Sales Decrease

- GRU's other systems are experiencing some decline in demand
- Likely declining consumption trends will continue, but stabilize as conservation measures reach their limits (or offset through growth)



Source: GRU's Official Statements for debt transactions and continuing disclosure

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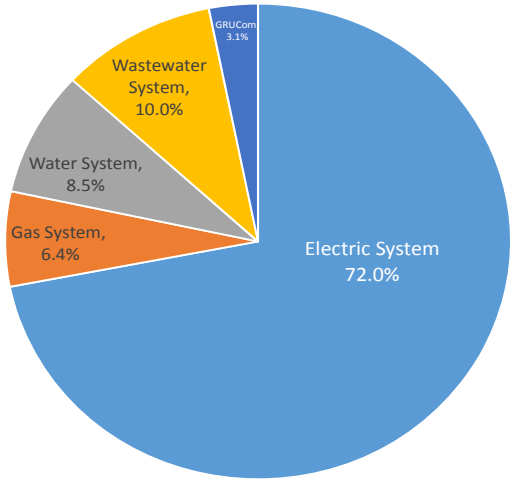
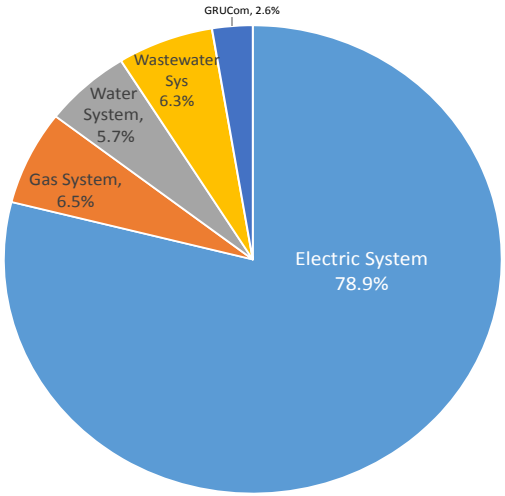
Revenue Exposure: General Sales Decrease

- Variability can have significant impacts if forecasts differ from actual results

GRU: Historical System Operating Revenues (2010-2018)



GRU: Historical System Operating Expenses (2010-2018)



Represents annual change in operating revenue

% Change, Prior Year	2010	2011	2012	2013	2014	2015	2016	2017	2018
Electric	4.5%	-3.4%	-5.0%	-0.6%	1.4%	1.8%	3.0%	-2.1%	2.9%
Gas	5.7%	-3.9%	-17.9%	9.2%	7.9%	2.5%	-6.2%	-3.2%	16.1%
Water	-6.6%	5.5%	-5.2%	-5.5%	-2.0%	-0.5%	0.8%	5.5%	-4.0%
Wastewater	-6.2%	1.5%	0.9%	-2.2%	-1.6%	-0.8%	0.4%	3.3%	1.1%

Represents retail sales volumes, percent change from prior year. Historical GRU data

Source: GRU's Official Statements for debt transactions and continuing disclosure

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Revenue Exposure: General Sales Decrease

($ in Millions)	Less Conservative Level	Moderate Level	More Conservative Level
Assumed Fixed Base	$347	$347	$347
Assumed variance	1.0%	3.0%	5.0%
Months of coverage	12	12	12
Exposure	**$3.5**	**$10.4**	**$17.4**

- In the event of an economic downturn, GRU would be required to cover the expected fixed costs of the system
- Historically, GRU has experienced:
  - 3 years of continued declining sales (2008 – 2010)
  - Annual sales decrease of as much as 5% (2012)
- Recommendation: Moderate level
  - "About" what was experienced in recent recession
  - More conservative exceeds historical impacts

Source: GRU's Official Statements for debt transactions and continuing disclosure

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Revenue Exposure: Loss of a Major Customer

- Represents the risk that one of GRU's major customers leaves local area
- GRU has a very strong customer base across GRU's systems
- With the exception of GRUCom, limited customer concentration risk:

Top 10 Customers: Electric System

#	Name	% of Expected System Revenue
1	GRU	2.9%
2	ALACHUA COUNTY PUBLIC SCHOOLS	2.2%
3	SHANDS	2.0%
4	NORTH FL REGIONAL MEDICAL CTR	1.7%
5	PUBLIX SUPER MARKETS INC	1.7%
6	VA MEDICAL CENTER	1.7%
7	UNIVERSITY OF FLORIDA	1.5%
8	ALACHUA COUNTY BOARD OF COMM	0.9%
9	SANTA FE COLLEGE	0.7%
10	CITY OF GAINESVILLE	0.7%
	Total, Top 10 System Customers	**16.1%**

Top 10 Customers: Gas System

#	Name	% of Expected System Revenue
1	UNIVERSITY OF FLORIDA	4.4%
2	OLOGY BIOSERVICES INC	1.4%
3	ALACHUA COUNTY BOARD OF COMM	1.3%
4	SHANDS	1.1%
5	ALACHUA COUNTY PUBLIC SCHOOLS	1.0%
6	NORTH FL REGIONAL MEDICAL CTR	0.8%
7	RTI BIOLOGICS INC	0.7%
8	ST OF FL DEPT OF CH & FAM SVC	0.6%
9	SANTA FE COLLEGE	0.5%
10	ANDERSON COLUMBIA CO INC	0.4%
	Total, Top 10 System Customers	**12.3%**

Top 10 Customers: Water System

#	Name	% of Expected System Revenue
1	UNIVERSITY OF FLORIDA	5.2%
2	GRU	1.4%
3	NORTH FL REGIONAL MEDICAL CTR	0.8%
4	ALACHUA COUNTY PUBLIC SCHOOLS	0.7%
5	VA MEDICAL CENTER	0.6%
6	CITY OF GAINESVILLE	0.6%
7	SHANDS	0.6%
8	CELEBRATION POINTE HOLDINGS LLC	0.6%
9	ALACHUA COUNTY BOARD OF COMM	0.5%
10	SIVANCE LLC	0.4%
	Total, Top 10 System Customers	**11.4%**

