

**BENCHMARKING ELECTRIC UTILITIES:
COMBINING ENERGY CONSERVATION,
RENEWABLE ENERGY, AND FINANCIAL
STRENGTH**

Final Report



Gainesville Regional Utilities
October 2004

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EXECUTIVE SUMMARY

Need for this Study

It is important to the Gainesville City Commission that the City's electric utility be financially strong as well as a leader in promoting energy efficiency and the use of renewable resources. Financial strength allows Gainesville Regional Utilities (GRU) to provide affordable electricity and a secure source of revenues to support essential community services. The efficient use of electricity and renewable sources of energy can be appropriately integrated into the electric energy supply and use equation in ways that will allow energy to be provided affordably, while reducing reliance upon fossil fuels and improving the environment.

Because of the continued growth the Community's use of electricity, changes in the relative cost of different fuel types, and the anticipated need to retire some of the utility systems' older generators, additional electrical base load capacity will be needed by about 2011.¹ Electric energy supply facilities capable of delivering base load resources take a long time to design, construct and build. Accordingly, an extensive community outreach program began in August 2003 to incorporate community feedback into future plans to meet the community's long term electrical energy needs. Some of the options for meeting the identified energy supply shortfall, include techniques to reduce customers' needs or demands for electricity. As a class of options, these techniques are known as Demand Side Management (DSM), in contrast to supply side (generation) alternatives. Some of the supply side options involve the use of renewable forms of energy.

A recurring topic in the numerous community meetings held as part of the outreach program was the adequacy of GRU's plans and programs for DSM and renewable energy. At a April 19, 2004 City Commission Workshop, the Commission suggested that staff conduct a benchmarking study to compare GRU's DSM and renewable energy plans and programs to those of other electric utilities, including those that are considered to be national leaders in the implementation of energy conservation programs and the use of renewable energy.

Study Design

The benchmarking study was designed to compare and contrast a wide range of attributes associated with GRU's electric utility. The study included electric

¹ GRU 2004 Ten-Year Site Plan Submitted to: The Florida Public Service Commission, April 2004 (Schedule 8), page 46.

utilities throughout the US considered to be “Energy Conservation Leaders”² and utilities considered to be “Financially Strong”.³ Energy Conservation Leaders were identified by the Gainesville City Commission based on community input at the April 19, 2004 workshop. Financially Strong utilities were selected from “AA” bond rated municipal utilities as determined by independent bond rating agencies. There are only 13 out of more than 2,000 municipal utilities which have an “AA” bond rating. Further, the final selection of 4 utilities included municipal utilities in the states that the Energy Conservation Leaders are located. Financial ratings determine the effective interest rate a utility must pay to issue bonds, which is extremely important in the capital intense electric utility industry, due to the effect of interest costs on the overall cost of electricity.

The Energy Conservation Leaders used in this study were Austin Energy in Texas, Portland General Electric (PGE) in Oregon, Sacramento Municipal Utility District (SMUD) in California, and Seattle City Light in Washington. The Financial Leaders used in this study were JEA (formally known as Jacksonville Electric Authority) in Florida, Orlando Utilities Commission (OUC) in Florida, San Antonio City Public Service in Texas and City Utilities of Springfield in Missouri. Table 1 summarizes the financial rankings of the utilities included in the study. Note that Seattle falls into both categories. Compared to the benchmarking partners, GRU is one of the top financially ranked utilities

² The term “Energy Conservation Leader” will be used throughout this final report. Our City Commission coupled with community input identified these electric utilities as having reputations as energy conservation leaders.

³ The term “Financially Strong” will be used throughout this final report. This assessment is from a list of the Aa3/AA - or Better Rated Electric Utilities and Cooperatives prepared by GRU’s financial advisor, Morgan Stanley. This is important to ensure competitive and affordable rates which factor heavily in bond ratings. Bond ratings affect interest rates for GRU and City of Gainesville’s general government. Interest is a substantial part of electric costs.

TABLE 1
Benchmarking Partners
Financial Rankings

Company	Moody's	S&P	Rank
San Antonio	Aa1	AA+	1
OUC	Aa1	AA	1
GRU	Aa2	AA	1
JEA	Aa3	AA	2
Springfield	NR	AA	2
Seattle	Aa3	NR	2
SMUD	A1	A	3
Austin	A2	A	3
PGE	Baa2	BBB+	3

- GRU
- Energy Conservation Leader
- Financially Strong

The Major Difference

A fundamental and profound difference between Financially Strong and Energy Conservation Leader utilities found in this study was the financial criteria applied to planning DSM programs and for setting conservation goals. First, it must be understood that there are three basic types of financial tests commonly used in the utility industry to assess DSM programs:

1. Rate Impact Measure (RIM) Test – Does the DSM program result in reduced or increased electric rates for everyone? Passing the RIM Test means the program will not increase rates.
2. Total Resource Cost (TRC) Test – Does the DSM program result in reduced resource consumption for society, regardless of the effects on electric rates?
3. Participant Test – Does the DSM program reduce electrical costs for the customer participating in the program, regardless of whether or not other electric ratepayers are subsidizing the program’s cost?

All of the Financially Strong utilities, including GRU, use the RIM Test for planning their DSM programs.⁴ GRU uses the RIM Test to help maintain affordable electric rates to support our community, which has low adjusted per

⁴ Appendix A.

capita income and a high level of poverty.⁵ The RIM Test is especially important to the Financially Strong utilities because they have less access to low cost power supplies such as hydro. All the Energy Conservation Leaders rely on the Participant and TRC Tests.⁶ The relative wealth of the communities served provides insight into some factors underlying this fundamental difference.

Distribution of Benefits

Most of the Energy Conservation Leaders serve relatively wealthy communities, compared to the Financially Strong utilities.⁷ This is indicated by relatively high cost-of-living adjusted per capita incomes and low percentages of households with poverty levels of income.⁸ The Energy Conservation Leaders' decisions not to adhere to the RIM Test suggest that low electric rates are less important in communities with more disposable income per household. Not surprisingly, most Energy Conservation Leaders have higher electric rates than Financially Strong utilities, despite access to lower cost energy supplies such as hydro and nuclear power.⁹

An instructive exception to this general pattern is SMUD. Sacramento is not nearly as wealthy as the communities served by the other Energy Conservation Leaders, and its electric rates are relatively low when compared to other California utilities. However, SMUD's conservation programs are funded to a large extent by state funds, perhaps justifying its lack of adherence to the RIM Test.¹⁰ SMUD is also unique in that it was formed by California's Municipal Utility District Act, is governed by an elected Board of Directors and is a political subdivision of the state.¹¹ SMUD does not transfer any money to the City of Sacramento, a factor that helps keep rates low.¹²

⁵ *Id.*

⁶ Appendix A.

⁷ *Id.*

⁸ See Appendix A (Per Capita Income source: Quickfacts U.S. Census 1999 by county and Cost of Living Composite Index 4th Quarter 2003 by city source: www.accra.org, source).

⁹ See Appendix A (SMUD's residential cost is \$100.31/month and the state of California is \$124.80/month).

¹⁰ http://www.pewclimate.org/what_s_being_done/in_the_states/public_benefit_funds.cfm (Public benefit funds are collected either through a charge on the bill of each electric customer or through specified contributions from utilities. The funds are then used to support energy efficiency programs; some states also use them to support renewable energy efforts. California and Oregon funds support both energy efficiency and renewable energy).

¹¹ SMUD was formed by a vote of the electors in 1923, under provisions of the State of California Municipal Utility District Act and is governed by an elected Board of Directors. SMUD has no general fund transfer because there is no host government.

¹² Appendix A.

Both California and Oregon have put into place mandatory conservation charges collected by electric utilities that are disbursed by the state. One of the stated purposes of this policy is to avoid making expenditures in energy efficiency and renewable energy programs a competitive disadvantage in an era of deregulation. Electric rate levels are carefully scrutinized by bond rating agencies, however. PGE, like SMUD, receives significant amounts of state funds for its DSM and renewable energy programs.¹³

GRU serves the least wealthy community of all the benchmarking partners in the study.¹⁴ At the same time, GRU transfers the largest percentage of gross revenue to its host government to pay for community services.¹⁵ In an era of deregulation uncertainty in Florida, the City of Gainesville expects affordable electric rates, excellent bond ratings, and reliable electric supplies. GRU accomplishes this through adherence to the RIM Test. GRU has among the lowest relative prices and the lowest levels of household electric consumption of the benchmarked utilities in the study.¹⁶

Rates

Financially Strong companies were found to have lower than average residential retail prices for their state.¹⁷ To a certain extent this finding was surprising, given the very different power production costs of the two groups of utilities.¹⁸ Energy Conservation Leaders have much higher percentages of nuclear and hydro power generation in their energy supply portfolio than Financially Strong utilities.¹⁹ Nuclear and hydro power are very low cost sources of electricity, however these low costs are not reflected in the relative residential electric costs of the Energy Conservation Leaders.²⁰

Conservation Plans and Programs

Two measures used for assessing conservation plans and programs are the DSM goals that utilities report and the relative levels of energy efficiency in the community being served. While DSM goals are easy to compare, levels of

¹³ http://www.pewclimate.org/what_s_being_done/in_the_states/public_benefit_funds.cfm and http://www.crest.org/sbf_mao.html.

¹⁴ Appendix A.

¹⁵ *Id.*

¹⁶ *Id.* (Ratio of utility average use per month to State average use is low for GRU customers because of our energy conservation programs, natural gas penetration, and tree canopy).

¹⁷ See Appendix A (SMUD's residential cost is \$100.31/month and the state of California is \$124.80/month).

¹⁸ Appendix A.

¹⁹ *Id.*

²⁰ See Appendix A (SMUD's residential cost is \$100.31/month and the State of California is \$124.80/month).

energy efficiency are difficult to quantify. One difficulty in evaluating DSM programs is the effect of customer information programs, of which GRU has many.

None of the Financially Strong utilities have formally adopted conservation goals. Actually JEA and OUC went a step further. To meet the State of Florida mandates, both organizations formally filed a finding with the Florida Public Service Commission (FPSC) that they were unable to identify any conservation goal that would meet the RIM Test.²¹ This contrasts sharply with the Energy Conservation Leaders, all of whom have formally adopted conservation goals.²² GRU also has formal published conservation goals. GRU cost effectively complies with the RIM Test, resulting in numerically less aggressive goals than the Energy Conservation Leaders.

The indicator of energy efficiency used in this study was the relative level of energy use per residential customer compared to the average for the state in which the community is located. This index takes into account regional differences in climate and energy resources. No clear pattern distinguished the Energy Conservation Leaders from the Financially Strong utilities with regard to levels of electric consumption.²³ However, GRU's customers rank among the lowest users of electricity.²⁴

As part of the study, the types of DSM programs being implemented and proposed were also surveyed.²⁵ GRU learned about several low-cost ideas²⁶ to improve customer access to information and support local trades. With the exception of Direct Load Control (DLC)²⁷ and a low cost weatherization program, GRU's residential programs were similar to those commonly being deployed. GRU's commercial programs do not include as many incentives as those of the Energy Conservation Leaders.²⁸ Therefore, utility staff will be investigating opportunities for the implementation of additional cost effective commercial programs.

²¹ Appendix A.

²² *Id.*

²³ *Id.*

²⁴ Appendix A.

²⁵ Appendix D.

²⁶ *Id.* (Video energy audits are part of the new residential programs that GRU learned about in the teleconference calls with our benchmarking partners).

²⁷ *Id.* (Radio controlled set-back thermostats fall within the category of DLC).

²⁸ Appendix D.

Renewable Energy

All the utilities in the study, except one Financially Strong utility have at least some renewable energy other than hydro in their generation portfolios.²⁹ The major non-hydro source of renewable energy reported was wind power.³⁰ In many parts of the country, wind is an economic source of electricity. Unfortunately, Florida is not one of those areas. GRU currently purchases a small amount of wind power in the form of green tags. SMUD was unique in having access to geothermal energy, which is not widely available at all in most areas of the country.³¹

The most frequently reported source of energy from biomass was landfill gas to energy (LFGTE). GRU has already maximized the use of landfill gas in its immediate vicinity. GRU was in the minority among all utilities in having solar (photovoltaic) in generation its current energy supply portfolio. This form of renewable energy was only a very small component of any utilities' generation portfolio.

All of the utilities in the study, except two of the Financially Strong have adopted goals for renewable energy, with widely differing time frames. GRU's goal is tied to specific projects. It includes 30 MW of biomass generation as part of its proposed new solid fuel facility. This is a very high goal for a utility without access to wind or hydro power.

Conclusions

The findings of this benchmarking study lead to the following conclusions:

1. GRU's DSM goals and program achievements, as measured in this study, exceed those of the Financially Strong utilities as a group.
2. GRU's DSM program achievements, as measured by levels of household electrical usage, match the best of the Energy Conservation Leader utilities.
3. GRU's DSM goals are unlike those reported by Energy Conservation Leaders in that they are designed to promote energy efficiency while keeping rates as low as possible.
4. GRU's current renewable energy goal of 8.2 percent is similar to goals of the Energy Conservation Leaders when access to hydro and wind energy is taken into consideration.

²⁹ Appendix A.

³⁰ Appendix D.

³¹ Appendix A.

5. GRU has effectively combined the ability to be rated as Financially Strong and to position itself as a future Renewable Energy Leader, while also comparing well in the field of energy efficiency. GRU provides affordability, options, and information for its customers

INTRODUCTION AND BACKGROUND

GRU is a municipal electric, gas, water, wastewater, and telecommunications utility system owned and operated by the City of Gainesville in Alachua County, Florida. GRU's electrical system (the System) includes generation, transmission, and distribution facilities serving 74,164 residential and 8,912 commercial customers³² and serves the Gainesville urban area. Due to customer growth, the potential retirement of certain generating units,³³ and high fuel prices, GRU is considering a number of options for meeting the future electricity needs of our community. Some of the options for meeting these needs include techniques to reduce customers' needs or demands for electricity. These techniques are known as DSM, in contrast to supply side (generation) alternatives.

The adequacy of GRU's DSM plans and programs was a recurring concern of the public expressed during the community outreach program conducted to aid the planning effort. In particular, GRU's DSM plans and programs were held in contrast to a number of other communities served by municipally owned and operated utilities across the United States. At the April 19, 2004 City Commission Workshop, the Gainesville City Commission suggested that staff conduct a benchmarking study. This study was to compare GRU's DSM plans and programs to the Energy Conservation Leaders.

The purpose of this report is to document the design of the benchmarking study subsequently performed, the methodology, sources of data, and the findings and conclusions. An important part of any benchmarking study is to compare and contrast the practices of the benchmarking partners in the context of the environments in which they operate and against various criteria for success. The design of the benchmarking study presented here was to compare and contrast GRU with Energy Conservation Leaders and with utilities considered to be Financially Strong. Energy Conservation Leaders were identified by the Gainesville City Commission based on community input, two of which were not municipal utilities.³⁴ Financially Strong municipal utilities were selected for comparison based upon ratings by independent bond rating agencies.

³² See Alternatives For Meeting Gainesville's Electrical Requirements Through 2022, GRU December 2003. Note: There are 8,912 accounts which represent 4,600 commercial customers.

³³ www.gru.com/OurCommunity/futurePowerSurvey/futurePower.pdf

³⁴ PGE is a deregulated investor owned utility and SMUD is a separate political subdivision under California's Municipal Utility District Act.

Benchmarking Partners

Austin Energy, PGE, SMUD, and Seattle City Light were identified as Energy Conservation Leaders. Of these, both PGE and SMUD are not municipal utilities.³⁵ JEA, OUC, San Antonio City Public Service and City Utilities of Springfield in Missouri were selected for the benchmarking study because of their Financial Strength. These are all municipal utilities.

DSM Planning Criteria

The approach to DSM planning was anticipated to be a major distinguishing factor between benchmarking partners. The cost-effective amount of DSM for any particular electric utility depends upon a wide range of factors, including the age and mix of appliances in the service area, the cost of the supply side resources being displaced by a particular energy conservation measure, and the consideration given as to how the benefits from DSM are distributed. DSM results in reduced peak demands for power and sales of electricity, but with different amounts of each, depending upon the particular technology involved. Energy conservation saves money for the customer participating in a DSM program, but it also reduces revenues required to recover fixed costs (e.g. for electrical distribution). Depending on the specific hourly profile of the energy reduction, DSM could result in rate increases for non-participating customers.

There are three general methods³⁶ for evaluating DSM programs in wide-spread use throughout the USA, including:

1. The Rate Impact Measure (RIM) Test – cost-effectiveness from the perspective of what happens to the rates and charges applied to all customers,
2. The Total Resource Cost (TRC) Test – cost-effectiveness from society’s perspective, regardless of what happens to non-participants’ costs, and
3. The Participant Test – The cost-effectiveness from the customers’ point of view.

GRU has based its DSM plans on criteria established by the FPSC for measuring DSM cost-effectiveness.³⁷ The FPSC guidelines require DSM programs to be both cost-effective for participants and to pass the RIM Test in order for a regulated utility to recover the costs of its energy conservation programs, as

³⁵ *Id.*

³⁶ Dr. Paul Sotkiewicz, University of Florida Public Utility Research Center.

³⁷ www.psc.state.fl.us

being fair, equitable, and contributing to the regulated utilities' financial strength.³⁸

Benchmarking Objectives and Criteria

The objectives of this study were to compare GRU's DSM planning criteria, DSM programs, rates, financial strengths, and generation production costs to those of the benchmarking partners. Indicators of DSM effectiveness were also evaluated, such as the relative levels of electrical consumption. Another key objective was to identify best practices and gather ideas for DSM program design and implementation. Factors addressed in the study included:

- Wealth of the communities being served;
- Climatic and regional characteristics;
- Economic criteria applied for program planning;
- The DSM programs offered;
- Design details for these DSM programs;
- Customer costs of electrical service;
- Levels of energy consumption;
- Reliance of the host government upon utility revenues; and
- Levels of commitment to conservation and renewable energy.

Staff used direct interviews to gather a substantial amount of information.³⁹ While this information is valuable for DSM program development, much of the data does not lend itself to statistical comparison, and therefore, has been included in the appendices. Accordingly, the remainder of this report is structured into two sections, Methodology and Results, followed by Appendices.

METHODOLOGY

Benchmarking Partner Selection

Financially Strong municipal utilities were selected for comparison based upon ratings by independent bond rating agencies.⁴⁰ Financial strength is important to

³⁸ *Id.* (GRU is not regulated by the FPSC on their DSM programs).

³⁹ Appendix C.

⁴⁰ This assessment is from a list of the Aa3/AA - or Better Rated Electric Utilities and Cooperatives prepared by GRU's financial advisor, Morgan Stanley. This is important to ensure competitive and affordable rates which factor heavily in bond ratings. Bond ratings affect interest

GRU because competitive and affordable rates factor heavily in bond ratings. Further, bond ratings affect interest rates for GRU and City of Gainesville's general government. Interest rates are a substantial part of electric costs. Finally, Gainesville is not a wealthy community and it is the electric utility's responsibility to provide affordable energy.

Corporate and Municipal bonds are debt obligations of specific corporations or municipalities so there is potentially some risk involved in lending them money.⁴¹ There are rating services that provide in-depth analysis of the issuer's financial situation, economic and debt characteristics as well as the specific revenue sources securing the bond.⁴² GRU is rated by the two most well known services to provide their customers and clients with a rating for each bond. These are Moody's Investors Services and Standard & Poors (S&P). Table 2 is a scale of ratings assigned to bonds by these services going from the highest quality to the lowest.

Occasionally you may see some bonds with an "NR" in either Moody's or S&P. This means not rated and does not necessarily mean that the bonds are of low quality. It basically means that the issuer did not apply to either Moody's or S&P for a rating.⁴³

JEA, OUC, San Antonio City Public Service and City Utilities of Springfield in Missouri were selected for the benchmarking study because of their financial strength.⁴⁴ These are all municipal utilities. This set was selected with preference for Florida utilities or utilities in states matching the Energy Conservation Leaders' states. Note that Seattle City Light also qualified as a Financially Strong municipal utility.

rates for GRU and City of Gainesville's general government. Interest is a substantial part of electric costs.

⁴¹ <http://bonds.yahoo.com>

⁴² *Id.*

⁴³ *Id.*

⁴⁴ Aa3/AA or better rated electric utilities and cooperatives as of June 28, 2004, prepared by GRU's financial advisor, Morgan Stanley.

TABLE 2
Description of Bond Ratings

Moody's	S&P	Definition	Notes
Aaa	AAA	Highest Rating Available	Investment Grade Bonds
Aa	AA	Very High Quality	
A	A	High Quality	
Baa	BBB	Minimum Investment Grade	
Ba	BB	Low Grade	Below Investment Grade
B	B	Very Speculative	
Caa	CCC	Substantial Risk	
Ca	CC	Very Poor Quality	
C	D	Imminent Default or in Default	

Notes: In addition to the ratings listed above...
 Moody's adds a "1" to indicate a slightly higher credit quality;
 the addition of "2" or "3" indicates slightly lower credit quality.
 S&P ratings may be modified by the addition of a "+" or "-";
 with "A+" being slightly higher grade than "A" and "A-" being slightly lower.

Data Sources

Data were collected from the following sources for this study:

- Utility websites
- American Public Power Association (“APPA”) Reports
- Department of Energy (“DOE”) reports
- Florida Ten Year Site Plans
- ACCRA Cost of Living Index
- Annual Reports from Benchmarking Partners
- North American Electric Reliability Council (“NERC”) Reports
- Federal Energy Regulatory Commission (“FERC”) Reports

A series of questions were used during telephone interviews with electric utility peers (see Appendix C). The areas of comparison included:

- DSM Regulation/Legal Requirements
- Corporate Goals and Vision
- Economic Tests and Factors
- Energy Conservation Audit Objectives and Structure
- Program Budget and Staffing
- Program Experience and Approaches
- Advertising and Promotion

The parameters of comparison included:

- Bond Ratings
- General Fund Transfer
- Residential Utility Cost
- DSM Planning Criteria
- Climate
- Income
- Number of Customers
- Natural Gas Market Penetration
- Electric Consumption per Residential Customer
- Net Capacity
- Fuel Mix
- Renewable Portfolio Standard
- ACCRA Cost of Living Composite Index 4th Quarter 2003

DSM Interviews

Each of the benchmarking partners was contacted personally to clarify data as well as to administer a survey and focus a discussion on DSM program designs and implementation (see Appendix C and Appendix B for personnel contacted).

The results are presented in benchmarking teleconference results (Appendix C) and benchmarking criteria charts (Appendix A).

RESULTS

Climate

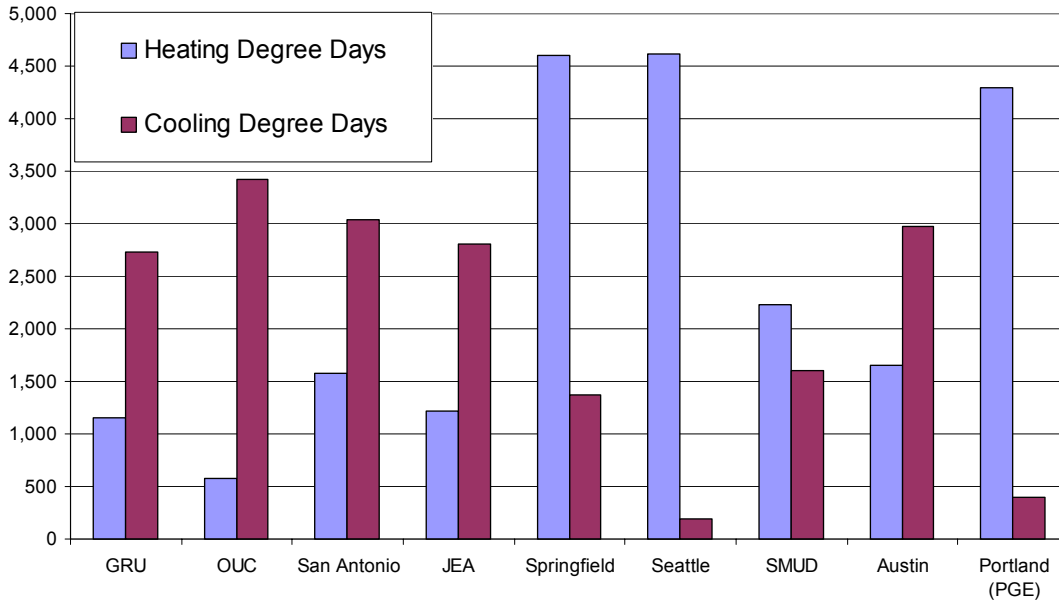
Heating degree days and cooling degree days⁴⁵ are industry-wide indicators of the climate in which a utility operates.

The significance of this data demonstrates whether the electric utility is summer or winter peaking. Electricity is unique in that it must be produced the instant it is needed. It just cannot be economically stored in large quantities using today's

⁴⁵ Degree days measure the difference between the average daily temperature and a standard reference temperature, usually 65 degrees. Degree days are calculated by taking the absolute difference between the average daily temperature (minimum temp plus maximum temp divided by two), and the reference temperature. If the average daily temperature is greater than 65, the result is recorded as cooling degree days (warm weather), and if the average daily temperature is less than 65, the result is recorded as heating degree days (cool weather). For a given day when cooling degree days are recorded, heating degree days will be zero, and vice-versa. Degree days are typically summed over a period of a month or year for comparison to other months and years. This benchmarking study used long-term average degree days.

technology. The significance of whether an electric utility is a summer or winter peaker impacts the amount of energy use, and the technologies and energy conservation measures that are applicable. Applicability encompasses the cost effectiveness of the energy conservation programs. Energy conservation is most cost effective in extreme weather.

**FIGURE 1
Climatological Data**



When the demand for power is highest in the summer, it is called summer peaking. The summer peaking utilities tend to have a longer predictable duration load demand. On the other hand, when a utility has its highest demand for power in the winter, it is referred to as winter peaking.

Size

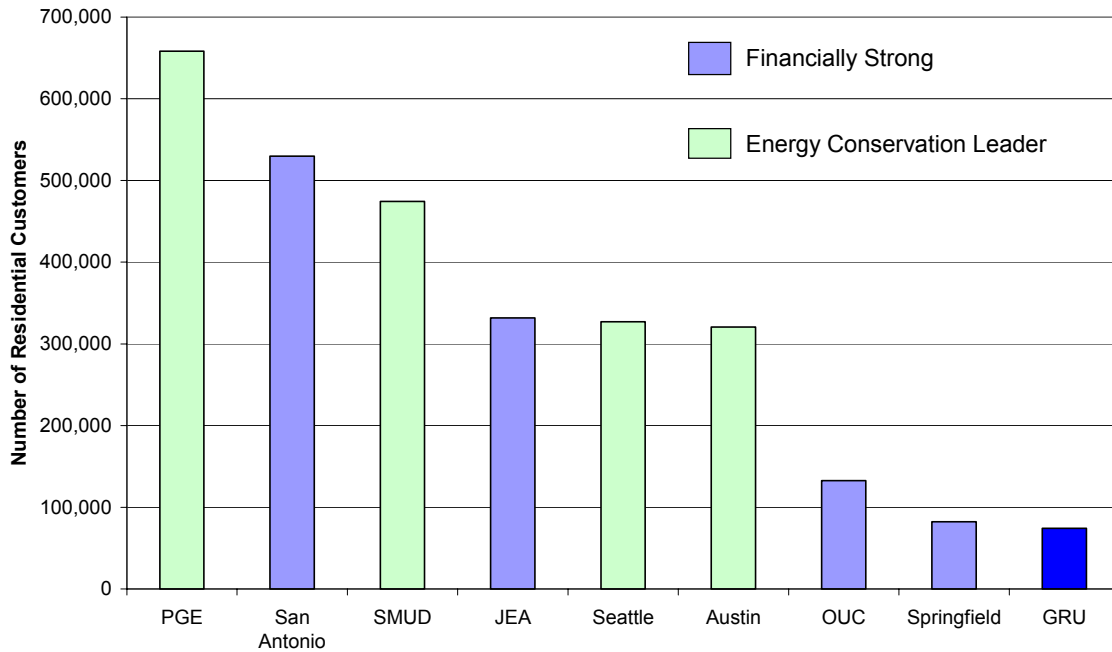
Next is a review of these electric companies’ characteristics by first looking at the number of residential customers.⁴⁶

Figure 2 shows the range of number of residential customers is 74,164-658,232.⁴⁷ GRU has the smallest number of residential customers in this benchmarking study. This puts GRU at a disadvantage compared to the Energy Conservation Leaders that have a large number of residential customers over which to spread costs of energy conservation programs.

⁴⁶ Appendix A.

⁴⁷ *Id.*

FIGURE 2
Comparison of Residential Customer Base



Generation Mix and Fuels

Table 3 includes renewable portfolio information which illustrates the current percentage, renewable portfolio, and the approximate percentage by type of fuel. Florida utilities are not geographically situated to aggressively pursue renewable energy as the Energy Conservation Leaders (Figure 3). As demonstrated in Figure 4, hydro and wind power are not as available in North Central Florida as the areas where Energy Conservation Leaders are located.

The benchmarking partners in this study have different levels of requirements, from no renewable portfolio goals to a state mandated portfolio.⁴⁸ GRU’s proposed new electric generation will put GRU among the renewable energy leaders.⁴⁹

⁴⁸ Appendix A.

⁴⁹ Alternatives For Meeting Gainesville’s Electrical Requirements Through 2022, GRU December 2003.

TABLE 3
Current Renewable Supply Portfolios

	Biomass	Wind	Geothermal	Solar Electric	Total
SMUD	3.8%	0.98%	2%	0.18%	7.0%
Austin	0.4%	3.52%	0%	0.04%	4.0%
San Antonio	0.0%	2.20%	0%	<0.01%	2.2%
Seattle	0.0%	1.10%	0%	<0.01%	1.1%
GRU	0.3%	0.02%	0%	<0.01%	0.3%
JEA	0.2%	0.00%	0%	<0.01%	0.2%
OUC	0.0%	0.00%	0%	<0.01%	0.0%
Springfield	0.0%	0.00%	0%	0.00%	0.0%
PGE	0.0%	0.00%	0%	<0.01%	0.0%

FIGURE 3
Comparison of Renewable Goals

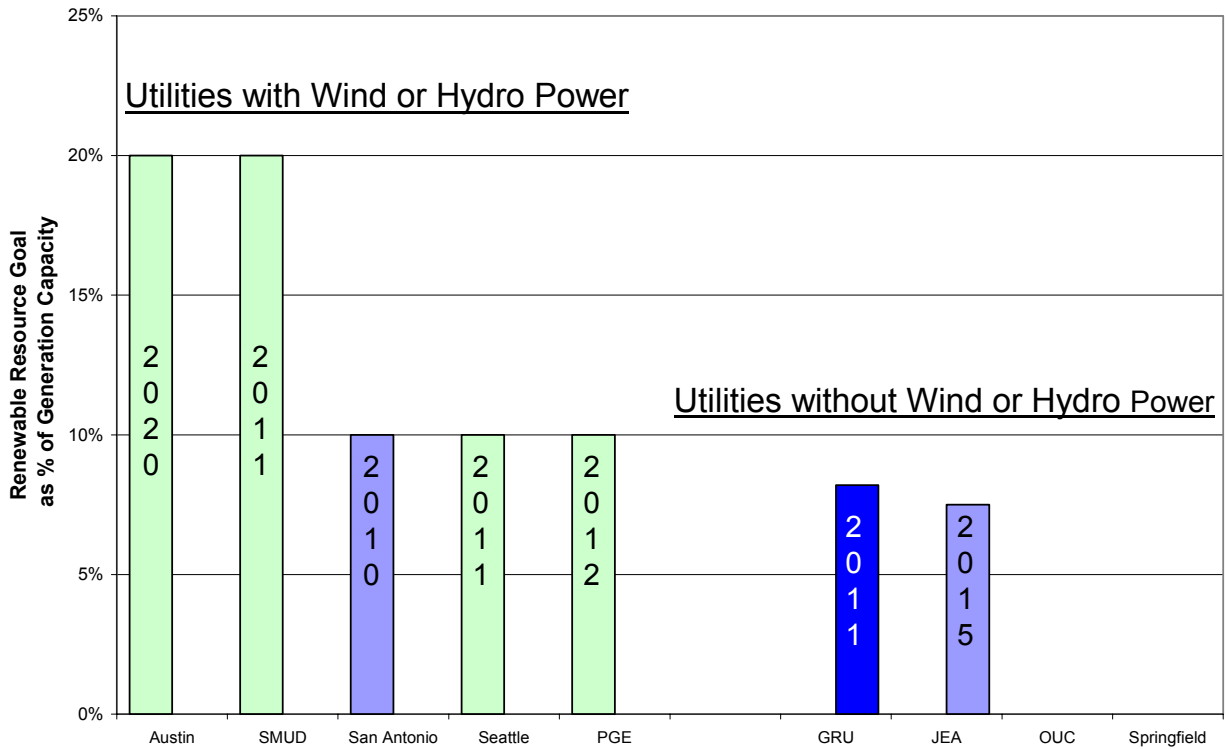
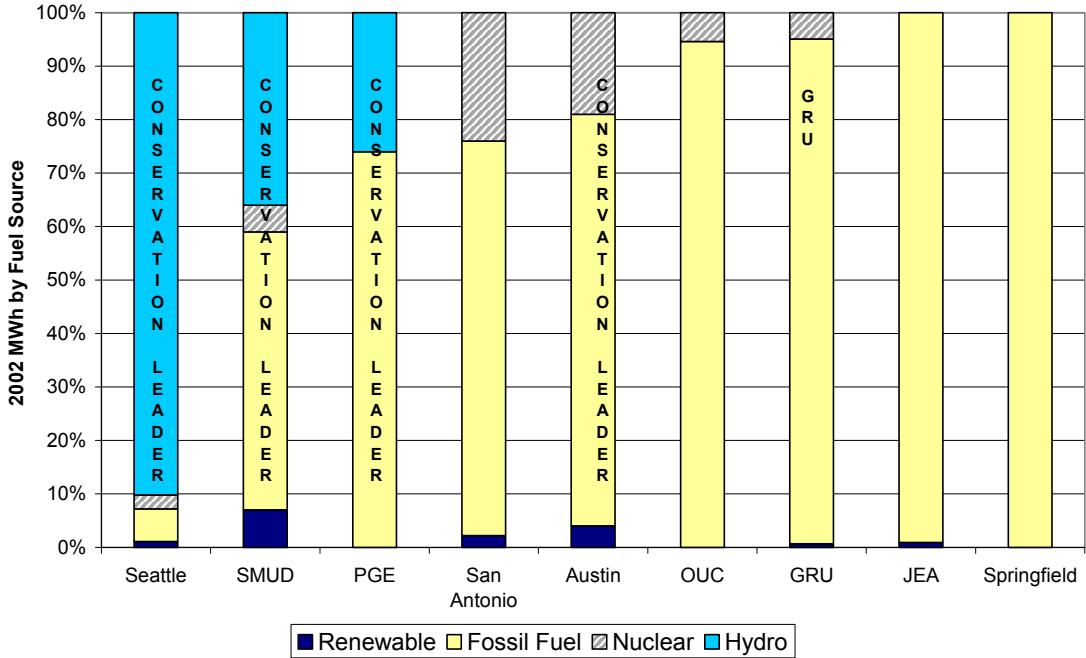
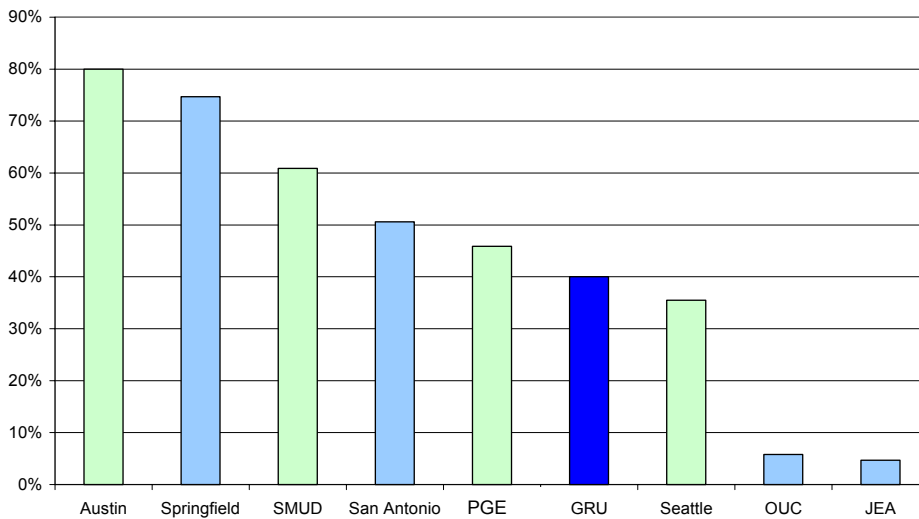


Figure 4
Fuel Source Comparisons



Another factor that impacts this study is competing fuel, such as natural gas penetration in the electric utility service territory. Figure 5 shows the range of natural gas penetration to be from 5% to 80%. The data demonstrates that as a group, the Energy Conservation Leaders have higher natural gas penetration in their service areas. Natural Gas use lowers the electrical consumption of electric utility customers.