Top 10 Customers: Wastewater System

#	Name	% of Expected System Revenue
1	UNIVERSITY OF FLORIDA	1.1%
2	ST OF FL DEPT OF CH & FAM SVC	0.8%
3	ALACHUA COUNTY PUBLIC SCHOOLS	0.7%
4	NORTH FL REGIONAL MEDICAL CTR	0.6%
5	SIVANCE LLC	0.6%
6	SHANDS	0.6%
7	CITY OF GAINESVILLE	0.6%
8	CABOT CARBON OPER JUMPSTART	0.5%
9	VA MEDICAL CENTER	0.5%
10	ALACHUA COUNTY BOARD OF COMM	0.5%
	Total, Top 10 System Customers	**6.6%**

Top 10 Customers: GRUCom

#	Name	% of Expected System Revenue
1	GRU	12.2%
2	ALACHUA COUNTY BOARD OF COMM	9.0%
3	VERIZON WIRELESS PERSONAL COMM L	7.3%
4	ALACHUA COUNTY PUBLIC SCHOOLS	6.0%
5	C OF G	5.8%
6	AT&T WIRELESS	4.2%
7	INTERSTATE FIBERNET INC	4.0%
8	T-MOBILE USA INC	3.7%
9	FLORIDA PHONE SYSTEMS	3.2%
10	SHANDS	2.3%
	Total, Top 10 System Customers	**57.8%**

Source: GRU's database

DRAFT

Revenue Exposure: Loss of a Major Customer

($ in Millions)	Less Conservative Level	Moderate Level	More Conservative Level
Assumed Fixed Base	$347	$347	$347
Assumed variance	1%	1%	2%
Months of coverage	3	6	12
Exposure	**$0.9**	**$1.7**	**$6.9**

- Across all systems, the largest customers account for ~2% of system sales
- Focusing on *utility* systems, this percentage falls to 1.2%
- The diversity and durability of these customers, in general, poses limited risk to GRU
- Recommendation: Moderate Level
  - GRU's largest customers represent stable entities
  - Minimal impact from these entities during the recession, but still a risk given Gainesville's recent growth

Source: GRU's Official Statements for debt transactions and continuing disclosure

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Revenue Exposure: Off System Sales Revenue

- GRU, through the electric and water system, has off-system sales
- Provides additional revenue (and margin) to offset the cost to GRU's primary customers and ratepayers
- Historically, these off-system sales have been mostly through mid-to-long term contracts and to, a lesser extent, spot market (opportunistic) sales
- Generally, represent a relatively low percentage of overall sales:

Other Revenue: System Sales	2010	2011	2012	2013	2014	2015	2016	2017	2018
Electric and Water System Sales ($ Million) [1]	304.1	295.3	275.4	272.5	314.2	331.1	338.8	336.7	314.0
Electric: Sales for Resale	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2
Electric: Off System Sales	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1
Water: Univ of Florida	1.7	1.4	1.8	1.8	1.9	2.0	1.9	2.1	1.9
Total	2.0	1.7	2.0	1.9	2.1	2.3	2.1	2.3	2.2
Change from Prior Year		-17.5%	20.3%	-3.8%	6.8%	10.4%	-6.7%	10.4%	-6.3%
Relative % of Sales	0.1%	0.1%	0.1%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%

[1] Represents Electric Sales and Other electric Revenue, Water Sales and Other Water Revenue

Source: GRU's Audit. Represents sales for Resale, Off System sales and the water sales to University of Florida. FY18 Unaudited

DRAFT

Revenue Exposure: Off System Sales Revenue

($ in Millions)	Less Conservative Level	Moderate Level	More Conservative Level
Expected Off System sales	$2.0	$2.0	$2.0
Assumed variance	0.00%	5.00%	10.00%
Months of coverage	3	6	12
Exposure	**$0.00**	**$0.05**	**$0.20**

- However, compared to other utilities, GRU does not appear to have any reliance on off-system sales, with an average of ~$2 million per year
- Conservative budgeting policy should also be utilized – don't count on resales unless contracted and high probability of renewal
- Recommendation: Less Conservative Level
  - Not reliant on resales and off-system sales
  - Small percentage of overall revenue
  - In addition, margins generally compressed with these sales

Source: GRU's Audit. Represents System sales and "Other" revenue from consolidated statements

DRAFT

Revenue Exposure: Other Revenue (Interest Income)

- GRU has other revenue sources, primarily interest income from invested cash balances
- Provide additional revenue (and margin) to offset the cost to GRU's primary customers and ratepayers
- Generally, represent a relatively low percentage (<1%) of overall sales:

Other Revenue: System Sales	2010	2011	2012	2013	2014	2015	2016	2017	2018
System Sales ($ Million)	$346.3	$339.3	$316.8	$315.5	$357.0	$379.7	$379.4	$390.0	$365.8
Interest Income ($ Million)	$2.6	$2.1	$1.9	$1.5	$1.5	$1.5	$1.8	$2.8	$2.9
Relative % of system sales	0.7%	0.6%	0.6%	0.5%	0.4%	0.4%	0.5%	0.7%	0.8%

- Variability in the amount of interest income generations is a result of invested balances, market conditions and timing/need for liquidity

Source: GRU's Audit. Represents System sales and "Other" revenue from consolidated statements

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Revenue Exposure: Other Revenue

($ in Millions)	Less Conservative Level	Moderate Level	More Conservative Level
Expected Interest Income	$2.2	$2.2	$2.2
Assumed variance	0.00%	12.50%	25.00%
Months of coverage	3	6	12
Exposure	**$0.00**	**$0.13**	**$0.54**

- GRU has experienced significant volatility with Interest Income
- However, compared to other utilities, GRU does not appear to have an over-reliance on Interest Income
- Entering into a higher interest rate environment in 2019, especially when compared to 2010 – 2017
- Recommendation: Less Conservative Level
  - Immaterial amount
  - In rising interest rate environment which is expected over the next few years, likely interest income will be higher than budget

Source: GRU's Audit. Represents System sales and "Other" revenue from consolidated statements

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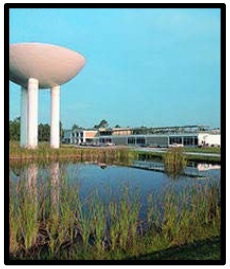
IV. Expense Exposure





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Expense Exposure: Replacement Power