FIGURE 5
Natural Gas Penetration



As mentioned earlier, an electric utility's power production fuel costs are important in the mix to assess the ability to provide affordable electric rates. As shown in Table 4, GRU has the highest fuel costs for the time period of 2001 through 2003.⁵⁰ The Energy Conservation Leaders have substantial nuclear and hydro power. These are very low cost sources of electricity, but these low costs are not reflected in their relative residential electric costs.⁵¹

TABLE 4
Power Production Fuel Cost

<u>Company</u>	2003	2002	2001
	<u>\$/MWh</u>	<u>\$/MWh</u>	<u>\$/MWh</u>
GRU	\$33.17	\$29.17	\$28.36
OUC	n/a	n/a	n/a
San Antonio	\$16.86	\$12.01	\$13.87
JEA	\$18.75	\$20.72	\$21.22
Springfield	\$14.22	\$13.85	\$15.19
Seattle	n/a	n/a	n/a
SMUD	\$22.49	\$27.01	\$51.55
Austin	\$14.63	\$13.20	\$16.91
Portland (PGE)	\$11.56	\$11.61	\$18.12

Financial Indicators

Financially Strong companies were found to have lower than average residential retail prices for their state and to serve less wealthy communities than the Energy Conservation Leaders.⁵² They also contributed a much larger share of their host government's total revenues. None of them had external sources of funding for energy conservation programs.⁵³ To a certain extent this finding was surprising, given the very different power production costs of the two groups of utilities.

Compared to the benchmarking partners, GRU is the smallest company in this benchmarking study.⁵⁴ GRU serves the least wealthy community as demonstrated by the adjusted per capita income and poverty levels.⁵⁵ Despite this, GRU transfers the largest percentage of gross revenue to its host

⁵⁰ Appendix A (Note that SMUD's high fuel costs in 2001 are due to the energy crisis in California. OUC's power production fuel costs are n/a because at the time of this study, Powerdat reported only OUC's coal fuel cost. Seattle's production fuel costs are n/a because their fuel mix is 90% hydro and the rest is purchased power).

⁵¹ *Id.*

⁵² *Id.*

⁵³ http://www.pewclimate.org/what_s_being_done/in_the_states/public_benefit_funds.cfm and http://www.crest.org/sbf_mao.html

⁵⁴ Appendix A.

⁵⁵ *Id.*

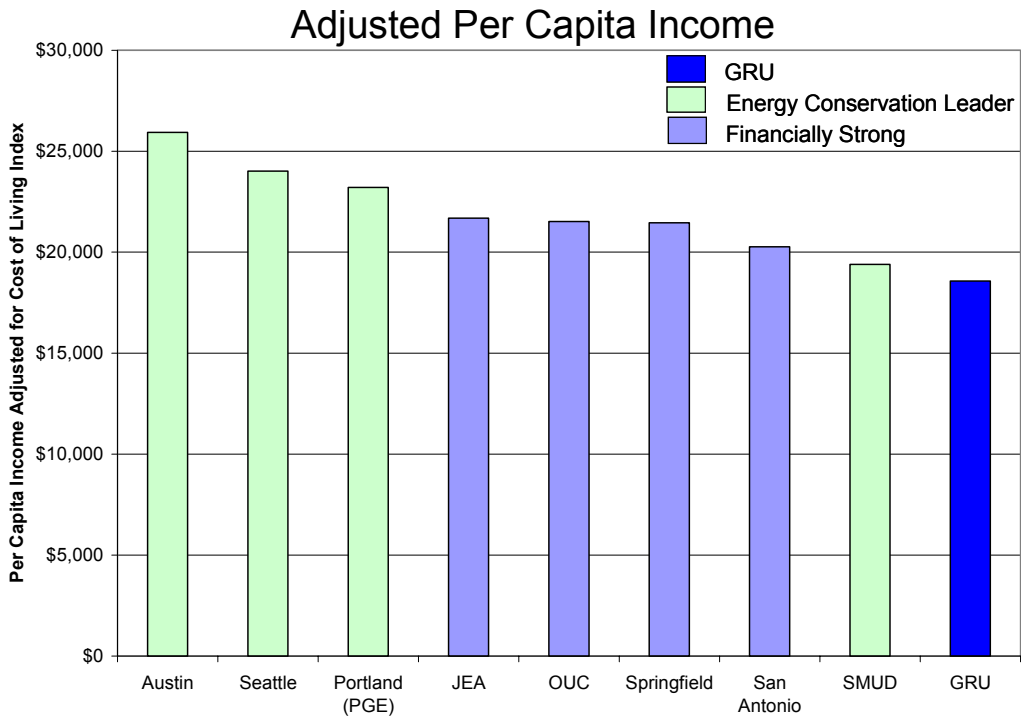
government to pay for community services. Further, GRU has one of the lowest residential prices as compared with the state average retail price.

The importance of this information demonstrates that financial strength allows GRU to provide affordable electricity and a secure source of revenues to support essential community services. Adherence to the RIM Test assists GRU in keeping the rates low, in an era of deregulation uncertainty in Florida.

The following is a series of tables and figures that provides the data on Adjusted Per Capita Income, Persons Below Poverty Level, Ratio of Utility Residential Price to State Average Price, General Fund Transfer Per Residential Customer, and Percent General Fund Transfer to Utility Gross Revenue.

Figure 6 incorporates looking at Per Capita Income⁵⁶ in conjunction with ACCRA Cost of Living Composite Index.⁵⁷ The graph demonstrates that whether GRU is compared with the Financially Strong utilities or the Energy Conservation Leaders, our customers have the least disposable income.

FIGURE 6

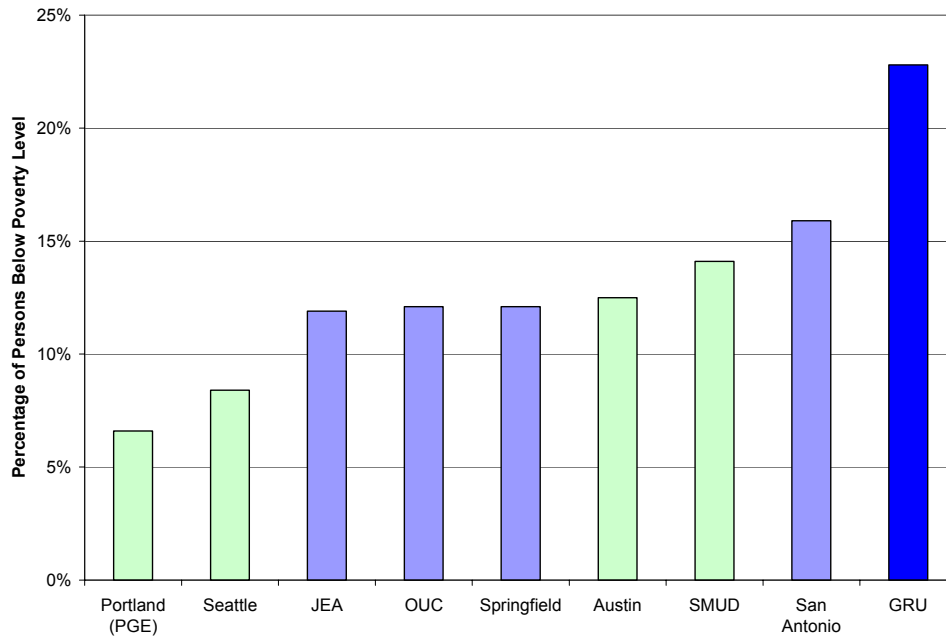


⁵⁶ Appendix A.

⁵⁷ www.accra.org, (ACCRA formerly the American Chamber of Commerce Researchers Association determines the index values by comparing each city's living costs to the average for all participating cities. There are nearly 500 members from 47 states and 4 Canadian provinces, ACCRA is the single largest national organization dedicated to economic development and policy research).

Figure 7 shows the percentage of persons below poverty level for each electric utility.⁵⁸ The significance of this information ties in with the adjusted per capita income and furthers the study of the socio-economic impacts. The range of this data is from 7-23%, with GRU having the highest percentage of persons in their service territory that are below poverty level.

FIGURE 7
Persons Below Poverty Level

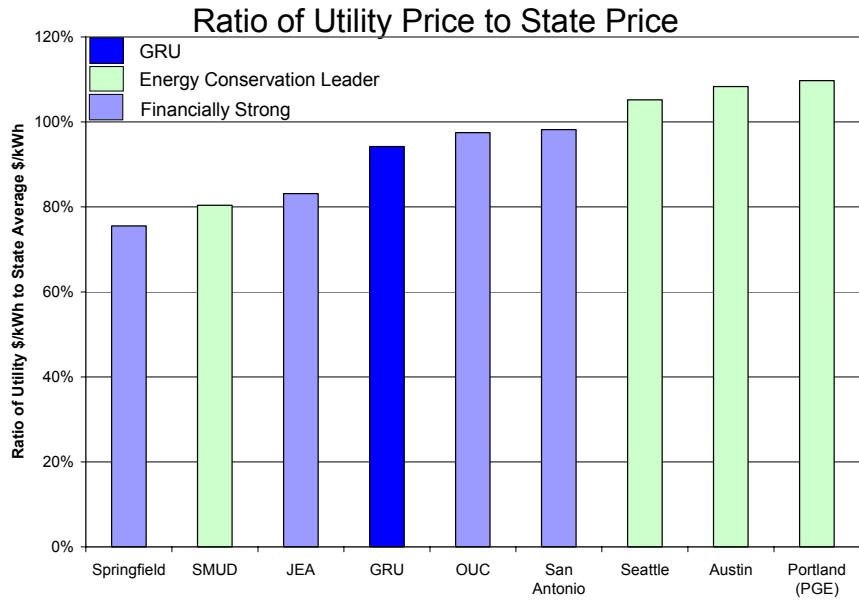


As stated earlier, the Energy Conservation Leaders have substantial nuclear and hydro power which provides them with low cost energy sources. Despite this, the Energy Conservation Leaders tend to have higher than state average residential electrical costs as shown in Figure 8.⁵⁹

⁵⁸ *Id.*

⁵⁹ Appendix A.

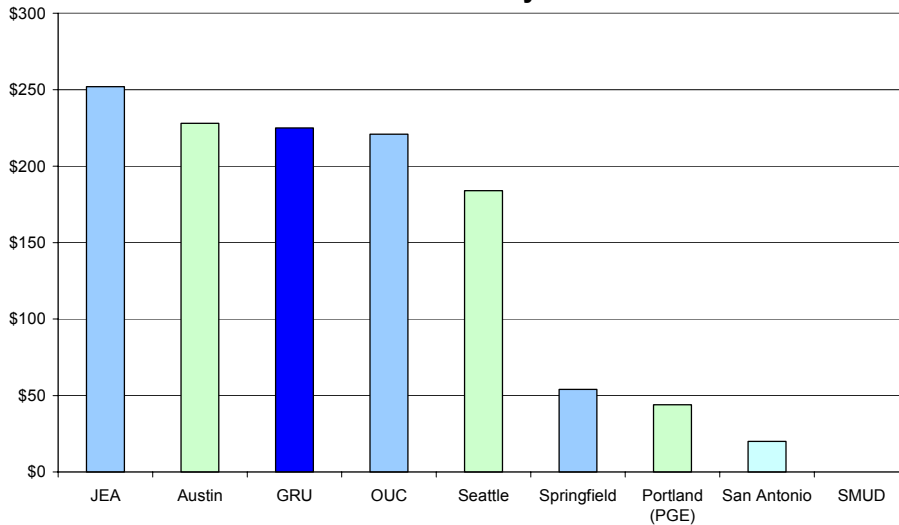
FIGURE 8



The general fund transfer per residential customer (Figure 9) demonstrates the amount each electric utility fund transfers to their host general government.⁶⁰ Financial strength allows GRU to provide City of Gainesville’s general government with a secure source of revenues to support essential community services and provide affordable electricity. The RIM Test, which is a cost-effectiveness measure and is the standard utility industry criterion, supports GRU’s ability to maintain financial strength.

FIGURE 9

**GFT per Residential Customer
Electric Only**



⁶⁰ *Id.*

TABLE 5
General Fund Transfer
 Electric Only

<u>Company</u>	<u>\$/Residential Customer</u>	<u>% GFT to Utility Gross Revenue</u>	<u>% GFT to Total General Fund</u>
GRU	\$225	11.1%	22.0%
JEA	\$252	10.1%	7.6%
Austin	\$228	9.7%	16.3%
Seattle	\$184	8.5%	9.3%
OUC	\$221	6.5%	13.0%
Portland (PGE)	\$44	5.2%	8.2%
Springfield	\$54	3.1%	5.2%
San Antonio	\$20	1.0%	1.6%
SMUD	\$0	0.0%	0.0%

FIGURE 10
 Percent General Fund Transfer to Utility Gross Revenue
 (Electric Only)

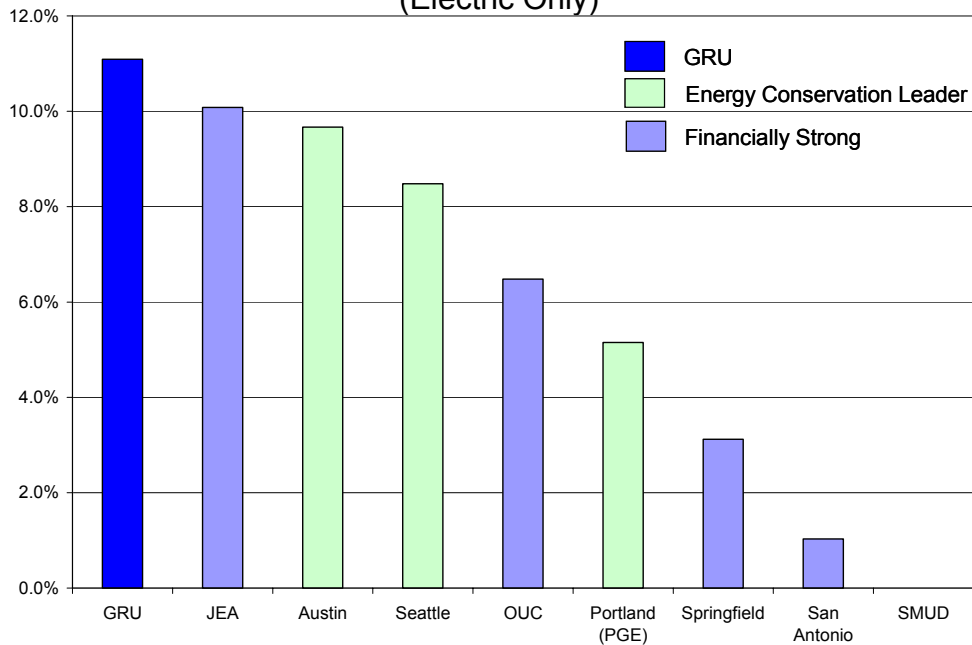


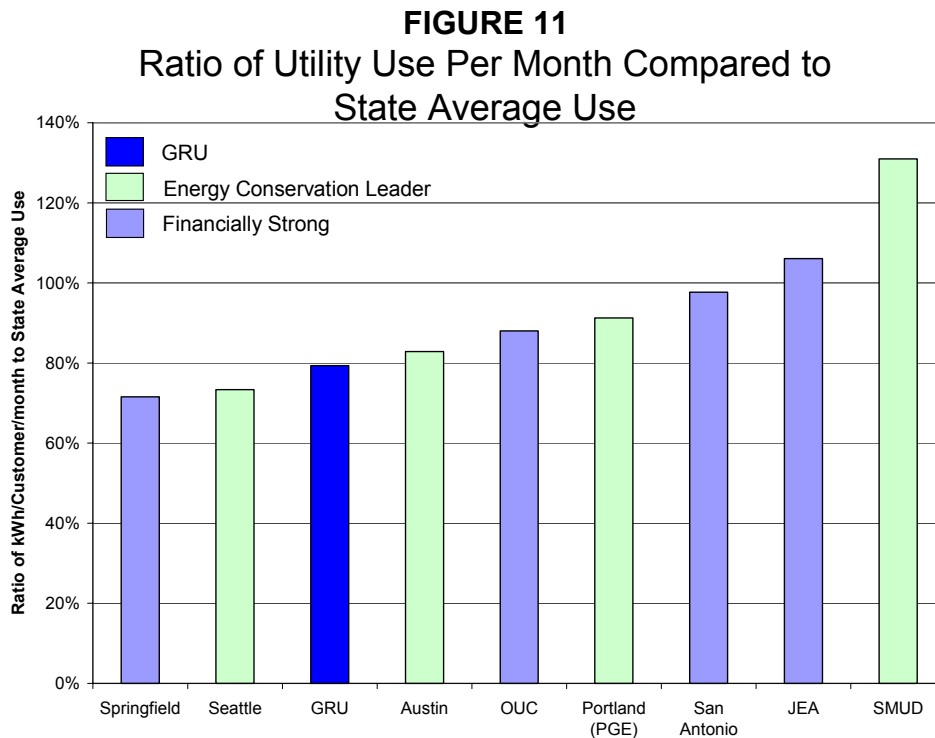
Table 5 and Figure 10 demonstrate that the range of general fund transfer is 0-11%, of which GRU has the largest percentage.⁶¹ Compared to our benchmarking partners we are smaller, and have less access to low cost fuels, yet we are financially stronger and deliver more affordable electrical services. At the same time, we provide a greater percentage of much needed public services of our revenues. Finally, in the area of energy conservation performance, GRU

⁶¹ Appendix A (In FY 2002-2003, GRU general fund transfer from the electric utility enterprise only was \$16,650,970, in FY 2003-2004 \$17,300,000 and is projected to be \$17,776,278 in FY 2004-2005).

staff looked at the ratio of residential average use per month compared to the state's average, consumption levels, and DSM planning criteria and energy conservation goals.