- GRU has a diverse power supply portfolio

GRU's Generating Fleet					
Generating Station	Unit #	Primary Fuel	Alternative Fuel	Net Summer capacity (MW)	In Service
J.R. Kelly Station					
	Steam Unit 8	Waste Heat	NA	36.0	1965 / 2001
	CT 4	Natural Gas	Distillate Fuel Oil	72.0	2001
		Total Nameplate Capacity, J.R. Kelly		**108.0**	
Deerhaven Generating Station					
	Steam Unit 2	Coal	NA	228.0	1981
	Steam Unit 1	Natural Gas	Residual Fuel Oil	75.0	1972
	CT3	Natural Gas	Distillate Fuel Oil	71.0	1996
	CT2	Natural Gas	Distillate Fuel Oil	17.5	1976
	CT1	Natural Gas	Distillate Fuel Oil	17.5	1976
	DHR	Biomass	NA	102.5	2013
		Total Nameplate Capacity, Deerhaven		**511.5**	
South Energy Center					
	SEC-1	Natural Gas	NA	3.5	2009
	SEC-2	Natural Gas	NA	3.5	2017
Power Purchase Agreements					
	Base Landfill	Landfill Gas	NA	3.0	
			Total Nameplate Capacity	**626.0**	

- While there is diversity in fuels, there is some concentration risk at the Deerhaven location, representing over 80% of GRU's capacity
- If some activity/event impacted the ability of GRU to provide power from Deerhaven, then market purchases would be required to meet demand until rectified

Source: GRU's Official Statement

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Expense Exposure: Replacement Power

- GRU has a diverse power supply portfolio, each with a different cost profile
- The following table provides an estimate of the cost for power from multiple generation stations based on a weighted average:

Estimating the Average Incremental Cost of power per MWh								
	Min Load	Average Costs	Total Cost*	Weighted Average	Max Load	Average Costs	Total Cost*	Weighted Average
CC1	86.0 MWs	18.88 / MWh	14,223,437	3.47	108.0 MWs	17.92 / MWh	16,953,754	2.03
DH2	51.0 MWs	45.83 / MWh	20,475,011	12.12	232.0 MWs	31.95 / MWh	64,932,624	13.85
DH1	22.0 MWs	32.37 / MWh	6,238,346	2.61	75.0 MWs	26.18 / MWh	17,200,260	3.01
CT3	49.0 MWs	29.28 / MWh	12,568,147	4.75	71.0 MWs	25.28 / MWh	15,723,149	2.65
GREC/DHR	70.0 MWs	39.00 / MWh	23,914,800	12.05	102.5 MWs	39.00 / MWh	35,018,100	9.12
			77,419,741	**35.00**			149,827,886	**30.65**

* Assumes that each facility operates at either min or max load

Source: GRU presentation, "Economic Dispatch". June 2016

- The FY19-20 Budget Book has an average system power cost of $39.09 per MWh
- This provides an approximation of what GRU budgets for power

Source: GRU's Official Statement, Budget Book for FY19-20

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Expense Exposure: Replacement Power

- Concern that if Deerhaven were unavailable, GRU would be required to purchase power on the spot market

GRU: Assumed Loss of Deerhaven (511.5 MWs)				
Fiscal Year	Net Summer System Capability (MW)	Peak Load (MW)	J.R. Kelly	Potential Shortfall
2012	662 MWs	415 MWs	108 MWs	307 MWs
2013	650 MWs	416 MWs	108 MWs	308 MWs
2014	639 MWs	409 MWs	108 MWs	301 MWs
2015	639 MWs	421 MWs	108 MWs	313 MWs
2016	631 MWs	428 MWs	108 MWs	320 MWs
2017	627 MWs	437 MWs	108 MWs	329 MWs
2018	627 MWs	444 MWs	108 MWs	336 MWs
2019	627 MWs	438 MWs	108 MWs	330 MWs
2020	627 MWs	441 MWs	108 MWs	333 MWs
2021	627 MWs	445 MWs	108 MWs	337 MWs

- Depending on the duration of the unplanned outage, time of year/day, this could expose GRU to replacement power risk

Source: GRU's Official Statement

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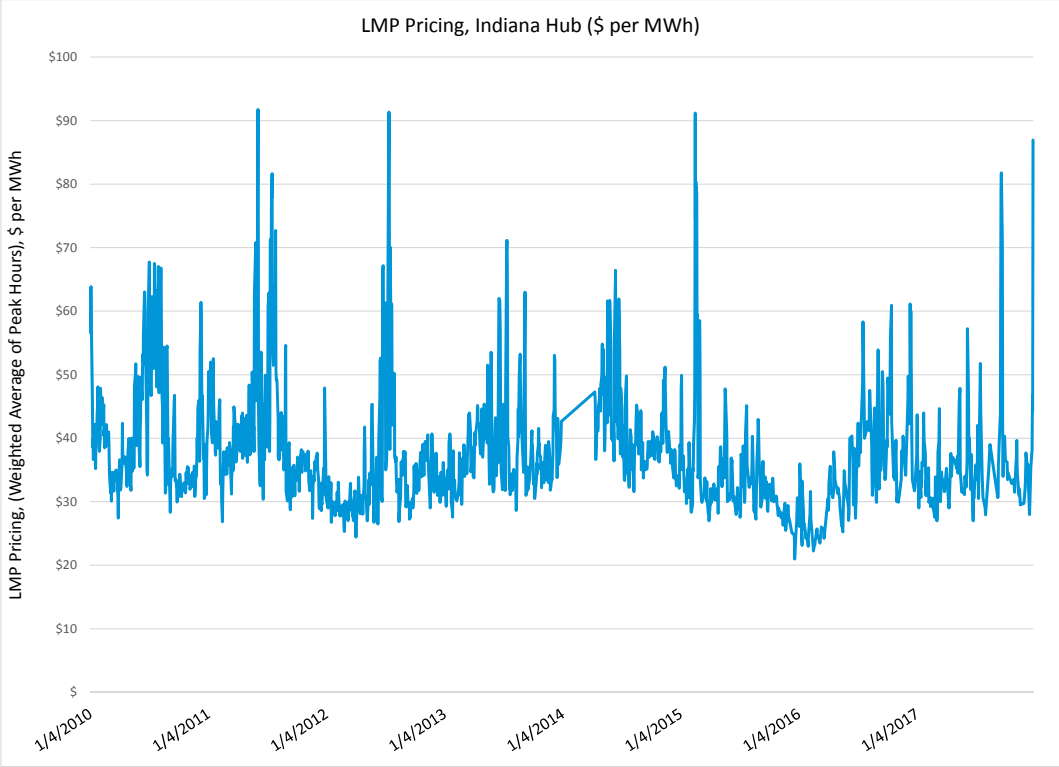
Expense Exposure: Replacement Power

- If a shortfall, GRU would likely have to rely on spot market purchases, based on local LMP pricing.
- The LMP market is driven by many factors, but does have wide fluctuations in pricing



LMP Pricing: Indiana Hub Peak Pricing, 2010-2017 ($ per MWh)					
Time Period	Average	Min	Max	Range	Standard Deviation
2010	41.32	27.43	67.74	40.31	9.75
2011	40.32	26.84	91.72	64.88	9.65
2012	34.56	24.44	91.31	66.87	9.23
2013	38.11	27.58	71.11	43.53	7.31
2014	41.36	31.58	66.40	34.82	6.49
2015	34.40	21.00	91.17	70.17	9.22
2016	34.94	22.25	61.11	38.86	8.25
2017	36.74	27.00	86.93	59.93	9.35
2010-2017	37.91	21.00	91.72	70.72	9.25

Source: EIA data, https://www.eia.gov/electricity/wholesale/#history

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Expense Exposure: Replacement Power

($ in Millions)	Less Conservative Level	Moderate Level	More Conservative Level
Assumed shortfall	330 MWs	330 MWs	330 MWs
Length of Outage	30 days	60 days	90 days
MWh Shortfall	237,600 MWhs	475,200 MWhs	712,800 MWhs
Spot Purchase Cost*	50.00 / MWh	60.00 / MWh	70.00 / MWh
Budgeted MWh Cost**	39.00 / MWh	39.00 / MWh	39.00 / MWh
Net Replacement	11.00 / MWh	21.00 / MWh	31.00 / MWh
Exposure	**$2.6**	**$10.0**	**$22.1**

* Represents Indiana Hub, Peak weighted average LMP pricing + 1, 2 and then 3 standard deviations

** Source: Fuels and Purchased Power Expense Budget Book, 2019-2020 ($39.03 for all assets)

- GRU has *geographic* concentration risk with Deerhaven
- While unlikely, some risk that the facility will be unable to either generate or dispatch power
- Duration of issue, time of year and day to replace this power varies significantly
- Recommendation: Less Conservative Level
  - Probability of disruption low
  - Probability of catastrophic failure low

Source: GRU's Official Statements

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Expense Exposure: Replacement Treatment Facilities

- GRU has *some unit concentration* with the other utility systems
  - Water: the Murphree Plant and 19.5 million gallons of storage capacity (about 1 days supply)
  - Wastewater has 2 facilities
    - Main Street Water Reclamation Facility
    - Kanahapa Water Reclamation Facility

While these facilities are connected, the Kanahapa Facility could not take all of the diverted flows from Main Street, assuming average daily flows

- PFM has seen other combined utilities and water/sewer entities begin to plan for other facilities to reduce this exposure
  - A “decades” long effort requiring: Siting, Permitting, Environmental…
- Recommendation
  - Continued awareness
  - Contingency planning

Source: GRU’s Official Statements

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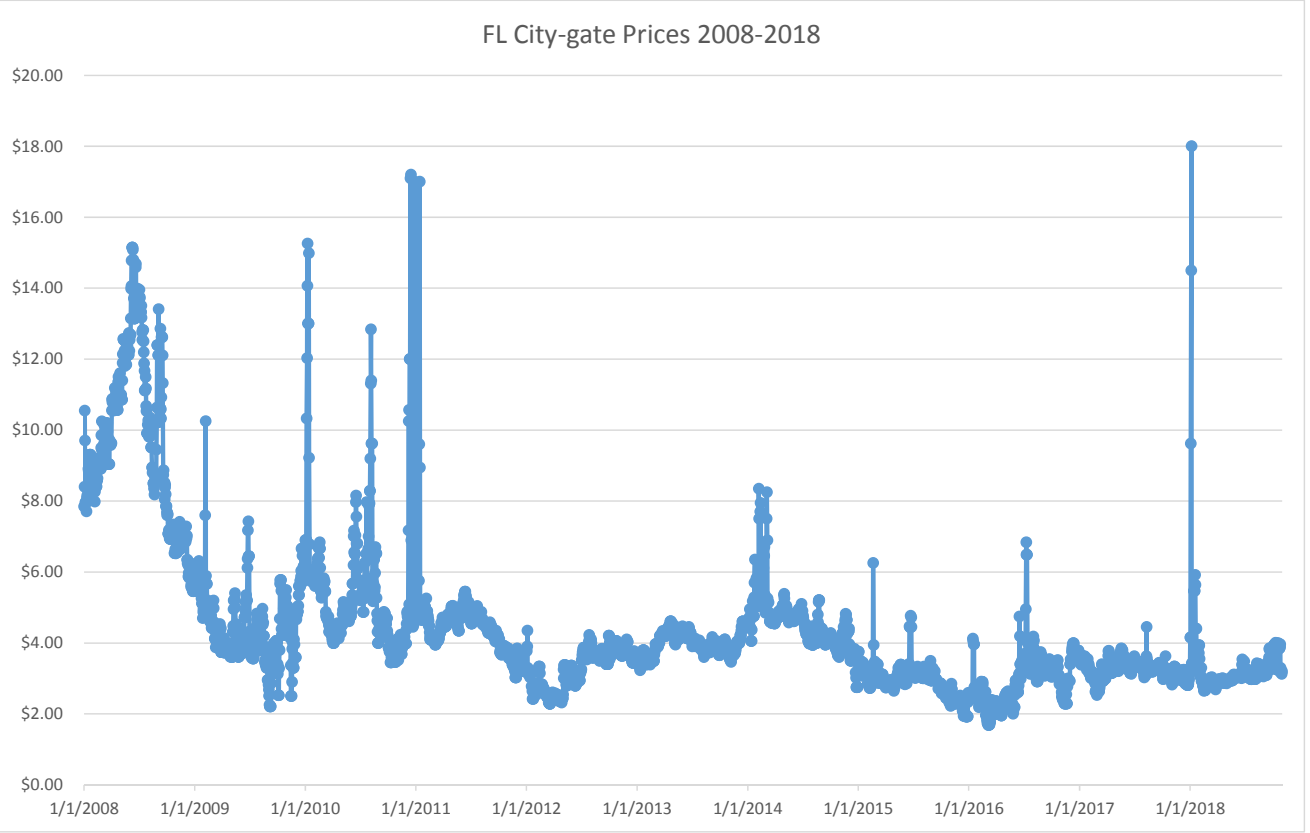
Expense Exposure: Gas Supply