DSM Indicators

Figure 11 demonstrates that GRU customers have the third lowest consumption levels when compared to the state average.⁶² The RIM Test is the DSM planning criteria used by GRU and all the benchmarking partners that were chosen because they are Financially Strong (Table 6).⁶³ GRU uses the RIM Test because it is consistent with utilities' goal to deliver affordable energy prices. On the other hand, the benchmarking partners that were selected based on their records and reputations as Energy Conservation Leaders use the Participant Test⁶⁴ or variants of the Total Resource Cost (TRC) Test.⁶⁵



⁶² Appendix A.

⁶³ Appendix C.

⁶⁴ Dr. Paul Sotkiewicz, University of Florida Public Utility Research Center (This test only considers the impacts of the customer participating. The benefits are the bill savings and/or incentives paid to the customer. The costs include the installation, purchase or other direct costs. If benefits are greater than costs for the participant, then it is cost-effective for the customer to participate in the DSM program. This test usually results in high benefit to cost ratios).

⁶⁵ Dr. Paul Sotkiewicz, U of F Public Utility Research Center (This test considers total resource costs and benefits to both the customers and the utility. The benefits are avoided supply costs including fuel, capital costs, and other direct resource costs. The costs are the program costs such as administration, marketing, and oversight. Also costs of supplying DSM material (i.e. equipment or installation), incentives paid to customers for participation, and any customer costs).

TABLE 6
DSM Planning Criteria

<u>Company</u>	<u>Their Label</u>	<u>Similar To...</u>
GRU	RIM	
OUC	RIM	
San Antonio	Utility Test	RIM
JEA	RIM	
Springfield	RIM & TRC	
Seattle	Service Territory Perceptive	TRC
SMUD	Societal Test	TRC
Austin	Participant Test	
Portland (PGE)	The Energy Trust of Oregon	TRC

The RIM Test avoids the potential for cross-subsidies from non-participants; therefore it is argued that this test distorts the price index.⁶⁶ A DSM program that passes the RIM Test will not raise prices, however may actually lower prices and would be profitable for the electric utility without the revenue requirement.⁶⁷ DSM programs that pass the TRC Test, fail the RIM Test. The consequence of this is there are DSM programs that are truly cost-effective, but are not being implemented.⁶⁸ The RIM Test counts lost revenues to the electric utility as a cost; however, this also is a benefit to DSM program participants.⁶⁹ The conclusion could be that if the electric utility is counting lost revenues as a cost, what really is occurring is distribution of wealth.

On the other hand, the TRC Test issues are if benefits are greater than costs, then the TRC Test says the DSM program is cost-effective.⁷⁰ Further, benefits to cost ratios are not as high as the Participant Test. Clearly a problem with the TRC Test is that it ignores the lost revenues of the electric utility. The electric utility's lost revenues may be greater than the net benefits of the DSM program, implying that the lost revenues must be made up for through price increases to keep revenues/profits at the agreed upon level.⁷¹ Participants in the DSM program would benefit through lower bills, but non-participants would be subsidizing participants by paying the higher price for electricity. In other words, the non-participants are losing out because they pay a higher price for electricity as a result of the DSM program.

⁶⁶ Dr. Paul Sotkiewicz, University of Florida Public Utility Research Center.

⁶⁷ *Id.*

⁶⁸ *Id.*

⁶⁹ *Id.*

⁷⁰ *Id.*

⁷¹ Dr. Paul Sotkiewicz, University of Florida Public Utility Research Center.

Each of the benefit-cost tests presented here focuses on different costs and benefits from different perspectives. The Participant Test focuses on the electric customer. The RIM Test focuses on the electric utility and all their electric customers. The TRC Test focuses on the total resources. The RIM Test best captures the electric utility’s financial perspective.

GRU has formal published energy conservation goals, and the average residential use is among the lowest. GRU’s conservation goals are comparable on a percentage basis to those of utilities in Florida required to implement programs that meet the RIM Test. When comparing GRU to the Energy Conservation Leaders, there are differences. The Energy Conservation Leaders have substantial nuclear and hydro power, which provide them with low cost energy sources. Further, the Energy Conservation Leaders have access to external funding for their energy conservation programs and yet they have higher residential retail prices than their state average retail prices.⁷² As discussed earlier, the Energy Conservation Leaders use the Participant Test or TRC Test as an energy conservation program planning criteria. As demonstrated in Table 7, these leaders in their field have quantified goals greater than zero and renewable portfolios and goals.

TABLE 7

TEN-YEAR INCREMENTAL CONSERVATION GOALS AS PERCENT OF 2003 SALES			
	Summer Peak Impacts	Winter Peak Impacts	Energy Reduction Impacts
Austin¹	< 15%	-	< 15%
Seattle	-	4.3%	9.2%
PGE²	-	5%	5%
SMUD	4.3%	-	4.0%
GRU	1.7%	2.2%	1.7%
JEA	0.0%	0.0%	0.0%
OUC	0.0%	0.0%	0.0%
San Antonio³	0.0%	0.0%	0.0%
Springfield	0.0%	0.0%	0.0%

- Notes:
- 1 Incremental Goals Not Reported
 - 2 PGE Goal is 20% of Load Growth converted to pct. 2003 sales
 - 3 Goals Under Development

⁷² Appendix A.

The Financially Strong companies have to generate their own money for their energy conservation programs and yet they have lower residential retail prices than their state average retail prices.⁷³ As discussed earlier, the Financially Strong Leaders use the RIM Test as an energy conservation program planning criteria. As demonstrated above, these leaders in their field have no energy conservation goals or requirements for renewable portfolio standards or goals.

GRU has one of the highest financial rankings, being in the top 3 and higher than 2 of the 4 electric utilities selected for their financial strength. It is the smallest company in this benchmarking study. GRU serves the least wealthy community as demonstrated by the adjusted per capita income and poverty levels. Further, it is among the lowest residential price as compared with the state average retail price. GRU has the highest percentage general fund transfer to its host general government. GRU is in the top three among lowest KWh usage compared to their state average. Finally, GRU is the only financially strong system with quantified energy conservation goals greater than zero.

GRU is effectively balancing financial strength with energy conservation leadership. GRU provides affordability, options, and information for its customers. GRU is balancing the scorecard with environmental quality, energy security, equity, and fairness. GRU is developing and evaluating DSM practices to implement.

DSM Programs

The following provides lessons learned from GRU's benchmarking study. These are the energy conservation program highlights that were discussed with the benchmarking partners during the telephone interviews.⁷⁴

OUC

1. Provide Online Energy Audits (required)
2. Video Energy Audits
3. Low Income Weatherization
4. Chilled Water Service Downtown
5. Funding For Conservation Being Reduced

San Antonio

1. New Building Ratings Program
2. Free Programmable Thermostats For Load Control Program
3. High Efficiency AC Rebates

⁷³ Appendix A.

⁷⁴ Appendix C.

City of Springfield

1. Energy Audits Cost \$200
 - a. Customer pays \$100
 - b. Utility pays \$100
2. Assist Community Service Agencies By Providing Weatherization Materials

Seattle City Light

1. Emphasis On Energy Reductions, Not Peak Power Demand
2. Low-Income Weatherization Complete
3. Reimbursed Through BPA Funding
4. Trying To Reduce Incentives
5. Emphasis On Sustainable Building

SMUD

1. Funded Through California State Public Benefits Charge (0.5 Cents/Kwh)
2. Saturated Weatherization For Low Income
3. Utility Deregulation Reduced Funding By 70% And Staff By 60%
4. Focus On New Home Efficiency And Getting The Private Sector Involved

Austin Energy

1. Energy Audits Performed By Contractors
 - a. No cost to Austin Energy
 - b. Quote provided for improvements
 - c. Austin confirms need and provides rebate
2. Power Partner Load Control
Smart thermostats installed free
3. Duct Repair
Leakage reduced from 27% to <5%

PGE

1. Conservation Programs Taken Over By State Funded Agency (Oregon's Energy Trust)
2. Utility Staff Do Not Provide Services To Their Customers
3. Programs Funded Through State Public Benefits Charge (3% Of Customer's Bill)
4. Strong History Of Weatherization Efforts

The benefits to additional cost-effective conservation include the avoided supply cost including fuel, capital costs, and possibly environmental compliance cost. The potential benefits to GRU customers include savings on their GRU bill from

reduced consumption or changed consumption patterns and possible incentives paid for participation. This benchmarking study suggests that there may be additional cost-effective programs for summer peak demand reductions. GRU compares favorably, but we see more DSM potential. The right amount of DSM depends on the definition of cost-effective. Staff recommends a cost-effectiveness definition that benefits all customers and the standard utility industry criterion for this is the RIM Test, except for programs for customer information or to address basic human needs of low income customers.

Conclusions

The results of this benchmarking study lead to the following conclusions:

1. GRU's DSM goals and program achievements, as measured in this study, exceed those of the Financially Strong utilities as a group.
2. GRU's DSM program achievements, as measured by levels of household electrical usage, match the best of the Energy Conservation Leader utilities.
3. GRU's DSM goals are unlike those reported by Energy Conservation Leaders in that they are designed to promote energy efficiency while keeping rates as low as possible.
4. GRU's current renewable energy goal of 8.2 percent is similar to goals of the Energy Conservation Leaders when access to hydro and wind energy is taken into consideration.
5. GRU has effectively combined the ability to be rated as Financially Strong and to position itself as a future Renewable Energy Leader, while also comparing well in the field of energy efficiency. GRU provides affordability, options, and information for its customers

APPENDIX A
Benchmarking Criteria
OUC

Criteria	Gainesville	OUC (Financial Strength)
Bond Ratings ¹ Moody's Standard & Poors	Aa2 AA	Aa1 AA
General Fund Transfer ² Total \$/Year \$/Residential Customer-Year	\$16,650,970 (electric only) \$225	\$29,344,000 (electric only) \$221
% GFT is of the Utility Gross Revenue ³	11.09% \$150,107,831	6.48% \$453,111,000
Residential Cost (\$/Month) ⁴ State Average Utility	\$82.42 \$77.60	\$82.42 \$80.26
DSM Planning Criteria ⁵	Rate Impact Measure	Rate Impact Measure
Degree-Days ⁶ Heating Cooling	1144 2736	580 3428
Income ⁷ Per Capita % Poverty Level	\$18,465 22.8%	\$20,916 12.1%
Customers Served ⁸ Residential Other Total	74,164 <u>8,912</u> 83,076	132,678 <u>32,294</u> 164,972
Natural Gas Market Penetration ⁹	40%	5.8%

¹ Aa3/AA-or Better Rated Electric Utilities and Cooperatives as of June 28, 2004.

² PowerDat (2002).

³ PowerDat data drawn from EIA-412 (financials) and EIA-861 (customers and energy sales).

⁴ PowerDat (2002).

⁵ Teleconference call on July 16, 2004 between GRU staff and OUC staff.

⁶ http://www5.ncdc.noaa.gov/climate/normal/CLIM_Sup_02.pdf

⁷ Quickfacts U.S. Census 1999 for Alachua County and Orange County. The U.S. Department of Commerce and The Bureau of Economic Analysis (BEA) Per Capita numbers for 2002 are Gainesville \$25,033 and Orlando \$ 27,587.

⁸ GRU's 2002-2003 Annual Report and OUC's is from American Public Power Association (APPA), 2004-05 Annual Directory & Statistical Report.

⁹ GRU's is from the billing summary and OUC's % is from Census 2000:<http://factfinder.census.gov/>

Criteria	Gainesville	OUC
Electric Consumption Per Residential Customer Month ¹⁰	953 kWh	1,057 kWh
Net Capacity ¹¹	612 MW	1,047 MW summer
Fuel Mix (MWh) ¹² <ul style="list-style-type: none"> • Nuclear • Coal • Natural Gas • Oil • Renewable • Purchased Wind • Purchased Fossil 	5% 68% 25% 2% .3% – 100%	5.4% 63.2% 31.4% - - - 100%
Total		
Capacity Additions Since 2001	72 MW cc	166.5 MW (2003)
Long Term Generation Plans	220 MW	<ul style="list-style-type: none"> • 140 MW (2008) • 140 MW (2011)
Fuel costs (\$/MWh) ¹³ <ul style="list-style-type: none"> • 2001 • 2002 • 2003 	28.36 29.17 33.17	n/a ¹⁴ n/a n/a
Renewable Portfolio Goals	8.2% of generation resources by 2011	None
ACCRA Cost of Living Composite Index 4 th Quarter 2003 ¹⁵	99.4	97.2

¹⁰ GRU 2004 Ten-Year Site Plan, (Schedule 2.1); OUC's is from PowerDat (2002).

¹¹ GRU 2004 Ten-Year Site Plan, page 2; OUC's Ten-Year Site Plan, page 1-1.

¹² PowerDat.

¹³ *Id.*

¹⁴ PowerDat is reporting only OUC's coal prices.

¹⁵ www.accra.org, ACCRA (formerly the American Chamber of Commerce Researchers Association) determines the index values by comparing each city's living costs to the average for all participating cities. There are nearly 500 members from 47 states and 4 Canadian provinces, ACCRA is the single largest national organization dedicated to economic development and policy research.

Continued
APPENDIX A
Benchmarking Criteria
San Antonio

Criteria	Gainesville	San Antonio (CPSB) (Financial Leadership)
Bond Ratings ¹⁶ Moody's Standard & Poors	Aa2 AA	Aa1 AA+
General Fund Transfer ¹⁷ Total \$/Year \$/Residential Customer-Year	\$16,650,970 (electric only) \$225	\$10,528,000 \$20
% GFT is of the Utility Gross Revenue ¹⁸	11.09% \$150,107,831	1.03% \$1,026,737,000
Residential Cost (\$/Month) ¹⁹ State Average Utility	\$82.42 \$77.60	\$71.95 \$70.73
DSM Planning Criteria ²⁰	Rate Impact Measure	Utility Test (similar to RIM)
Degree-Days ²¹ Heating Cooling	1148 2736	1573 3038
Income ²² Per Capita % Poverty Level	\$18,465 22.8%	\$18,363 15.9%
Customers Served ²³ Residential Other Total	74,164 <u>8,912</u> 83,076	529,830 <u>66,172</u> 596,002
Natural Gas Market Penetration ²⁴	40%	50.6%

¹⁶ Aa3/AA-or Better Rated Electric Utilities and Cooperatives as of June 28, 2004.

¹⁷ PowerDat (2002).

¹⁸ PowerDat data drawn from EIA-412 (financials) and EIA-861 (customers and energy sales).

¹⁹ PowerDat (2002).

²⁰ Teleconference call on July 7, 2004 between GRU staff and San Antonio staff.

²¹ http://www5.ncdc.noaa.gov/climate_normals/clim81_supp/CLIM_Sup_02.pdf

²² Quickfacts U.S. Census 1999 for Alachua County and Bextar County. The U.S. Department of Commerce and The Bureau of Economic Analysis (BEA) Per Capita numbers for 2002 are Gainesville \$25,033 and San Antonio \$27,368.

²³ GRU 2002-2003 Annual Report and San Antonio's is from the American Public Power Association (APPA), 2004-05 Annual Directory & Statistical Report.

²⁴ GRU billing summary and San Antonio's % is from Census 2000:<http://factfinder.census.gov/>

Criteria	Gainesville	San Antonio (CPSB)
Electric Consumption Per Residential Customer Month ²⁵	953 kWh	1,141 kWh
Net Capacity ²⁶	612 MW	5200 MW (summer)
Fuel Mix (MWh) ²⁷ <ul style="list-style-type: none"> • Nuclear • Coal • Natural Gas • Oil • Renewable • Purchased Wind • Purchased Fossil 	5% 68% 25% 2% .3% – 100%	24% 49% 17% - 10% - 100%
Capacity Additions Since 2001	72 MW cc	
Long Term Generation Plans	220 MW	
Fuel costs (\$/MWh) ²⁸ <ul style="list-style-type: none"> • 2001 • 2002 • 2003 	28.36 29.86 33.17	13.87 12.01 16.86
Renewable Portfolio Goals	8.2% of generation resources by 2011	10% of generation resources by 2010
ACCRA Cost of Living Composite Index 4 th Quarter 2003 ²⁹	99.4	90.6

²⁵ GRU 2004 Ten-Year Site Plan, (Schedule 2.1); San Antonio's is from PowerDat (2002).

²⁶ GRU 2004 Ten-Year Site Plan, page 2; San Antonio's http://www.citypublicservice.com/content_list.asp?sect_id=530&elmt_id=8

²⁷ PowerDat.

²⁸ *Id.*

²⁹ www.accra.org, ACCRA (formerly the American Chamber of Commerce Researchers Association) determines the index values by comparing each city's living costs to the average for all participating cities. There are nearly 500 members from 47 states and 4 Canadian provinces, ACCRA is the single largest national organization dedicated to economic development and policy research.

Continued
APPENDIX A
Benchmarking Criteria
JEA

Criteria	Gainesville	JEA (Financial Strength)
Bond Ratings ³⁰ Moody's Standard & Poors	Aa2 AA	Aa3 AA
General Fund Transfer ³¹ Total \$/Year \$/Residential Customer-Year	\$16,650,970 (electric only) \$225	\$83,609,101(electric only) \$252
% GFT is of the Utility Gross Revenue ³²	11.09% \$150,107,831	10.08% \$829,432,573
Residential Cost (\$/Month) ³³ State Average Utility	\$82.42 \$77.60	\$82.42 \$68.49
DSM Planning Criteria ³⁴	Rate Impact Measure	Rate Impact Measure
Degree-Days ³⁵ Heating Cooling	1148 2736	1223 2808
Income ³⁶ Per Capita % Poverty Level	\$18,465 22.8%	\$20,753 11.9%
Customers Served ³⁷ Residential Other Total	74,164 <u>8,912</u> 83,076	331,890 <u>40,951</u> 372,841
Natural Gas Market Penetration ³⁸	40%	4.7%

³⁰ Aa3/AA-or Better rated Electric Utilities and Cooperatives as of June 28, 2004.

³¹ PowerDat (2002).

³² PowerDat drawn from EIA-412 (financials) and EIA-861 (customers and energy sales).

³³ PowerDat (2002).

³⁴ Teleconference call on July 7, 2004 between GRU staff and JEA staff.