- Natural gas prices drive the Florida electric markets
- GRU has a hedging policy to reduce exposure
- GRU requires natural gas for both the operation of generating stations, but also for the Gas System

Over the past decade
- $4.40 per MMBtu average price
- $18.00 per MMBtu max price
- $1.69 per MMBtu min price
- Standard deviation of $2.20 per MMBtu



Source: GRU

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Expense Exposure: Gas Supply

($ in Millions)	Less Conservative Level	Moderate Level	More Conservative Level
Daily Gas Volumes	26,500 MMBtu	26,500 MMBtu	26,500 MMBtu
Hedged Percentage	50.00%	50.00%	50.00%
Daily Market Exposure	13,250 MMBtu	13,250 MMBtu	13,250 MMBtu
Citygate Price	$4.40 per MMBtu	$6.60 per MMBtu	$8.79 per MMBtu
GRU Budget*	$3.64 per MMBtu	$3.64 per MMBtu	$3.64 per MMBtu
Net Exposure	$.76 per MMBtu	$2.96 per MMBtu	$5.15 per MMBtu
Days Exposure	30 days	60 days	90 days
Exposure	**$0.3**	**$2.4**	**$6.1**

* Data source: Fuels and Purchased Power Expense Budget Book, 2019-2020

- GRU has exposure to the natural gas market since a portion of its requirement remains unhedged
- Hedging the portfolio comes at a cost (financial and opportunity)
- Market has been stable recently, but does experience day-to-day volatility
- Recommendation: Moderate Level
  - GRU currently opportunistically hedging
  - Spot market for natural gas can be very volatile

Source: GRU

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Expense Exposure: Insurance Claims

- Recently, several utility mis-steps (PG&E, Columbia (MA) Gas) will likely lead to lawsuits and insurance claims
- GRU and the City have insurance policies for this type of event/events
- GRU's insurance policies have a general scope of coverage as well as deductibles
- Historically, GRU has less than a half dozen claims per year with a minimal amount of dollars at risk.

Source: GRU

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Expense Exposure: Insurance Claims

($ in Millions)	Less Conservative Level	Moderate Level	More Conservative Level
Average Deductible	$25,000	$25,000	$25,000
Number of claims	2	4	6
Exposure	**$0.05**	**$0.10**	**$0.15**

- GRU has exposure to insurance claims that exceed coverage
- However, GRU can claim sovereign immunity to reduce these exposures
- Recommendation: Moderate level
  - Reflects deductibles
  - Liability generally limited
  - GRU can claim sovereign immunity

Source: GRU

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Expense Exposure: Resiliency and Climate

- Climate change appears to have increased the frequency and intensity of storms and other natural events
- Florida, despite a respite of several years without a direct hit from a hurricane, has had to address several storms over the past few years
- For GRU, these expenses can be significant, unexpected and have unique impacts to each system
  - Irma $7.5 million
  - Hermine $0.8 million
- While FEMA does provide some reimbursement, the process can be extremely time consuming from an application perspective and then the approval/receipt of funds – in many instances, multiple years

Source: GRU's Official Statement

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Expense Exposure: Resiliency and Climate

($ in Millions)	Less Conservative Level	Moderate Level	More Conservative Level
Average Storm Cost	$1.0	$1.0	$1.0
Expected Number of Storms	2	4	8
Exposure	**$2.0**	**$4.0**	**$8.0**

- GRU has experienced storms and other natural events, impacting the utility
- Reimbursement from the government can be a lengthy, time-consuming process
- Likely that the intensity and frequency of storm will remain at an elevated level
- Recommendation: Moderate level
  - Weather is more severe, more unpredictable
  - Reimbursement measured in years – utility response measured (graded) in hours

Source: GRU's Audit. System expenses from consolidated statements

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Working Capital: Day-to-Day Operations

- GRU has a need/requirement to maintain a certain amount of days cash available to meet operational needs and manage the day-to-day requirements of the utility
  - General billing cycle with customers has a 45 day lag from use to payment received
  - Commercial Paper issuance process takes 60-90 days for approvals and disclosures
- Costs include fuel, O&M and A&G by system:

Fuel, O&M, A&G ($ Million)	2010	2011	2012	2013	2014	2015	2016	2017	2018
Electric System	$184.2	$172.6	$160.6	$167.6	$203.5	$217.1	$225.3	$235.5	$177.7
Gas System	$19.7	$18.8	$15.3	$14.8	$16.7	$15.3	$14.6	$12.9	$13.0
Water System	$12.5	$12.4	$12.6	$13.1	$13.3	$13.6	$14.8	$15.5	$16.2
Wastewater System	$12.7	$13.6	$12.7	$13.6	$14.0	$14.3	$17.4	$19.1	$20.2
GRUCom	$5.4	$5.3	$5.9	$5.4	$6.5	$8.5	$7.4	$7.1	$6.5
Total	$234.4	$222.6	$207.1	$214.5	$254.0	$268.8	$279.5	$290.1	$233.6
Days Cash (Fuel, O&M, A&G)	$.642	$.610	$.567	$.588	$.696	$.736	$.766	$.795	$.640
Change from Prior Year		-5.0%	-7.0%	3.5%	18.4%	5.8%	4.0%	3.8%	-19.4%

- Looking to future, given inflation, would expect this amount to increase to ~$0.70 million per day by 2021
  - Over time, GRU has to reserve more cash to address this risk due to general inflation associated with O&M and A&G expenses – basically GRU will need more dollars for one day's expenses

Source: GRU's Audit. System expenses from consolidated statements

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Working Capital: Day-to-Day Operations

($ in Millions)	Less Conservative Level	Moderate Level	More Conservative Level
Days Cash	$.70	$.70	$.70
Number of days	45	60	75
Exposure	**$31.5**	**$42.0**	**$52.5**

- GRU experienced consistent growth in expenses since from 2013 – 2017
- 2017 transaction shifted expenses from fuel to debt service, lowering the amount of dollars representing a days cash
- Billing cycle represents at least 30 days, and more likely 60, from incurring the expense to receipt of the payment from customers
- Represents the ability to manage the day-to-day operations of the utility
- Recommendation: More Conservative level
  - Billing cycle
  - Time it requires for an “off-cycle” rate change or issuance of commercial paper

Source: GRU’s Audit. System expenses from consolidated statements

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Working Capital: Day-to-Day Operations

Value of One Day's Cash	2019	2020	2021	2022
Target	$699,458	$720,441	$742,055	$764,316
Inflation	3%	3%	3%	3%
Change ($)		$20,984	$21,613	$22,262
Cumulative ($)		**$20,984**	**$42,597**	**$64,859**

- Inflation will increase the amount of cash to cover one day's expenses over time
- GRU should apply an inflation factor to address this loss of buying power and need to reserve more cash to stay in the bandwidth

Source: GRU's Audit. System expenses from consolidated statements

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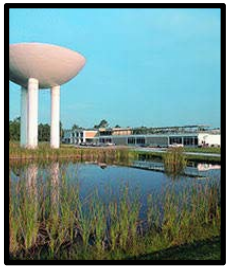
V. Recommendations and Rating Agency Comparisons





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Recommendations: Preferred Levels

	Less Conservative Level	Moderate Level	More Conservative Level	
Revenue Risk				
General Sales Decrease	$3.5	$10.4	$17.3	Reflects recession
Large Customer Exposure	$.9	$1.7	$6.9	Generally stable economic base
Sales for Resale / UF Water	$.0	$.1	$.2	Immaterial Revenue
Other Revenue Exposure	$.0	$.1	$.5	Immaterial Revenue
Expense Risk				
Replacement Power Exposure	$2.6	$10.0	$22.1	Low probability but represents resiliency
Gas / Purchased Power exposure	$.3	$2.4	$6.1	Market risk for unhedged position
Renewable Performance Exposure	Not Applicable			Limited renewable exposure
Planned Outage / Replacement Power Exposure	Not Applicable			GRU long capacity and energy (internal gen)
Insurance	$.1	$.1	$.2	
Resiliency and Climate Exposure	$2.0	$4.0	$8.0	FEMA lag versus response time
Cyber Exposure	Not Applicable			Insurance coverage
Construction / CIP Exposure	Not Applicable			GRU's experience with projects
Operational Risk / Working Capital				
Working Capital	$31.5	$42.0	$52.5	Use of RSF and general payment lag

Preferred Level	**$73.6**
15 Day Buffer	**$9.6**
Lower Bound	**$64.0**
Upper Bound	**$83.2**

Cash Balance Targets: By System				
$ Million	**2019**	**2020**	**2021**	**2022**
Electric	56.3	58.0	59.7	61.5
Gas	4.5	4.6	4.7	4.9
Water	4.9	5.1	5.2	5.4
Wastewater	6.0	6.2	6.4	6.6
GRUCom	1.9	2.0	2.1	2.1
Total	**73.6**	**75.8**	**78.1**	**80.4**

Source: GRU's Audit.

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Recommendations: Rating Agency and Comparables

Comparable Utilities	Summary Metrics from Fitch Analytical Tool										
Issuer	Retail Customers	Retail Elec Sales	Total Operating Revs	Debt Service Coverage	Coverage of Full Obligations	Debt/FADS	Net Adj Debt / Adj FADS	Days Cash on Hand	Days Liquidity on Hand	Transfers / OpRevs (%)	Debt / Elec Customer ($)
Chattanooga Electric Power Board	182,082	5,734,048	582,337	3.50	1.23	3.90	6.70	66	102	3.1	1,626
Colorado Springs Utilities	229,909	4,561,951	839,822	1.59	1.41	8.60	8.80	138	265	3.8	10,420
Gainesville Regional Utilities	96,272	1,759,974	460,541	1.70	1.43	8.40	9.20	178	259	7.8	19,617
JEA	459,853	12,050,135	1,299,592	2.55	1.83	4.50	4.20	262	401	11.7	5,146
Lakeland	128,535	-	303,484	2.23	1.51	4.50	4.50	193	193	9.8	3,223
Lincoln Electric System	138,482	3,194,682	321,549	2.50	1.66	6.90	7.20	174	300	6.3	5,347
Orlando Utilities Commission	200,497	6,531,844	878,649	2.25	1.67	5.80	5.00	316	316	12.7	7,601
Springfield Public Utility, MO (City Utilities)	114,093	2,935,750	432834	2.27	1.83	5.20	4.10	266	266	3.4	5,551
Tallahassee	89,070	-	295,046	2.50	1.73	5.00	4.30	429	429	10.9	6,164
Fort Pierce	28,287	553,418	102,650	2.49	1.42	2.7	4.5	124	124	5.8	2,570
Jacksonville Beach Combined Utility	34,738	-	94,447	4.65	1.57	0.7	1.8	437	437	4.1	418
Kissimmee	71,770	-	188,161	2.35	1.15	1.9	4.3	236	236	8.9	1,093
Leesburg	25,758	474,093	63,072	3.8	1.02	4.8	7.6	181	181	8.9	1,481
Vero Beach	35,610	715,857	86,654	1.55	0.9	2.9	7.2	79	79	6.2	698
Winter Park	15,061	425,029	45,100	1.78	1.23	7.5	9.9	—	81	6.1	4,433

- GRU generally "middle of the pack" compared to peer utilities with the following comments:
  - Generally elevated amount of debt on the balance sheet
  - Coverage levels trending lower
- Both Fitch and S&P implementing new criteria for retail electric systems
  - Expectation that 20% of rated entities will be downgraded