³⁵ http://www5.ncdc.noaa.gov/climate_normals/clim81_supp/CLIM_Sup_02.pdf

³⁶ Quickfacts U.S. Census 1999 for Alachua County and Duval County. The U.S. Department of Commerce and The Bureau of Economic Analysis (BEA) Per Capita numbers for 2002 are Gainesville \$25,033 and Jacksonville \$30,037.

³⁷ GRU's 2002-2003 Annual Report and JEA's is from American Public Power Association (APPA), 2004-05 Annual Directory & Statistical Report.

³⁸ GRU's is from the billing summary and. JEA's % is from Census 2000:<http://factfinder.census.gov/>

Criteria	Gainesville	JEA
Electric Consumption Per Residential Customer Month ³⁹	953 kWh	1,274 kWh
Net Capacity ⁴⁰	612 MW (summer)	3,476 MW (winter)* peaking
Fuel Mix (MWh) ⁴¹ <ul style="list-style-type: none"> • Nuclear • Coal • Natural Gas • Oil • Renewable • Purchased Wind • Purchased Fossil • Residual (Steam) • Petroleum Coke • Distillate (CT) 	5% 68% 25% 2% .3% – – – – 100%	– 47.8% 10.7% – – – 41.5%(other)
Total		
Capacity Additions Since 2001	72 MW cc	3-170 MW cc (ct)
Long Term Generation Plans	220 MW	<ul style="list-style-type: none"> • 190 MW winter (2005) • 323 MW (2009) • 250 MW (2010) • 174 MW (2012)
Fuel costs (\$/MWh) ⁴² <ul style="list-style-type: none"> • 2001 • 2002 • 2003 	28.36 29.86 33.17	21.22 20.72 18.75
Renewable Portfolio Goals	8.2% of generation resources by 2011	7.5% of its peak demand by 2015 (self-imposed RPS)
ACCRA Cost of Living Composite Index 4 th Quarter 2003 ⁴³	99.4	95.7

³⁹ GRU 2004 Ten-Year Site Plan, (Schedule 2.1); JEA's is from PowerDat (2002).

⁴⁰ GRU 2004 Ten-Year Site Plan, page 2; JEA 2004 Ten-Year Site Plan, page 2.

⁴¹ PowerDat.

⁴² *Id.*

⁴³ www.accra.org, ACCRA (formerly the American Chamber of Commerce Researchers Association) determines the index values by comparing each city's living costs to the average for all participating cities. There are nearly 500 members from 47 states and 4 Canadian provinces, ACCRA is the single largest national organization dedicated to economic development and policy research.

Continued
APPENDIX A
Benchmarking Criteria
Springfield

Criteria	Gainesville	City of Utilities of Springfield (Financial Strength)
Bond Ratings ⁴⁴ Moody's Standard & Poors	Aa2 AA	AA
General Fund Transfer ⁴⁵ Total \$/Year \$/Residential Customer-Year	\$16,650,970 (electric only) \$225	\$4,469,106(electric only) \$54
% GFT is of the Utility Gross Revenue ⁴⁶	11.09% \$150,107,831	3.12% \$143,387,021
Residential Cost (\$/Month) ⁴⁷ State Average Utility	\$82.42 \$77.60	\$71.10 \$53.71
DSM Planning Criteria ⁴⁸	Rate Impact Measure	Rate Impact Measure/TRC
Degree-Days ⁴⁹ Heating Cooling	1148 2736	4602 1366
Income ⁵⁰ Per Capita % Poverty Level	\$18,465 22.8%	\$19,185 12.1%
Customers Served ⁵¹ Residential Other Total	74,164 <u>8,912</u> 83,076	82,433 <u>13,065</u> 95,498
Natural Gas Market Penetration ⁵²	40%	74.7%

⁴⁴ Aa3/AA-or Better rated Electric Utilities and Cooperatives as of June 28, 2004.

⁴⁵ PowerDat (2002).

⁴⁶ PowerDat drawn from EIA-412 (financials) and EIA-861 (customers and energy sales).

⁴⁷ PowerDat (2002).

⁴⁸ Teleconference call on July 7, 2004 between GRU staff and Springfield staff.

⁴⁹ http://www5.ncdc.noaa.gov/climate normals/clim81_supp/CLIM_Sup_02.pdf

⁵⁰ Quickfacts U.S. Census 1999 for Alachua County and Greene County. The U.S. Department of Commerce and The Bureau of Economic Analysis (BEA) Per Capita numbers for 2002 are Gainesville \$25,033 and Springfield \$25,622.

⁵¹ GRU's 2002-2003 Annual Report and Springfield's is from American Public Power Association (APPA), 2004-05 Annual Directory & Statistical Report.

⁵² GRU's is from the billing summary and Springfield's % is from Census 2000:<http://factfinder.census.gov/>

Criteria	Gainesville	Springfield
Electric Consumption Per Residential Customer Month ⁵³	953 kWh	897 kWh
Net Capacity ⁵⁴	612 MW (summer)	821 MW
Fuel Mix (MWh) ⁵⁵ <ul style="list-style-type: none"> • Nuclear • Coal • Natural Gas • Oil • Renewable • Purchased Wind • Purchased Fossil • Residual (Steam) • Petroleum Coke • Distillate (CT) 	5% 68% 25% 2% .3% – – – – 100%	– 62% 38% – – –
Total		
Capacity Additions Since 2001	72 MW cc	
Long Term Generation Plans	220 MW	2008-2009 300 MW coal (bond voted down by 52% of voters)
Fuel costs (\$/MWh) ⁵⁶ <ul style="list-style-type: none"> • 2001 • 2002 • 2003 	28.36 29.86 33.17	15.19 13.85 14.22
Renewable Portfolio Goals	8.2% of generation resources by 2011	None
ACCRA Cost of Living Composite Index 4 th Quarter 2003 ⁵⁷	99.4	89.4

⁵³ GRU 2004 Ten-Year Site Plan, (Schedule 2.1); Springfield's is from PowerDat (2002).

⁵⁴ GRU 2004 Ten-Year Site Plan, page 2; Springfield's is from Fingertip Facts:http://www.cityutilities.net/PDF_items/fingertip_facts/fingertip.pdf

⁵⁵ PowerDat.

⁵⁶ *Id.*

⁵⁷ www.accra.org, ACCRA (formerly the American Chamber of Commerce Researchers Association) determines the index values by comparing each city's living costs to the average for all participating cities. There are nearly 500 members from 47 states and 4 Canadian provinces, ACCRA is the single largest national organization dedicated to economic development and policy research.

Continued
APPENDIX A
Benchmarking Criteria
Seattle

Criteria	Gainesville	Seattle (Energy Conservation Leadership)
Bond Ratings ⁵⁸ Moody's Standard & Poors	Aa2 AA	Aa3 -----
General Fund Transfer ⁵⁹ Total \$/Year \$/Residential Customer-Year	\$16,650,970 (electric only) \$225	\$60,173,889 (electric only) \$184
% GFT is of the Utility Gross Revenue ⁶⁰	11.09% \$150,107,831	8.48% \$709,330,439
Residential Cost (\$/Month) ⁶¹ State Average Utility	\$82.42 \$77.60	\$65.60 \$68.96
DSM Planning Criteria ⁶²	Rate Impact Measure	Service Territory Perspective (similar to TRC)
Degree-Days ⁶³ Heating Cooling	1148 2736	4615 192
Income ⁶⁴ Per Capita % Poverty Level	\$18,465 22.8%	\$29,521 8.4%
Customers Served ⁶⁵ Residential Other Total	74,164 <u>8,912</u> 83,076	327,128 <u>33,461</u> 360,589
Natural Gas Market Penetration ⁶⁶	40%	35.5%

⁵⁸ Aa3/AA-or Better Rated Electric Utilities and Cooperatives as of June 28, 2004.

⁵⁹ PowerDat (2002).

⁶⁰ PowerDat data drawn from EIA-412 (financials) and EIA-861 (customers and energy sales).

⁶¹ PowerDat (2002).

⁶² Teleconference call on July 29, 2004 between GRU staff and Seattle City Light staff.

⁶³ http://www5.ncdc.noaa.gov/climate_normals/clim81_supp/CLIM_Sup_02.pdf

⁶⁴ Quickfacts U. S. Census 1999 for Alachua County and King County. The U.S. Department of Commerce and The Bureau of Economic Analysis (BEA) Per Capita numbers for 2002 are Gainesville \$25,033 and Seattle \$38,037.

⁶⁵ GRU 2002-2003 Annual Report and Seattle City Light's is from the American Public Power Association (APPA), 2004-05 Annual Directory & Statistical Report.

⁶⁶ GRU's billing summary and Seattle City Light's % is from Census 2000:<http://factfinder.census.gov/>

Criteria	Gainesville	Seattle
Electric Consumption Per Residential Customer Month ⁶⁷	953 kWh	783 kWh
Net Capacity ⁶⁸	612 MW	1900 MW (winter)
Fuel Mix (MWh) ⁶⁹ <ul style="list-style-type: none"> • Nuclear • Coal • Natural Gas • Oil • Renewable • Purchased Wind • Purchased Fossil Total	5% 68% 25% 2% .3% – 100%	2.6% 0.6% 5.3% – 90.2%(hydro) 1.3%(other)
Capacity Additions Since 2001	72 MW cc	
Long Term Generation Plans	220MW	
Fuel costs (\$/MWh) ⁷⁰ <ul style="list-style-type: none"> • 2001 • 2002 • 2003 • 	28.36 29.86 33.17	0 0 0
Renewable Portfolio Goals	8.2% of generation resources by 2011	10% of generation resources by 2011
ACCRA Cost of Living composite Index 4 th Quarter 2003 ⁷¹	99.4	122.9

⁶⁷ GRU 2004 Ten-Year Site Plan, (Schedule 2.1); Seattle City Light's is from PowerDat (2002).

⁶⁸ GRU 2004 Ten-Year Site Plan, page 2; Seattle City Light's <http://cityofseattle.net/light/aboutus/customerguide>.

⁶⁹ PowerDat.

⁷⁰ *Id.*

⁷¹ www.accra.org, ACCRA (formerly the American Chamber of Commerce Researchers Association) determines the index values by comparing each city's living costs to the average for all participating cities. There are nearly 500 members from 47 states and 4 Canadian provinces, ACCRA is the single largest national organization dedicated to economic development and policy research.

Continued
APPENDIX A
Benchmarking Criteria
SMUD

Criteria	Gainesville	SMUD (Energy Conservation Leadership)
Bond Ratings ⁷² Moody's Standard & Poors	Aa2 AA	A1 A
General Fund Transfer ⁷³ Total \$/Year \$/Residential Customer-Year	\$16,650,970 (electric only) \$225	Formed under the provisions of state of California Municipal Utility District Act
% GFT is to the Utility Gross Revenue ⁷⁴	11.09% \$150,107,831	N/A
Residential Cost (\$/Month) ⁷⁵ State Average Utility	\$82.42 \$77.60	\$124.80 \$100.31
DSM Planning Criteria ⁷⁶	Rate Impact Measure	Societal Test (similar to TRC)
Degree-Days ⁷⁷ Heating Cooling	1148 2736	2226 1597
Income ⁷⁸ Per Capita % Poverty Level	\$18,465 22.8%	\$21,142 14.1 %
Customers Served ⁷⁹ Residential Other Total	74,164 <u>8,912</u> 83,076	474,406 <u>60,778</u> 535,184
Natural Gas Market Penetration ⁸⁰	40%	60.9%

⁷² Aa3/AA-or Better Rated Electric Utilities and Cooperatives as of June 28, 2004.

⁷³ PowerDat (2002); SMUD's 2003 Annual Report, page 22, the District was formed by a vote of the electors in 1923, under provisions of the State of California Municipal Utility District Act, and is governed by an elected Board of Directors.

⁷⁴ PowerDat data drawn from EIA-412 (financials) and EIA-861 (customers and energy sales).

⁷⁵ PowerDat (2002).

⁷⁶ Teleconference call on July 28, 2004 between GRU staff and SMUD staff.

⁷⁷ http://www5.ncdc.noaa.gov/climatenormals/clim81_supp/CLIM_Sup_02.pdf

⁷⁸ Quickfacts U.S. Census 1999 for Alachua County and Sacramento County. The U.S. Department of Commerce and The Bureau of Economic Analysis (BEA) Per Capita numbers for 2002 are Gainesville \$25,033 and Sacramento \$31,069.

⁷⁹ GRU's 2002-2003 Annual Report and SMUD's is from American Public Power Association (APPA), 2004-05 Annual Directory & Statistical Report.

⁸⁰ GRU's billing summary. SMUD's % is from Census 2000:<http://factfinder.census.gov/>

Criteria	Gainesville	SMUD
Electric Consumption Per Residential Customer Month ⁸¹	953 kWh	719 kWh
Net Capacity ⁸²	612 MW	1300 MW
Fuel Mix (MWh) ⁸³ <ul style="list-style-type: none"> • Nuclear • Coal • Natural Gas • Oil • Renewable • Purchased Wind • Purchased Fossil 	5% 68% 25% 2% .3% – 100%	5% 7% 45% – 43%
Total		
Capacity Additions Since 2001	72 MW cc	
Long Term Generation Plans	220MW	2005 500 MW N.G. Cosumnes power plant
Fuel costs (\$/MWh) ⁸⁴ <ul style="list-style-type: none"> • 2001 • 2002 • 2003 	28.36 29.86 33.17	51.55 27.01 22.49
Renewable Portfolio Goals	8.2% of generation resources by 2011	10% of generation resources by 2006 20% of generation resources by 2011
ACCRA Cost of Living Composite Index 4 th Quarter 2003 ⁸⁵	99.4	109

⁸¹ GRU 2004 Ten-Year Site Plan, (Schedule 2.1); SMUD's is from PowerDat (2002).

⁸² GRU 2004 Ten-Year Site Plan, page 2; SMUD's capacity source is <http://www.hoovers.com/sacramento-municipal/>

⁸³ PowerDat.

⁸⁴ *Id.*

⁸⁵ www.accra.org, ACCRA (formerly the American Chamber of Commerce Researchers Association) determines the index values by comparing each city's living costs to the average for all participating cities. There are nearly 500 members from 47 states and 4 Canadian provinces, ACCRA is the single largest national organization dedicated to economic development and policy research.

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APPENDIX A
Benchmarking Criteria
Austin Energy

Criteria	Gainesville	Austin Energy (Energy Conservation Leadership)
Bond Ratings ⁸⁶ Moody's Standard & Poors	Aa2 AA	A2 A
General Fund Transfer ⁸⁷ Total \$/Year \$/Residential Customer-Year	\$16,650,970 (electric only) \$225	\$73,000,000(electric only) \$ 228
% GFT is of the Utility Gross Revenue ⁸⁸	11.09% \$150,107,831	9.67% \$755,219,453
Residential Cost (\$/Month) ⁸⁹ State Average Utility	\$82.42 \$77.60	\$71.95 \$78.03
DSM Planning Criteria ⁹⁰	Rate Impact Measure	Participants Test
Degree-Days ⁹¹ Heating Cooling	1143 2659	1648 2974
Income ⁹² Per Capita % Poverty Level	\$18,465 22.8%	\$25,883 12.5%
Customers Served ⁹³ Residential Other Total	74,164 <u>8,912</u> 83,076	320,710 <u>38,816</u> 359,526
Natural Gas Market ⁹⁴ Penetration	40%	80%
Electric Consumption Per Residential Customer Month ⁹⁵	953 kWh	968 kWh

⁸⁶ Aa3/AA-or Better Rated Electric Utilities and Cooperatives as of June 28, 2004.

⁸⁷ PowerDat (2002).

⁸⁸ PowerDat data drawn from EIA-412 (financials) and EIA-861 (customers and energy sales).

⁸⁹ PowerDat (2002).

⁹⁰ Teleconference call on July 2, 2004 between GRU staff and Austin Energy staff.

⁹¹ http://www5.ncdc.noaa.gov/climatenormals/clim81_supp/CLIM_Sup_02.pdf

⁹² Quickfacts US Census 1999 for Alachua County and Travis County. The U.S. Department of Commerce and The Bureau of Economic Analysis (BEA) Per Capita numbers for 2002 are Gainesville \$25,033 and Austin \$31,677.

⁹³ GRU's 2002-2003 Annual Report and Austin Energy's 2003 Annual Report.

⁹⁴ GRU's % is from the billing summary (# of residential natural gas customers -28,602/# of residential electric customers- 74,164). Austin Energy's % is from the teleconference call on July 2, 2004.

⁹⁵ Source is GRU 2004 Ten-Year Site Plan, (Schedule 2.1); Austin Energy's is from PowerDat (2002).

Criteria	Gainesville	Austin Energy
Net Capacity ⁹⁶	612 MW (summer)	2,736 MW
Fuel Mix (MWh) ⁹⁷ <ul style="list-style-type: none"> • Nuclear • Coal • Natural Gas • Oil • Renewable • Purchased Wind • Purchased Fossil • Residual (Steam) • Petroleum Coke • Distillate (CT) 	5% 68% 25% 2% .3% – – – – –	19% 41% 24% – 2% 2% 12% – – – 100%
Total	100%	100%
Capacity Additions Since 2001	72 MW cc	180 MW Peaker <u>300 MW CC</u> 400 MW
Long Term Generation Plans	220 MW	Not reported
Fuel costs (\$/MWh) ⁹⁸ <ul style="list-style-type: none"> • 2001 • 2002 • 2003 	28.36 29.86 33.17	16.91 13.2 14.63
Renewable Portfolio Goals	8.2% of generation resources by 2011	20% of generation resources by 2010
ACCRA Cost of Living Composite Index 4 th Quarter 2003 ⁹⁹	99.4	99.8

⁹⁶ Source is GRU 2004 Ten-Year Site Plan, page 2, Austin Energy's 2003 Annual Report.

⁹⁷ PowerDat.

⁹⁸ *Id.*

⁹⁹ www.accra.org, ACCRA (formerly the American Chamber of Commerce Researchers Association) determines the index values by comparing each city's living costs to the average for all participating cities. There are nearly 500 members from 47 states and 4 Canadian provinces, ACCRA is the single largest national organization dedicated to economic development and policy research.