Source: GRU's Audit. System expenses from consolidated statements

Recommendations: Rating Agency, New S&P Criteria

Enterprise Profile										
Description	**Weight**	**Metric**	**1**	**2**	**3**	**4**	**5**	**6**	**Pos / Neg**	**GRU**
			Extremely Strong	**Very Strong**	**Strong**	**Adequate**	**Vulnerable**	**Highly Vulnerable**	**Notching Factors**	**Score**
Economic Fundamentals	**30%**	Residential customers % total revenues	>=50%	>=50%	35-50%	20-35%	<=20%	<=20%		**.9**
		Top 10 customer concentration	<=10%	10-18% **(12%)**	18-25%	25-32%	32-45%	>=45%		
		Top customer concentration	<=2% **(0.7%)**	2-4%	4-6%	6-10%	10-20%	>=20%		
		MMMEBI as % of US	=>130%	110-130%	90-110%	75-90%	60-75%	<=60%		
Industry Risk	**10%**		Very low competitive risk of "1" applied to most utilities	-	-	-	-	-		**.1**
Market Position	**20%**	Weighted average revenue per kWh as % of state average	<=80%	80-90%	90-100%	100-110%	110-120%	>=120%		**1.0**
Operational Management *(for distribution-only utilities, the OMA will consider characteristics related to power suppliers)*	**40%**	Operational assets	Fuel, shaft & supply diversity; efficient; low-cost; lengthy remaining life		Modest fuel & shaft diversity; assets have moderate useful life; resource needs manageable		Limited diversity; inefficient; high-cost; sizable capital needs; reliance on spot purchases; impending expiration of permits			**.6**
		Environmental regulation & compliance	Already financed and/or installed key environmental controls; in compliance with ultimate renewable standards		Regulatory exposure sizable but manageable		Significant capital expenditures necessary for compliance; violation of operating permits			
		Management policies and planning	Deep, experienced, sophisticated management		Policies not formalized; financial forecasts that do not evident robust assumptions; management sophistication adequate		Management team lacks depth, experience, sophistication; lack of risk management; aggressive policies; political interference			
		Rate-setting practices	Rate-setting autonomy; timely rate increases; automatic recovery of fuel & purchased power costs		Discretionary cost recovery or cost recovery fails to dynamically recover costs		Lack of rate-setting autonomy and poor financial results; failure to adopt timely, proactive base rate increases; no long-term projections			
										2.6

Source: S&P "U.S. Municipal Retail Electric and Gas Utilities Criteria: Request for Comment," November 27, 2017. GRU data as of FY 2017 as inferred by PFM, except for MMMEBI as % of US as of FY 2016 (as referenced in latest S&P reports). Scores are PFM's interpretation of proposed methodology; actual implementation may differ.

Recommendations: Rating Agency, New S&P Criteria

Financial Profile										
Description	**Weight**	**Metric**	**1**	**2**	**3**	**4**	**5**	**6**	**Pos / Neg**	**GRU**
			Extremely Strong	**Very Strong**	**Strong**	**Adequate**	**Vulnerable**	**Highly Vulnerable**	**Notching Factors**	**Score**
Coverage Metrics	**55%**	Fixed costs and imputed charge coverage	>= 1.6x	1.4-1.6x	1.2-1.4x	1.1-1.2x	1.0-1.1x	<= 1.0x		**2.2**
Liquidity and Reserves	**25%**	Total days' liquidity (days)	>= 270	150-270	90-150	45-90	15-45	<= 15		**.5**
		Available reserves (Mil $)	>= 250	100-250	50-100	10-50	2-10	<= 2		
Debt and Liabilities	**20%**	Debt to capitalization (distribution utilities)	<= 20%	20-30%	30-40%	40-50% **(50%)**	50-60%	>= 60%		**1.0**
										3.7

Source: S&P "U.S. Municipal Retail Electric and Gas Utilities Criteria: Request for Comment," November 27, 2017. GRU data as of FY 2017 as inferred by PFM, except for Debt to capitalization and Fixed cost coverage as of FY 2016 (as referenced in latest S&P reports). Scores are PFM's interpretation of proposed methodology; actual implementation may differ.

Recommendations: Rating Agency, New S&P Criteria

- The weighted average of the two individual factors are rounded to the nearest whole number
- The interaction between the Enterprise Profile and the Financial Profile determines the initial indicative rating
- GRU initial indicative senior lien rating under proposed rating framework (prior to application of overriding factors and holistic analysis that retains significant analyst discretion) is A+
- Likely there would be some positive notching factors (University town, strong economy, out of GREC PPA)

		Financial Profile					
		Extremely Strong 1	**Very Strong 2**	**Strong 3**	**Adequate 4**	**Vulnerable 5**	**Highly Vulnerable 6**
Enterprise Profile	**Extremely Strong 1**	AAA	AA+	AA-	A	BBB+ / BBB	BB+ / BB
	Very Strong 2	AA+	AA / AA-	A+	A-	BBB / BBB-	BB / BB-
	Strong 3	AA-	A+	A	BBB+ / BBB	BBB- / BB+	BB-
	Adequate 4	A	A / A-	A- / BBB+	BBB / BBB-	BB	B+
	Vulnerable 5	BBB+	BBB / BBB-	BBB- / BB+	BB	BB-	B
	Highly Vulnerable 6	BBB-	BB	BB-	B+	B	B-

Source: S&P "U.S. Municipal Retail Electric and Gas Utilities Criteria: Request for Comment," November 27, 2017. GRU indicative rating as calculated by PFM based on PFM's interpretation of proposed methodology.

Recommendations: Rating Agency, New Fitch Criteria

Revenue Defensibility	aa	a	bbb	bb
Revenue Source Characteristics	Nearly all revenue is derived from services or business lines exhibiting stable demand. Reliance on revenue from highly volatile sources is insignificant.	A significant portion of total revenue is derived from services or business lines exhibiting stable demand. Reliance on revenue from highly volatile sources is manageable.	A majority of total revenue is derived from services or business lines exhibiting stable demand. Reliance on revenue from highly volatile sources is meaningful.	Less than 50% of total revenue is derived from services or business lines exhibiting stable demand. Reliance on revenue from highly volatile sources is significant.
Service Area Characteristics	Very favorable demographic trends characterized by strong customer growth, above- average income levels and low unemployment rates.	Favorable demographic trends characterized by average customer growth, with average income levels or average unemployment rates.	Stable demographic trends characterized by little or no customer growth, and below- average income and above- average unemployment rates.	Weak demographic trends characterized by a declining customer base, well below average wealth levels and high unemployment.
Rate Flexibility	Independent legal ability to increase service rates without external approval.	Legal ability to increase service rates is subject to approval of external authorities. History and expectation of operating and capital costs being recovered on a timely basis is strong.	Legal ability to increase service rates is subject to approval of external authorities. History and expectation that operating and capital costs may not be recovered on a full or timely basis	Legal ability to increase service rates is subject to approval of external authorities. History and expectation that operating and capital cost recovery will be neither full nor timely.
	Average retail rates are solidly below the state average.	Average retail rates reasonably approximate the state average.	Average retail rates are solidly above the state average.	Average retail rates are well above the state average.
Asymmetric Rating Factor Considerations	The analysis of an issuer's revenue defensibility also considers the effect of customer concentration, customer mix, industry concentration, affordability, wholesale contract structure and counterparty risk on the utility's revenue defensibility.			
Operating Risk				
Operating Cost Burden	Ratio of total operating expenses to total kWh sales is less than $0.10/kWh.	Ratio of total operating expenses to total kWh sales is between $0.10/kWh and $0.15/kWh.	Ratio of total operating expenses to total kWh sales is between $0.15/kWh and $0.20/kWh.	Ratio of total operating expenses to total kWh sales is greater than $0.20/kWh.
Capex Requirements	Moderate lifecycle investment needs supported by adequate historical and manageable planned capital investment.	Elevated lifecycle investment needs and supported by adequate historical and manageable planned capital investment.	High lifecycle investment needs that are sufficiently addressed by planned capital investment.	High lifecycle investment needs insufficiently addressed by planned capital investment.
Operating Cost Flexibility (Asymmetric Risk Factor)	The analysis of an issuer's operating cost flexibility is an asymmetric risk factor, where weaker elements can constrain the overall assessment of operating risk. Fitch will consider available reserve margin, regional energy markets, fuel concentration, asset concentration, environmental standards, regulatory restrictions and contract structure. Resource management and counterparty risks can also constrain the assessment.			
Financial Profile				
Leverage Profile	Refer to the *Rating Positioning* table on page 20.	Refer to the *Rating Positioning* table on page 20.	Refer to the *Rating Positioning* table on page 20.	Refer to the *Rating Positioning* table on page 20.
Liquidity Profile	Liquidity profile is based on coverage of full obligations and liquidity cushion. A weaker liquidity profile can constrain the financial profile assessment.			

Source: Fitch Ratings, "Summary of the Exposure Draft: U.S. Public Power Rating Criteria," June 26, 2018.

Recommendations: Rating Agency, New Fitch Criteria

The table is constructed assuming any asymmetric risk-additive features are neutral and the issuer does not have a weak liquidity profile.

Rating Positioning

Revenue Defensibility Assessment	Operating Risk Assessment	Financial Profile Assessment Leverage (Net Adjusted Debt/Adjusted FADS) (x)			
		aa	a	bbb	bb
aa	aa	< 10	10–12	12–15	> 15
aa	a	< 8	8–10	10–15	> 15
a	aa	< 8	8–10	10–15	> 15
aa/a	bbb	< 6	6–8	8–12	> 12
a	a	< 6	6–8	8–12	> 12
bbb	aa/a	< 4	4–6	6–10	> 10
aa/a	bb	< 4	4–6	6–10	> 10
bbb	bbb	< 0	0–4	4–6	> 6
bbb	bb	< 0	< 2	2–4	> 4
bb	a/aa	—	< 1	2–4	> 4
bb	bbb	—	< 0	0–2	> 2
bb	bb	—	< (3)	< 0	> 0
Suggested Analytical Outcome		**AA**	**A**	**BBB**	**BB**

FADS – Funds available for debt service.

Source: Fitch Ratings, "Summary of the Exposure Draft: U.S. Public Power Rating Criteria," June 26, 2018.

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Recommendations: Rating Agency and Moody's

Summary of GRU's Scoring on Moody's Methodology								
Factor	**Description**	**Weight**	**Aaa**	**Aa**	**A**	**Baa**	**Score**	**Weighted**
Cost Recovery Framework	Unregulated, Locally-Controlled Service Area Economy Customer Base Stability	25%	local control and VERY strong economy	local control and strong economy	local control and average economy	regulation of rates by state; very w eak service area economy	**3**	**0.75**
Willingness/Ability to Recover Costs	Rate Setting Record Timeliness of Recovery Local Gov't Support General Fund Transfer	25%	excellent record, 10 day adjustment, no politics, limited transfers	strong record, 10 to 30 day adjustment, limited politics, conservative/defined transfers	adequate record, 30 to 60 day adjustment, some politics, moderate transfers	below average record, 61 to 99 day adjustement, persistent politics, large transfers not governed by policy	**3**	**0.75**
Management of Generation Risk, Cost, Reliability	Diversity of Supply Reliability/Cost of Supply	10%	strong mngmt, very diverse, price insulation, single asset and/or coal <20%, carbon strategy	strong mngmt, diverse, some price insulation, single asset and/or coal <40%, carbon strategy	average mngmt, some price exposure, single asset and/or coal <55%, carbon strategy	below average mngmt, moderate price exposure, single asset and/or coal >56% but <~70%	**6**	**0.60**
Rate Competitiveness	State and Regional	10%	25% or more below average	25% to 7.5% below average	7.5% below to 7.5% above average	7.5% to 25% above average	**9**	**0.90**
Financial Strength and Liquidity	Adjusted Days Liquidity	10%	> 250 days	150 to 250 days	90 to 150 days	30 to 89 days	**1**	**0.10**
	Debt Ratio	10%	less than 25%	25% to 50%	50% to 75%	75% to 100%	**9**	**0.90**
	Adjusted DS Coverage Fixed Obligation Coverage	10%	greater than 2.50X	2.00X to 2.50X	1.50X to 2.0X	1.10X to 1.49X	**6**	**0.60**
			1	**3**	**6**	**9**	**Aaa < 1.5 Aa 1.5 to 4.5 A 4.5 to 7.5**	**4.60**
Indicated Rating Before Notching							**Aa3**	
Notching							**-0.5 Debt Structure and Reserves, 0.5 Revenue Stability and Diversity**	
Grid Indicated Rating							**A1**	
Current Rating							**A1**	

- GRU currently is in the highest ("Aaa") bin for days liquidity (250 days is the threshold)
- Going below 250 days liquidity would move GRU into the "Aa" bin and, potentially move the ***overall score*** into the "A" category, risking a downgrade

Source: GRU's Audit. System expenses from consolidated statements