Continued
APPENDIX A
Benchmarking Criteria
PGE

Criteria	Gainesville	Portland (PGE) (Energy Conservation Leadership)
Bond Ratings ¹⁰⁰ Moody's Standard & Poors	Aa2 AA	Baa2 BBB+
General Fund Transfer ¹⁰¹ Total \$/Year \$/Residential Customer-Year	\$16,650,970 (electric only) \$225	\$29,251,815 \$44
% GFT is of the Utility Gross Revenue ¹⁰²	11.09% \$150,107,831	5.15% \$568,026,198
Residential Cost (\$/Month) ¹⁰³ State Average Utility	\$82.42 \$77.60	\$73.43 \$80.48
DSM Planning Criteria ¹⁰⁴	Rate Impact Measure	The Energy Trust of Oregon
Degree-Days ¹⁰⁵ Heating Cooling	1148 2736	4300 393
Income ¹⁰⁶ Per Capita % Poverty Level	\$18,465 22.8%	\$25,973 6.6%
Customers Served ¹⁰⁷ Residential Other Total	74,164 <u>8,912</u> 83,076	658,232 <u>92,016</u> 750,248
Natural Gas Market Penetration ¹⁰⁸	40%	45.9%

¹⁰⁰ Aa3/AA-or Better Rated Electric Utilities and Cooperatives as of June 28, 2004. PGE's bond rating is sourced from PGE's Annual Report 2003, page 39.

¹⁰¹ PowerDat (2002).

¹⁰² PowerDat data drawn from EIA-412 (financials) and EIA-861 (customers and energy sales).

¹⁰³ PowerDat (2002).

¹⁰⁴ Teleconference calls on July 20, 2004 with PGE and on August 2, 2004 with The Energy Trust of Oregon.

¹⁰⁵ http://www5.ncdc.noaa.gov/climatenormals/clim81_supp/CLIM_Sup_02.pdf

¹⁰⁶ Quickfacts U.S. Census 1999 for Alachua county and Clackamas County. The U.S. Department of Commerce and The Bureau of Economic Analysis (BEA) Per Capita numbers for 2002 are Gainesville \$25,033 and Portland \$32,326.

¹⁰⁷ GRU 2002-2003 Annual Report and PGE's is from American Public Power Association (APPA), 2004-05 Annual Directory & Statistical Report.

Criteria	Gainesville	Portland (PGE)
Electric Consumption Per Residential Customer Month ¹⁰⁹	953 kWh	905 kWh
Net Capacity ¹¹⁰	612 MW	2,022 MW
Fuel Mix (MWh) ¹¹¹ <ul style="list-style-type: none"> • Nuclear • Coal • Natural Gas • Oil • Renewable • Purchased Wind • Purchased Fossil • Hydro 	5% 68% 25% 2% .3% – – –	– 34% 40%(oil) – – – – 26%(other)
Total	100%	
Capacity Additions Since 2001	72 MW cc	
Long Term Generation Plans	220 MW	
Fuel costs (\$/MWh) ¹¹² <ul style="list-style-type: none"> • 2001 • 2002 • 2003 	28.36 29.86 33.17	18.12 11.61 11.56
Renewable Portfolio Goals	8.2% of generation resources by 2011	10% of Oregon's electric power from renewables by 2012 (self-imposed RPS)
ACCRA Cost of Living Composite Index 4 th Quarter 2003 ¹¹³	99.4	111.9 (3 rd Q 2003)

¹⁰⁸ GRU's is from the billing summary and PGE's is from Census 2000:<http://factfinder.census.gov/>

¹⁰⁹ GRU 2004 Ten-Year Site Plan, (Schedule 2.1); PGE is from PowerDat (2002).

¹¹⁰ GRU 2004 Ten-Year Site Plan, page 2; PGE 2003 Annual Report, page 4.

¹¹¹ PowerDat.

¹¹² *Id.*

¹¹³ www.accra.org, ACCRA (formerly the American Chamber of Commerce Researchers Association) determines the index values by comparing each city's living costs to the average for all participating cities. There are nearly 500 members from 47 states and 4 Canadian provinces, ACCRA is the single largest national organization dedicated to economic development and policy research.

APPENDIX B Benchmarking Partners

Electric Utility	Staff	Title	Telephone Number	E-mail Address
Austin Energy	Jerrel Gustafson Fred Yebra		512-974-3405	Jerrel.gustafson@austinenergy.com Fred.yebra@austinenergy.com
JEA (formerly Jacksonville Electric Authority)	Jay Yarnell	Director of Rates and Market Development	904-665-6570	yarnji@jea.com
Orlando Utilities Commission	Tom Gross	Conservation Services Coordinator	407-236-9680	tgross@ouc.com
Portland General Electric (PGE)	John McLain Lauren Shapton	Director of Marketing & Business	503-603-1613	John_McLain@pgn.com Lauren_shapton@pgn.com
City Public Service (CPS)-San Antonio, TX	Laura Compton	Supervisor of Forecasting and Pricing	210-353-2863	lacompton@cps_satx.com
Seattle City Light	Connie Fevold Glenn Atwood Andrew.Gibb	Residential/ Small Business Program Manager Energy Planning Analyst - Marketing	206-684-3800	Connie.fevold@seattle.gov Glenn.atwood@seattle.gov Andrew.gibb@seattle.gov
SMUD	Richard Oberg Rick Kallet	C/I Planner Residential	916-732-5415	roberg@smud.org rkallet@smud.org
City Utilities of Springfield	Cara Shaefer Ray Ross	Director of Residential Marketing and Energy Management Director of Pricing	417-831-8348	Cara.shaefer@cityutilities.net

APPENDIX C

Benchmarking Teleconference Results

OUC

Company Name: OUC (Orlando)

Contacts: Tom Gross

Contact phone number: 407-236-9680

Contact e-mail address: tgross@ouc.com

Date of conference call: July 16, 2004

Energy Efficiency Program Survey Sample Questions (July 1, 2004)

DSM Regulation/Legal Requirements

1. Are you required by state regulations to offer DSM services?

Yes, by FPSC. Submitted goals on June 1, 2004. Goals are zero for energy and power demand reduction in the 1-year planning horizon. Analysis performed by Black & Veatch using FIRE model.

2. Are you required by local regulations to offer DSM services?

No

3. Are you required by stipulation agreement or MOU with environmental advocacy group(s) or other public interest groups to offer DSM services?

MOU with FPSC for the home rating program. One full-time employee works with builders (option through contractual arrangement to use a consultant)

4. If so, was this in response to proposed generation additions?

No

Corporate Goals & Vision

5. What is the nature of your corporate commitment to DSM?

Meeting customers' needs. Green pricing trial just started. LFGTE: LFG piped to Stanton Energy Center. 2.5 cents/kWh

6. Do you have DSM goals that exceed the goals mandated by regulation?

No

7. What is the magnitude of your DSM impacts to date (i.e., energy savings, winter peak demand reduction, summer peak demand reduction)?

See 10-year site plan. Impacts based upon engineering calculations, no empirical work done.

Economic Tests and Factors

8. Which economic tests are you required to use in evaluating cost effectiveness (e.g., participants, rate impact measure, total resource cost, etc.)?

Rate Impact Measure Test

9. Do you use economic tests other than those required to provide additional justification for program implementation?

No

10. Do you consider additional benefits not captured by traditional tests?

Public relations; raises OUC recognition in the community.

11. How does the costs of achieving DSM impacts compare to that of supplying energy/power from generation?

DSM costs more than generation because they exceed RIM cost effectiveness (note conflict with Q#8)

Audit Objectives and Structure

12. Are your energy audits primarily a high bill response vehicle?

No, FAC requirement. Most driven by customer demand.

13. Is your program emphasis toward any particular market segment?

No, driven by customer demand. Typically incur a month backlog in the summer season.

14. Do you charge or offer credit for energy audits? If so, please describe.

No.

15. Do you offer investment-grade energy audits (i.e., sufficient economic analysis for customer to take to the bank)? If so, for which market segments?

Free for residential.

Charge for commercial (Siemens), unless customer implements measures recommended in the audit.

16. Do you provide on-line account management services?

Online energy audit.

Video energy audit – generates a greater response than walk-through audits.

17. I see where you offer a XXXXX program. What program implementation issues have you experienced?

- *Lighting program for 8-10 large customers per year. OUC pays for the cash-flow neutral program (pay back analysis done; if meets the test, then the customer pays OUC the cost plus 12% interest)*
- *Chilled water service downtown*

- *Partners with City of Orlando in low-income house rehabilitation program at ~\$1000 per home. Do about 60 homes per year.*

18. Do you address difficult to reach market segments (e.g., renters, low income homeowners, etc.)?

See Q#17. OUC plans to begin subsidizing the ORL weatherization program.

Program Budget and Staffing

19. What is your annual budget for DSM services?

\$350k per year for rebate programs (i.e., insulation, weatherization and fix-up); not including staffing.

20. Did this budget change in response to potential utility deregulation?

Reducing budget by about 10% this year, which may become a trend due to budget constraints (market driven).

21. What is your staffing level for DSM services?

*Residential and small commercial – 5
Large commercial – 3 account reps plus a VP
4-5 others work on related issues*

22. How has your staffing level changed over time and what were the drivers?

Has increased emphasis on commercial accounts (particularly lighting and one for project development). This increase may be misleading because internal changes occurred and overall OUC staffing levels are stable.

Program Experience and Approaches

23. Has the success or failure of any particular DSM program surprised you? If so, why and what was your experience?

*ESCO has not been successful.
Indoor lighting program has been working well.
OUC has discontinued rebate programs.*

24. Have you solicited DSM program involvement from the private sector?

*ESCO approach through FMPA contract (Siemens).
Customer pays 12% interest.*

25. Have you contracted with third parties for ESCO services?

Yes, see Q#24

26. What factors were involved in selecting 3rd party contractors?

- *First experience with Energy Masters: performed no work, but collected pass through dollars; EM subcontracted all work performed, which increased costs.*

- *Siemens does the work and takes all risk. The market appears to be weak due to long payback periods.*
- *OUC will continue to be involved in ESCO because this activity is likely to happen anyway, so OUC might as well be involved and get some kudos out of it.*

27. What services/ to what extent are these services provided?

Full service ESCO.

28. Were there any advantages and/or disadvantages experienced with 3rd party contractors?

- *See Q#26.*
- *OUC does not want to acquire the expertise*
- *Risk is handled by the 3rd party*
- *Sell timeframe is long*

29. Are you interested in exploring the potential for green tags (i.e., tradable energy credits) associated with DSM activities?

Interested in developing and participating.

Miscellaneous

30. Do you provide any energy resources other than electricity (e.g., natural gas, LP gas, fuel oil, solar water heating, etc.)?

-- Chilled water project. Building another plant. Signing up 2-3 customers per year. Project Manager is Keith Rice 407-236-9682 extension 2039.

31. What are the major impediments/challenges in offering DSM services?

Lack of customer commitment – apathy

32. Are there any other programs, factors or influences we haven't touched on?

Branding efforts.

Advertising and Promotion

33. Do you promote your DSM programs?

Most promotion is through one-on-one relationships.

34. How do promote your DSM programs?

Account representatives.

35. Do you target particular DSM programs for promotion?

Large commercial customers

36. How do you prioritize DSM programs for promotional activities?

NA

37. How does the budget for promotion compare to the budget for implementation of the DSM programs?

NA

38. Do you have any advertising restrictions imposed by local government or other regulatory agencies?

No.

Conclusion

39. Are there other benefits to promoting your DSM programs (e.g., customer loyalty, customer satisfaction, etc.)?

Public relations. \$36M/yr GFT

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APPENDIX C
Benchmarking Teleconference Results
San Antonio

Company Name: San Antonio CPS

Contacts: Laura Compton, Supervisor of Forecasting and Pricing

Contact phone number: 210-353-2863

Contact e-mail address: lacompton@cps_satx.com

Date of conference call: July 7, 2004

Energy Efficiency Program Survey Sample Questions (July 1, 2004)

DSM Regulation/Legal Requirements

1. Are you required by state regulations to offer DSM services?

Not regulated by the Public Utilities Commission, but must abide by ERCOT requirements.

2. Are you required by local regulations to offer DSM services?

Yes, City Council regulates them overall. Utility is controlled by a 5 member board separate from the City Council.

A long-term energy efficiency plan is currently under development by a committee of 12 community members (e.g., water utility, bus service, HUD, local political organizations, etc.) and a consultant.

3. Are you required by stipulation agreement or MOU with environmental advocacy group(s) or other public interest groups to offer DSM services?

No, but they have a working relationship with Solar San Antonio and Metro Energy.

4. If so, was this in response to proposed generation additions?

Corporate Goals & Vision

5. What is the nature of your corporate commitment to DSM?

To be determined. See Q#2. Working on it for 2 years.

6. Do you have DSM goals that exceed the goals mandated by regulation?

Have not quantified.

7. What is the magnitude of your DSM impacts to date (i.e., energy savings, winter peak demand reduction, summer peak demand reduction)?

Have not quantified.

Economic Tests and Factors

8. Which economic tests are you required to use in evaluating cost effectiveness (e.g., participants, rate impact measure, total resource cost, etc.)?

None. Plan to use the utility perspective.

9. Do you use economic tests other than those required to provide additional justification for program implementation?

No

10. Do you consider additional benefits not captured by traditional tests?

No

11. How does the costs of achieving DSM impacts compare to that of supplying energy/power from generation?

Objective: implement programs with B/C ratios less than that of a peaker unit.

Audit Objectives and Structure

12. Are your energy audits primarily a high bill response vehicle?

Yes. Customer service.

13. Is your program emphasis toward any particular market segment?

No

14. Do you charge or offer credit for energy audits? If so, please describe.

No, free for the past 30 years.

15. Do you offer investment-grade energy audits (i.e., sufficient economic analysis for customer to take to the bank)? If so, for which market segments?

Charge for a comprehensive audit including a HERS rating, but not for EA alone.

16. Do you provide on-line account management services?

Energy audits.

17. I see where you offer a XXXXX program. What program implementation issues have you experienced?

Free programmable thermostats installed for load control. Currently have 1200 customers and are shooting for 2600 by Jan05. Summer peaker.

High efficiency AC rebates have been discontinued. Central AC rebates were given to homeowners only.

18. Do you address difficult to reach market segments (e.g., renters, low income homeowners, etc.)?

Room AC rebate targeted to renters and low-income households.

Program Budget and Staffing

19. What is your annual budget for DSM services?

\$3M per year for programs, not including salaries or energy audits.

20. Did this budget change in response to potential utility deregulation?

Have not opted into deregulated ERCOT market.

21. What is your staffing level for DSM services?

*1 FTE & 3 part-time in direct marketing
12 energy auditing*

22. How has your staffing level changed over time and what were the drivers?

Program Experience and Approaches

23. Has the success or failure of any particular DSM program surprised you? If so, why and what was your experience?

*AC rebates – no surprises
Direct Load Control – customers are knocking down the door of San Antonio utility*

24. Have you solicited DSM program involvement from the private sector?

No

25. Have you contracted with third parties for ESCO services?

No

26. What factors were involved in selecting 3rd party contractors?

NA

27. What services/ to what extent are these services provided?

NA

28. Were there any advantages and/or disadvantages experienced with 3rd party contractors?

NA

29. Are you interested in exploring the potential for green tags (i.e., tradable energy credits) associated with DSM activities?

Haven't thought of it.

Miscellaneous

30. Do you provide any energy resources other than electricity (e.g., natural gas, LP gas, fuel oil, solar water heating, etc.)?

Natural gas, wind and solar.

31. What are the major impediments/challenges in offering DSM services?

Lack of customer education

32. Are there any other programs, factors or influences we haven't touched on?

No

Advertising and Promotion

33. Do you promote your DSM programs?

Yes.

34. How do promote your DSM programs?

- *Billstuffers*
- *Billboards*
- *News releases*
- *Newspapers*
- *Website*
- *Festival booths*
- *Community action groups*

35. Do you target particular DSM programs for promotion?

Yes

36. How do you prioritize DSM programs for promotional activities?

Geared toward the group they are addressing at the moment.

37. How does the budget for promotion compare to the budget for implementation of the DSM programs?

Work closely with the marketing department

38. Do you have any advertising restrictions imposed by local government or other regulatory agencies?

No

Conclusion

39. Are there other benefits to promoting your DSM programs (e.g., customer loyalty, customer satisfaction, etc.)?

Customer satisfaction.

Conservation expenditures are <1% of total CPS budget.

Continued
APPENDIX C
Benchmarking Teleconference Results
JEA

Company Name: JEA

Contacts: Jay Yarnell – Director of Rates and Market Development

Contact phone number: 904-665-6570

Contact e-mail address: yarnjj@jea.com

Date of conference call: July 7, 2004

Energy Efficiency Program Survey Sample Questions (July 1, 2004)

DSM Regulation/Legal Requirements

1. Are you required by state regulations to offer DSM services?

Yes, regulated by the FPSC. Filed goals on June 1, 2004. Goals are zero for energy and power demand reductions within a ten-year planning horizon. Black & Veatch did the analysis.

2. Are you required by local regulations to offer DSM services?

No.

3. Are you required by stipulation agreement or MOU with environmental advocacy group(s) or other public interest groups to offer DSM services?

MOU with American Lung Association. Does not specifically address DSM, but sets a renewables goal of 15% by 2015. Sierra Club was also a signatory, but they backed out of the MOU due to liability concerns. JEA is attempting to use DSM accomplishments to help meet these goals.

4. If so, was this in response to proposed generation additions?

Yes. The addition of 2 CFB plants designed for coal and petcoke.

Corporate Goals & Vision

5. What is the nature of your corporate commitment to DSM?

Meet state regulatory requirements.

6. Do you have DSM goals that exceed the goals mandated by regulation?

No.

7. What is the magnitude of your DSM impacts to date (i.e., energy savings, winter peak demand reduction, summer peak demand reduction)?

See Ten-Year Site Plan.

Economic Tests and Factors

8. Which economic tests are you required to use in evaluating cost effectiveness (e.g., participants, rate impact measure, total resource cost, etc.)?

Rate Impact Measure Test

9. Do you use economic tests other than those required to provide additional justification for program implementation?

No

10. Do you consider additional benefits not captured by traditional tests?

No

How does the costs of achieving DSM impacts compare to that of supplying energy/power from generation?

Less than or equal to by definition of RIM test.

Audit Objectives and Structure

11. Are your energy audits primarily a high bill response vehicle?

Yes. Also required by state law.

12. Is your program emphasis toward any particular market segment?

No. However, they work with the Jax Housing Authority on low-income weatherization.

13. Do you charge or offer credit for energy audits? If so, please describe.

Most are free. ESCO does commercial/industrial EA free to customer if measures are implemented.

14. Do you offer investment-grade energy audits (i.e., sufficient economic analysis for customer to take to the bank)? If so, for which market segments?

Indirectly through ESCO.

15. Do you provide on-line account management services?

*Budget billing
Energy Audits (videotape)*

16. I see where you offer a XXXXX program. What program implementation issues have you experienced?

17. Do you address difficult to reach market segments (e.g., renters, low income homeowners, etc.)?

- *Low-income houses through Jax Housing Authority*
- *Federal funding is used*

- *Up to \$15,000 per house*
- *JEA is part of the evaluation process, but not weatherization*

Program Budget and Staffing

18. What is your annual budget for DSM services?

Salaries for 5 residential auditors and ESCO for commercial

19. Did this budget change in response to potential utility deregulation?

No

20. What is your staffing level for DSM services?

5 auditors

21. How has your staffing level changed over time and what were the drivers?

Have increased staff, but activities have diminished

Program Experience and Approaches

22. Has the success or failure of any particular DSM program surprised you? If so, why and what was your experience?

- *Reduced demand from customers for DSM services*
- *Reduced O&M budget*

23. Have you solicited DSM program involvement from the private sector?

Yes

24. Have you contracted with third parties for ESCO services?

- *Chevron (Viron) by competitive bid*
- *GE & Kenick for engineering services*

25. What factors were involved in selecting 3rd party contractors?

- *Out of threat of deregulation*
- *Did not want additional staffing*
- *Competitive bidding process*

26. What services/ to what extent are these services provided?

See #25

27. Were there any advantages and/or disadvantages experienced with 3rd party contractors?

NA

28. Are you interested in exploring the potential for green tags (i.e., tradable energy credits) associated with DSM activities?

Have discussed the possibility, but have taken no action

Miscellaneous

29. Do you provide any energy resources other than electricity (e.g., natural gas, LP gas, fuel oil, solar water heating, etc.)?

No

30. What are the major impediments/challenges in offering DSM services?

- *Electric rates are so low*
- *Long payback period for DSM*

31. Are there any other programs, factors or influences we haven't touched on?

No

Advertising and Promotion

32. Do you promote your DSM programs?

Yes

33. How do you promote your DSM programs?

- *Newspaper ads*
- *Website*
- *Newsletter*
- *Key account representatives*

34. Do you target particular DSM programs for promotion?

No

35. How do you prioritize DSM programs for promotional activities?

NA

36. How does the budget for promotion compare to the budget for implementation of the DSM programs?

Solar program has excellent incentives and no advertising

Do you have any advertising restrictions imposed by local government or other regulatory agencies?

No, just limits on the O&M budget

Conclusion

37. Are there other benefits to promoting your DSM programs (e.g., customer loyalty, customer satisfaction, etc.)?

JEA has a strong commitment to renewable energy

Continued
APPENDIX C
Benchmarking Teleconference Results
Springfield

Company Name: City Utilities of Springfield

**Contacts: Cara Shaefer – Director of Residential Marketing and Energy Management
Ray Ross – Director of Pricing**

Contact phone number: 417-831-8348

Contact e-mail address: cara.shaefer@cityutilities.net

Date of conference call: July 14, 2004

Energy Efficiency Program Survey Sample Questions (July 1, 2004)

DSM Regulation/Legal Requirements

1. Are you required by state regulations to offer DSM services?

No.

2. Are you required by local regulations to offer DSM services?

No.

3. Are you required by stipulation agreement or MOU with environmental advocacy group(s) or other public interest groups to offer DSM services?

NA

4. If so, was this in response to proposed generation additions?

Corporate Goals & Vision

5. What is the nature of your corporate commitment to DSM?

No written policy, but they are committed to energy conservation education

6. Do you have DSM goals that exceed the goals mandated by regulation?

No

7. What is the magnitude of your DSM impacts to date (i.e., energy savings, winter peak demand reduction, summer peak demand reduction)?

None quantified.

Economic Tests and Factors

8. Which economic tests are you required to use in evaluating cost effectiveness (e.g., participants, rate impact measure, total resource cost, etc.)?

No current programs. They would use RIM and probably TRC.

9. Do you use economic tests other than those required to provide additional justification for program implementation?

NA

10. Do you consider additional benefits not captured by traditional tests?

No.

11. How does the costs of achieving DSM impacts compare to that of supplying energy/power from generation?

DSM usually not cost-effective relative to generation (DSM loses the economic battle)

Audit Objectives and Structure

12. Are your energy audits primarily a high bill response vehicle?

Residential – customer service focus

C/I – high bill response

13. Is your program emphasis toward any particular market segment?

Residential

14. Do you charge or offer credit for energy audits? If so, please describe.

Residential – performed by contractor; customer pays \$100, utility pays \$100

Commercial - free

15. Do you offer investment-grade energy audits (i.e., sufficient economic analysis for customer to take to the bank)? If so, for which market segments?

No, but calculate an ROI during commercial lighting audits.

16. Do you provide on-line account management services?

- *Energy audits (res and comm)*
- *Water audits*
- *Bill payment*

17. I see where you offer a XXXXX program. What program implementation issues have you experienced?

NA

18. Do you address difficult to reach market segments (e.g., renters, low income homeowners, etc.)?

-- work with community action agency for low-income weatherization by funding materials

Program Budget and Staffing

19. What is your annual budget for DSM services?

\$40k per year

20. Did this budget change in response to potential utility deregulation?

No. Driven by customer interest and demand.

21. What is your staffing level for DSM services?

3 FTE and some part-time help

22. How has your staffing level changed over time and what were the drivers?

NA

Program Experience and Approaches

23. Has the success or failure of any particular DSM program surprised you? If so, why and what was your experience?

NA

24. Have you solicited DSM program involvement from the private sector?

Residential audits are contracted to CAA

25. Have you contracted with third parties for ESCO services?

No

26. What factors were involved in selecting 3rd party contractors?

NA

27. What services/ to what extent are these services provided?

NA

28. Were there any advantages and/or disadvantages experienced with 3rd party contractors?

NA

29. Are you interested in exploring the potential for green tags (i.e., tradable energy credits) associated with DSM activities?

No, but they though about it. Now offering green pricing.

Miscellaneous

30. Do you provide any energy resources other than electricity (e.g., natural gas, LP gas, fuel oil, solar water heating, etc.)?

Natural gas.

31. What are the major impediments/challenges in offering DSM services?

- *Customer education*
- *Natural gas rates are low*

32. Are there any other programs, factors or influences we haven't touched on?

- *Bond referendum 08/03/04 (failed).*
- *2 solar panels and wind turbine to demonstrate this type of energy is not locally available*

Advertising and Promotion

33. Do you promote your DSM programs?

Yes, energy efficiency

34. How do promote your DSM programs?

- *TV*
- *Bill inserts*
- *Print*

35. Do you target particular DSM programs for promotion?

- *Provide general advice*
- *Online energy audits*

36. How do you prioritize DSM programs for promotional activities?

See Q#35

37. How does the budget for promotion compare to the budget for implementation of the DSM programs?

*Separate marketing budget (Cara will email).
\$40k per year*

38. Do you have any advertising restrictions imposed by local government or other regulatory agencies?

None as long as the message only concerns energy conservation

Conclusion

39. Are there other benefits to promoting your DSM programs (e.g., customer loyalty, customer satisfaction, etc.)?

- *>80% customer satisfaction*
- *Payment in Lieu of Taxes (GFT): 3% for gross operating revenue for electric; 4% for gas, water and transit.*
- *Provides free electric to city buildings, lighting for city streets and free water to fire hydrants.*

Continued
APPENDIX C
Benchmarking Teleconference Results
Seattle

Company Name: Seattle City Light

Contacts: Glenn Atwood (Residential/Small Business Program Manager)
Andrew Gibbs (Energy Planning Analyst - Marketing)

Contact phone number: (206) 684-3763 Glenn
(206) 684-3466 Andrew

Contact e-mail address: Glenn.Atwood@Seattle.gov
Andrew.Gibb@Seattle.gov

Date of conference call: 07-29-2004

Energy Efficiency Program Survey Sample Questions (July 1, 2004)

DSM Regulation/Legal Requirements

1. Are you required by state regulations to offer DSM services?

No

2. Are you required by local regulations to offer DSM services?

City Council strongly supports local action

- a. *Energy efficiency is the number 1 priority for meeting resource needs.*
- b. *Climate change objectives (2000) include both energy efficiency and renewable energy*

3. Are you required by stipulation agreement or MOU with environmental advocacy group(s) or other public interest groups to offer DSM services?

No

4. If so, was this in response to proposed generation additions?

NA

Corporate Goals & Vision

5. What is the nature of your corporate commitment to DSM?

2004 goal is to achieve 7.25 MW average (100% capacity factor). Save energy; not concerned with peak demand reductions

6. Do you have DSM goals that exceed the goals mandated by regulation?

Goals are restricted by budget constraints. Their goal was about 9 MWavg per year before deregulation took effect.

7. What is the magnitude of your DSM impacts to date (i.e., energy savings, winter peak demand reduction, summer peak demand reduction)?

See Energy Accomplishments report.

Economic Tests and Factors

8. Which economic tests are you required to use in evaluating cost effectiveness (e.g., participants, rate impact measure, total resource cost, etc.)?

Service Territory Perspective (variant of TRC). Use marginal cost analysis to evaluate each program individually, but not at the measure level. IRP was last reviewed in 2005.

9. Do you use economic tests other than those required to provide additional justification for program implementation?

No

10. Do you consider additional benefits not captured by traditional tests?

Yes. Comfort (warm home effect). Environmental externalities and climate change (use Tellis Institute numbers). Assume \$40/metric tonne CO2

11. How does the costs of achieving DSM impacts compare to that of supplying energy/power from generation?

In general, less than fossil fuel and purchased power.

Audit Objectives and Structure

12. Are your energy audits primarily a high bill response vehicle?

Yes, but they also rotate through the service territory geographically in their Neighborhood power project.

13. Is your program emphasis toward any particular market segment?

Multi-family dwellings

14. Do you charge or offer credit for energy audits? If so, please describe.

No.

15. Do you offer investment-grade energy audits (i.e., sufficient economic analysis for customer to take to the bank)? If so, for which market segments?

No. Typically just do walk-through audits, but may go further on multi-family evaluations.

16. Do you provide on-line account management services?

See chart

17. I see where you offer a XXXXX program. What program implementation issues have you experienced?

18. Do you address difficult to reach market segments (e.g., renters, low income homeowners, etc.)?

Low-income household weatherization – not subject to CE tests. Spend about \$2000 per house on repairs. Have weatherized about 80% of all unattached homes, so the program emphasis is now on multi-family.

Have come close to saturating the residential market, so they are shifting emphasis to commercial.

Program Budget and Staffing

19. What is your annual budget for DSM services?

~\$20M/yr for Commercial/Industrial

~\$6/yr for Residential/Small Commercial

20. Did this budget change in response to potential utility deregulation?

Yes, after deregulation the question is whether BPA is willing to fund their programs. BPA cut DSM funding about 2-3 years ago; City of Seattle picked up the slack.

21. What is your staffing level for DSM services?

C/I ~28 FTE

Res/small commercial ~25 FTE

22. How has your staffing level changed over time and what were the drivers?

C/I has increased

Res/SC history:

1983 118 FTE

1994 90 FTE

1998 70 FTE (continues through the present) conflicts with data above

Program Experience and Approaches

23. Has the success or failure of any particular DSM program surprised you? If so, why and what was your experience?

- a. They have attempted to get away from financial incentives, but customers really want them.*
- b. New construction incentives are now less valuable because the new Code requires higher efficiency.*
- c. Emphasis is now on sustainable building (LEED). Give up to \$20k per building to assist with LEED. City of Seattle requires public buildings to meet silver LEED standard. LEED program coordinator is Peter Dobrovolny (206) 615-1094*

24. Have you solicited DSM program involvement from the private sector?

Starting to use consultants. \$150k budget through 2005. Applications:

a. new technologies

b. evening out the workload

25. Have you contracted with third parties for ESCO services?

Yes, see #24.

26. What factors were involved in selecting 3rd party contractors?

NA

27. What services/ to what extent are these services provided?

See #24

28. Were there any advantages and/or disadvantages experienced with 3rd party contractors?

See #24

29. Are you interested in exploring the potential for green tags (i.e., tradable energy credits) associated with DSM activities?

Yes

Miscellaneous

30. Do you provide any energy resources other than electricity (e.g., natural gas, LP gas, fuel oil, solar water heating, etc.)?

No, but most customers have NG available.

31. What are the major impediments/challenges in offering DSM services?

- a. *They have already picked the low-hanging fruit*
- b. *More stringent codes and standards are diminishing potential*
- c. *The overall economy is slower and tighter*

32. Are there any other programs, factors or influences we haven't touched on?

Advertising and Promotion

33. Do you promote your DSM programs?

Yes

34. How do promote your DSM programs?

- a. *~15 C/I account reps*
- b. *advertise in business journals*
- c. *events*
- d. *website ("energy smart services)*
- e. *reference materials*
- f. *direct mail. Purchase mailing lists and get a 2-3% response rate*
- g. *booth at trade shows*
- h. *newsletter*
- i. *advertise in conjunction with water department on buses, some print, ethnic newspapers, website and direct mail)*

35. Do you target particular DSM programs for promotion?

- a. *targeted events*
- b. *sponsor training*

36. How do you prioritize DSM programs for promotional activities?

- a. *where money spent will be most effective*
- b. *seasonality of program*
- c. *residential/small commercial*
- d. *multi-family (monitor building permitting activities)*

37. How does the budget for promotion compare to the budget for implementation of the DSM programs?

C/I ~\$20k/yr
Res ~\$50k/yr

38. Do you have any advertising restrictions imposed by local government or other regulatory agencies?

No

Conclusion

39. Are there other benefits to promoting your DSM programs (e.g., customer loyalty, customer satisfaction, etc.)?

- a. *Positive PR – conservation programs have been one of the few bright spots in recent years in this organization Note: be careful how this is presented in the final report*
- b. *It is a great resource*
- c. *Environmental*
- d. *Economic development*

General Advice:

1. *Great potential to rely more on trade allies.*
2. *Why they have been so successful*
 - a. *Dedicated, technically competent staff*
 - b. *Reliance on contractors/trade allies*
 - c. *Use of turnkey projects*
 - d. *City's on-going commitment to conservation (a consistent, sustained presence is needed)*
 - e. *Not afraid to try stuff and be flexible to adjust programs*
 - f. *Collaboration with other City departments*

Puget Sound Energy (a neighboring IOU) uses contractors extensively

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Continued
APPENDIX C
Benchmarking Teleconference Results
SMUD

Company Name: Sacramento Municipal Utility District (SMUD)

**Contacts: Richard Oberg – C/I Planning
Rick Kallet – Residential**

**Contact phone number: (916) 732-5576 Richard
(916) 732-7092 Rick**

**Contact e-mail address: Roberg@SMUD.org
RKallet@SMUD.org**

Date of conference call: 07-28-2004

Energy Efficiency Program Survey Sample Questions (July 1, 2004)

DSM Regulation/Legal Requirements

1. Are you required by state regulations to offer DSM services?

No, but they follow the CEC methodology

2. Are you required by local regulations to offer DSM services?

*SMUD reflects the desires of the community
Governed by an independent board elected by rate payers*

3. Are you required by stipulation agreement or MOU with environmental advocacy group(s) or other public interest groups to offer DSM services?

No, but they work voluntarily with NRDC (provides technical resources) & others

4. If so, was this in response to proposed generation additions?

NA

Corporate Goals & Vision

5. What is the nature of your corporate commitment to DSM?

*It is the right thing to do
Reflects the community's desires
DSM is part of their core business (in goals & business plan)*

6. Do you have DSM goals that exceed the goals mandated by regulation?

NA, 50 MW goal by 2006

7. What is the magnitude of your DSM impacts to date (i.e., energy savings, winter peak demand reduction, summer peak demand reduction)?

-- see other documentation. Reliant on engineering calculations to determine impacts

Economic Tests and Factors

8. Which economic tests are you required to use in evaluating cost effectiveness (e.g., participants, rate impact measure, total resource cost, etc.)?

Societal Test (variant of TRC) adopted in '93 when still regulated. Entire portfolio (in aggregate) is CE. Use utility levelized cost test

Note: state public goods charge is ~0.5 cents/kWh

Note: IOU's must use Societal Test

9. Do you use economic tests other than those required to provide additional justification for program implementation?

No. Have not formally done these tests

10. Do you consider additional benefits not captured by traditional tests?

No, but qualitatively consider environmental externalities & job creation (see Real Estate Institute study)

11. How does the costs of achieving DSM impacts compare to that of supplying energy/power from generation?

Attempt to get DSM costs to be less than purchased power. Typically ~4-6 cents per kWh for the entire portfolio. HE AC program costs ~8 cents/kWh

Audit Objectives and Structure

12. Are your energy audits primarily a high bill response vehicle?

No, a customer service.

High bill complaints primarily come from all electric homes.

13. Is your program emphasis toward any particular market segment?

No

14. Do you charge or offer credit for energy audits? If so, please describe.

No

15. Do you offer investment-grade energy audits (i.e., sufficient economic analysis for customer to take to the bank)? If so, for which market segments?

Somewhat

Res – Nexus software

Comm – customized depending on what they find

16. Do you provide on-line account management services?

EA (Nexus)

17. I see where you offer a XXXXX program. What program implementation issues have you experienced?

Have saturated the market with attic insulation since 1976.

18. Do you address difficult to reach market segments (e.g., renters, low income homeowners, etc.)?

Low income households

- a. free weatherization*
- b. free refrigerator replacement*

Program Budget and Staffing

19. What is your annual budget for DSM services?

\$15M/yr

\$25M/yr for low income & PV

Total revenue is ~\$1B/yr

20. Did this budget change in response to potential utility deregulation?

1990: \$15M/yr

1995: \$50M/yr

1998: \$14M/yr

*Required to spend ~\$10/yr, but they choose to spend more
Increases now based upon the cost of living*

21. What is your staffing level for DSM services?

~125 FTE

22. How has your staffing level changed over time and what were the drivers?

1990: ~300 FTE

2004: ~125 FTE, moving toward contractors (more CE)

Program Experience and Approaches

23. Has the success or failure of any particular DSM program surprised you? If so, why and what was your experience?

HE AC is exceeding estimates by ~40%. Free ridership is 20-40%, but spillover effect (those choosing HE AC without requesting a rebate) may negate freeriders. Spillover customers would not have installed this without the market transformation induced by the program.

24. Have you solicited DSM program involvement from the private sector?

No, but plan to move in this direction. Will not use ESCOs, but want to get more involved with the contracting community.

25. Have you contracted with third parties for ESCO services?

26. What factors were involved in selecting 3rd party contractors?

27. What services/ to what extent are these services provided?

28. Were there any advantages and/or disadvantages experienced with 3rd party contractors?

29. Are you interested in exploring the potential for green tags (i.e., tradable energy credits) associated with DSM activities?

Yes, considered using EE for emissions credit. Have not because of the difficulty in verification (Air Quality Board expressed concern).

Miscellaneous

30. Do you provide any energy resources other than electricity (e.g., natural gas, LP gas, fuel oil, solar water heating, etc.)?

Solar water heating and photovoltaics.

High penetration of NG in service territory (~100% of new homes for WH, ~95% of new homes for heat).

31. What are the major impediments/challenges in offering DSM services?

*Lack of information (education)
First cost of investment*

32. Are there any other programs, factors or influences we haven't touched on?

Advertising and Promotion

33. Do you promote your DSM programs?

Yes

34. How do you promote your DSM programs?

*Bill envelope
Bill stuffer
Bang tails (envelope flap)
Print media
Radio
Events*

35. Do you target particular DSM programs for promotion?

No

36. How do you prioritize DSM programs for promotional activities?

Constant battle. Targeted to appropriate areas. Mostly residential. Comm through account reps.

37. How does the budget for promotion compare to the budget for implementation of the DSM programs?

~\$500-750/yr out of \$15M/yr budget

38. Do you have any advertising restrictions imposed by local government or other regulatory agencies?

Internally imposed: no telemarketing, little email, no sales promotion

Conclusion

39. Are there other benefits to promoting your DSM programs (e.g., customer loyalty, customer satisfaction, etc.)?

MUD act imposes requirements

Customer satisfaction

EE makes comm customers more competitive

EE gives res customers more disposable income

Stable energy use per capita

Local benefits

Note: Title 24 Building Code requirements are the most stringent in the country.

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Continued
APPENDIX C
Benchmarking Teleconference Results
Austin Energy

Company Name: Austin Energy

**Contacts: Jerrel Gustafson
Fred Yebra**

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**Contact e-mail address: jerrel.gustafson@austinenergy.com
fred.yebra@austinenergy.com**

Date of conference call: July 2, 2004

Energy Efficiency Program Survey Sample Questions (July 1, 2004)

DSM Regulation/Legal Requirements

1. Are you required by state regulations to offer DSM services?

No.

2. Are you required by local regulations to offer DSM services?

No.

3. Are you required by stipulation agreement or MOU with environmental advocacy group(s) or other public interest groups to offer DSM services?

No. However, they work collaboratively with community groups and environmental groups (not a formal effort). Austin Energy envisions all citizens as stakeholders.

4. If so, was this in response to proposed generation additions?

NA

Corporate Goals & Vision

5. What is the nature of your corporate commitment to DSM?

Initiatives are driven by the citizens of Austin.

Success is largely due to involvement of environmental community and that community elects the City Commission that listens to them. We asked if they plan to stop using coal, but they would not provide a direct answer to the question.

6. Do you have DSM goals that exceed the goals mandated by regulation?

No mandates.

7. What is the magnitude of your DSM impacts to date (i.e., energy savings, winter peak demand reduction, summer peak demand reduction)?

See Strategic Plan and DSM accomplishments report.

Economic Tests and Factors

8. Which economic tests are you required to use in evaluating cost effectiveness (e.g., participants, rate impact measure, total resource cost, etc.)?

- *Participant's test is the primary driver*
- *Also do a utility test (variant of TRC) to determine impact on total revenue*
- *Noted that most conservation programs have a negative impact on rates*
- *More concerned with revenue impacts than rate impacts*

9. Do you use economic tests other than those required to provide additional justification for program implementation?

See Q#8

10. Do you consider additional benefits not captured by traditional tests?

Yes, attempted to quantify environmental externalities about 5-6 years ago (with little success, so they abandoned the effort).

Rates will go up with DSM implementation, but the participating customers' bills will go down.

11. How does the costs of achieving DSM impacts compare to that of supplying energy/power from generation?

DSM costs are lower by orders of magnitude.

*\$250/kW commercial
\$350/kW residential*

Audit Objectives and Structure

12. Are your energy audits primarily a high bill response vehicle?

Many drivers, including high bill complaint response.

13. Is your program emphasis toward any particular market segment?

Residential:

- *registered contractor list for customers to select from*
- *contractors do the energy audits and provide quote*
- *Austin verifies the work needs to be done*
- *Contractors do most of the advertising*

Commerical:

- *walk-through survey*
- *feasibility audit available at a charge*
- *provides engineering services*

14. Do you charge or offer credit for energy audits? If so, please describe.

See Q#13.

15. Do you offer investment-grade energy audits (i.e., sufficient economic analysis for customer to take to the bank)? If so, for which market segments?

See Q#13

16. Do you provide on-line account management services?

Scheduling of customer site visits

17. I see where you offer a XXXXX program. What program implementation issues have you experienced?

Programmable thermostat program has worked well.

18. Do you address difficult to reach market segments (e.g., renters, low income homeowners, etc.)?

Low income:

- *3 contractors do energy assessments for owners and renters*
- *income verification done in house by AE*
- *on-going for 20 years at about 670 homes per year*
- *free service; AE pays contractors directly*
- *14 participating contractors*
- *includes insulation, solar film, duct leak repair, caulking, weatherstripping, minor repair (e.g., sheet rock, windows, doors, etc.)*
- *AE pays ~\$900-1000 per home*
- *Contractors have carpenters*
- *2 mechanical contractors (with guaranteed minimum work)*
- *Contractors seek out customers on their own*
- *Applies to renters, but owner must sign an agreement that they will not raise rent as a result of improvements made.*

Program Budget and Staffing

19. What is your annual budget for DSM services?

Strategic Plan is the roadmap. Budget has doubled. Plan to shut down a power plant in 2007 and make up for it with conservation.

20. Did this budget change in response to potential utility deregulation?

Yes, budget reduced due to deregulation (even though they didn't opt in to competition). Trying to get leaner and meaner.

21. What is your staffing level for DSM services?

- *Adding staff to meet the objectives of the strategic plan.*
- *Has 5 FTE positions for verification alone.*

22. How has your staffing level changed over time and what were the drivers?

Trying to get leaner.

Program Experience and Approaches

23. Has the success or failure of any particular DSM program surprised you? If so, why and what was your experience?

- *Power Partners: programmable thermostats provided for free; without incentives (~6400 installations per year). **Now targeting primarily multi-family dwellings – the owners get new thermostats.***
- *Duct leakage (e.g., testing ducts, air flow, combustion safety, return air sizing, etc.) Popular for 3 years. Evaluation done for \$100 (\$50 from AE, \$50 from customer). Contractor loses money to speculate on the repair work.*
- *AC pilot: testing refrigerant charge before and after improvements are made*
- *\$500 voucher for old or non-working AC units*

24. Have you solicited DSM program involvement from the private sector?

Yes, residential load management devices (DMS Honeywell)

25. Have you contracted with third parties for ESCO services?

- *Yes, they tried to use them to cut costs, but it did not work out well.*
- *Also works through the Federal Energy Management Program.*

26. What factors were involved in selecting 3rd party contractors?

NA

27. What services/ to what extent are these services provided?

See above

28. Were there any advantages and/or disadvantages experienced with 3rd party contractors?

See above

29. Are you interested in exploring the potential for green tags (i.e., tradable energy credits) associated with DSM activities?

Did not consider

Miscellaneous

30. Do you provide any energy resources other than electricity (e.g., natural gas, LP gas, fuel oil, solar water heating, etc.)?

No

31. What are the major impediments/challenges in offering DSM services?

- *The approval process can be lengthy*
- *Staff gets stretched thin; must prioritize*

32. Are there any other programs, factors or influences we haven't touched on?

Must try to reach all the ratepayers

Advertising and Promotion

33. Do you promote your DSM programs?

Marketing department takes direction from the energy conservation program managers. However, marketing is constrained because the utility is a City department.

34. How do promote your DSM programs?

- *Newsletters with the utility bill*
- *Direct mail*
- *Do not use TV*

35. Do you target particular DSM programs for promotion?

- *Residential programs*
- *Energy Star new home program*
- *Free radio advertising (paid for by AC contractors)*
- *AE meets monthly with contractors to make sure AE is meeting their needs*

36. How do you prioritize DSM programs for promotional activities?

Create master schedule for marketing

37. How does the budget for promotion compare to the budget for implementation of the DSM programs?

- *small part of the budget*
- *Top 200 key accounts rely heavily upon acct reps*

38. Do you have any advertising restrictions imposed by local government or other regulatory agencies?

Balance of energy efficiency advocacy and walking the line of image enhancement

Conclusion

39. Are there other benefits to promoting your DSM programs (e.g., customer loyalty, customer satisfaction, etc.)?

Challenges:

- *Approval process time requirements (Resource Management Committee and City Council)*
- *Residential: staffing levels (lots of programs and limited staff resources)*
- *Budget limitations*

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APPENDIX C
Benchmarking Teleconference Results
PGE

Company Name: Portland (PGE & Energy Trust of Oregon)

Note: PGE is an investor-owned utility (Enron)

Energy Trust of Oregon is a non-profit agency that runs all energy conservation programs in Oregon; funded by the state public benefits charge.

Contacts: Fred Gordon (ETO)
503-445-7602
Fred@energytrust.org

John McLain (PGE)
503-603-1631
john_McLain@pgn.com

Contact phone number: _____

Contact e-mail address: _____

Date of conference calls:

August 2, 2004 (ETO)

July 20, 2004 (PGE)

Energy Efficiency Program Survey Sample Questions (July 1, 2004)

DSM Regulation/Legal Requirements

1. Are you required by state regulations to offer DSM services?

ETO formed 2 years ago by the state. State mandated conservation programs. ETO runs the programs funded by the state public benefits charge all ratepayers must pay. PGE is no longer required (or allowed to use public benefits funds) to provide energy conservation programs to their customers.

2. Are you required by local regulations to offer DSM services?

No, but there is a state energy advisory committee.

3. Are you required by stipulation agreement or MOU with environmental advocacy group(s) or other public interest groups to offer DSM services?

No

4. If so, was this in response to proposed generation additions?

NA

Corporate Goals & Vision

5. What is the nature of your corporate commitment to DSM?

- 300 MW avg over 10 years (@100% load factor)
- Put it all out on the table because it is the right thing to do.
- Retired a nuclear plant
- Use of natural gas as a transition fuel
- Movement toward renewable energy resources

6. Do you have DSM goals that exceed the goals mandated by regulation?

No. PGE has no goals; goals are the obligation of ETO.

7. What is the magnitude of your DSM impacts to date (i.e., energy savings, winter peak demand reduction, summer peak demand reduction)?

No peak power demand issues due to hydro. Have achieved ~20 MW average (@100% capacity factor).

Economic Tests and Factors

8. Which economic tests are you required to use in evaluating cost effectiveness (e.g., participants, rate impact measure, total resource cost, etc.)?

*Above market test (10 year timeframe). Attempt to transform market.
Utility system test to defer the need for generation.
Customer payback test.*

9. Do you use economic tests other than those required to provide additional justification for program implementation?

*Societal benefits (non-energy)
Levelizing cost of energy (\$/kWh)*

10. Do you consider additional benefits not captured by traditional tests?

Climate change (CO2 reduction value)

11. How does the costs of achieving DSM impacts compare to that of supplying energy/power from generation?

NA

Audit Objectives and Structure

12. Are your energy audits primarily a high bill response vehicle?

They were before deregulation. Customer satisfaction was high when they "were doing real energy audits" before deregulation, but they now only offer walk-through energy audits.

13. Is your program emphasis toward any particular market segment?

No.

14. Do you charge or offer credit for energy audits? If so, please describe.

No.

15. Do you offer investment-grade energy audits (i.e., sufficient economic analysis for customer to take to the bank)? If so, for which market segments?

No.

16. Do you provide on-line account management services?

NA

17. I see where you offer a XXXXX program. What program implementation issues have you experienced?

18. Do you address difficult to reach market segments (e.g., renters, low income homeowners, etc.)?

Economics are not the primary driver.

Mobile homes @ ~1000 per year. Emphasis on duct repair.

Multi-family targeting property managers

Lower than average income households that are not eligible for federal assistance.

Low-income weatherization: CAP agencies get their own allocation out of the public benefits charge (not part of ETO funding).

Program Budget and Staffing

19. What is your annual budget for DSM services?

Public benefits charge is ~3% of utility bill

~\$51,226,000 /yr statewide; ~80% to utilities.

1. \$41M to energy efficiency

2. \$10M to renewable energy

20. Did this budget change in response to potential utility deregulation?

Yes, increased \$2-3M/yr since 2002.

21. What is your staffing level for DSM services?

■ *PGE does not offer these services, ETO does.*

■ *PGE went from 61 to 43 employees who now offer services services to other utilities (as a profit center), but not to their own customers.*

■ *ETO: ~30 FTE (2 new positions).*

■ *There are hundreds of people doing field analyses and installations.*

22. How has your staffing level changed over time and what were the drivers?

See above. Deregulation was the primary driver. Adding staff is poison. Services are primarily delivered by turnkey contractors (using ~8 weatherization contractors).

Program Experience and Approaches

23. Has the success or failure of any particular DSM program surprised you? If so, why and what was your experience?

1. *Good Cents Program: a load growth program.*
2. *Green Building Certification: customers and builders paid PGE \$300-500 to get certified.*
3. *Earth Advantage: builders pay to run the ads. Demonstration facility allow customers to see and touch the energy conservation techniques.*
4. *Direct Install: free low-income weatherization (at \$500-750/home). Contractor receives the money, but must return it if there are not true savings after the improvements are made (5000 homes in 3 years; 20,000 multi-family apartments in 3 years)*
5. *Water conservation programs: water embodies energy (e.g., pumping, treatment, etc.) and environmental issues (e.g., dams, fish migration, etc.)*

24. Have you solicited DSM program involvement from the private sector?

No. This doubles the cost of installations and narrows the range of ECMs installed (they pick the low-hanging fruit).

25. Have you contracted with third parties for ESCO services?

26. What factors were involved in selecting 3rd party contractors?

They can do better than an ESCO

27. What services/ to what extent are these services provided?

28. Were there any advantages and/or disadvantages experienced with 3rd party contractors?

29. Are you interested in exploring the potential for green tags (i.e., tradable energy credits) associated with DSM activities?

Yes, currently working with a pulp mill. They plan to use carbon credits from the Climate Trust. (currently can't discuss this publicly).

Miscellaneous

30. Do you provide any energy resources other than electricity (e.g., natural gas, LP gas, fuel oil, solar water heating, etc.)?

No. They run gas programs, but do not supply any fuel.

31. What are the major impediments/challenges in offering DSM services?

- *Time*
- *A lot of success, but not a lot of structure*
- *Earning the trust of utility large account reps.*
- *Ego/Politics*
- *Collaboration –vs- competition*

32. Are there any other programs, factors or influences we haven't touched on?

- *They hire industry-specific firms to address particular market segments.*
- *They find people who the utilities trust and hire them.*

- *Maintain a broad constituency approach.*
- *Engineering calculations of projected savings have not been borne out in practice.*
- *Political in-fighting in the state.*
- *Had to prove a lot in a hurry in order to establish credibility, support and cooperation.*
- *Regulatory burden is very high in the public benefits charge process.*
- *Direct-install low-income household weatherization program employs low-income folks to do the installations.*

Advertising and Promotion

33. Do you promote your DSM programs?

Yes, but this is complex.

34. How do promote your DSM programs?

- *Co-promotion with utilities, but very little general promotion*
- *Use pre-movie slide shows*
- *Website*
- *Customer bill inserts*

35. Do you target particular DSM programs for promotion?

Commercial, because residential has had a lot of activity.

36. How do you prioritize DSM programs for promotional activities?

37. How does the budget for promotion compare to the budget for implementation of the DSM programs?

*Statewide:
\$900k/yr for marketing
\$41M/yr total energy efficiency budget*

38. Do you have any advertising restrictions imposed by local government or other regulatory agencies?

The PGE shareholders are charged if the utility advertising expenditures goes over the cap and there is strict reporting to the Public Utility Commission

Conclusion

39. Are there other benefits to promoting your DSM programs (e.g., customer loyalty, customer satisfaction, etc.)?

GRU should group together with other utilities and work with the trade community. Seek grant money.

APPENDIX D Residential Conservation Program Spreadsheet

Conservation Programs by Utility	Austin				Portland		San Antonio	Seattle	Springfield
	Energy	GRU	JEA	OUC	(PGE) ²	SMUD	(CPS)	City Light	(City Utilities)
RESIDENTIAL PROGRAMS									
Energy Survey (Utility)	X	X	X	X			X		X
Energy Survey (Customer)		X		X					
Energy Survey (Online)	X		X	X		X		X	X
Energy Survey Assistance (Rebate)									
Energy Use History (Online)		X			X			X	
High Bill Inquiry (Online)							X		
High Bill Management (Online)					X				
Home Improvement Incentives:	X								
Attic/Ceiling Insulation	X			X	X				
Floor Insulation					X				
Wall Insulation					X				
Duct Testing & Repair	X	P			X				
Heat Pump Water Heaters					X				
Energy Efficient Electric Water Heater					X				
Natural Gas Water Heater		X					X		
Gas Pool and Spa Heaters									
Natural Gas Clothes Dryer		X					X		
Gas Furnace		X			X				
Gas Ranges/Ovens		X							
Natural Gas Fire Logs									
Gas Room Heaters					X				
Low-Flush Toilet									
Dish Washer					X				
Clothes Washer	X				X	X		X	
Refrigerator					X				
Fans						X			
Window Air Conditioners		P					X		
Efficient Lighting	X				X				
HVAC Incentives:	X	X			X				
Thermostat									
Evaporative Cooler									
Thermal Energy Storage									
High Efficiency AC	X	X			X	X	X		
Heat Pumps	X	X		X	X	X			
Heat Recovery Units		P			X				
Window Units	X	P							
Weatherization Incentives:	X				X				
Attic Insulation	X			X					
Duct Testing & Repair	X	P		X	X	X			
Caulking	X								
Weatherstripping	X								
HVAC Maintenance	X	P							
High Efficiency Heat Pumps		P		X	X				
Heat Recovery Units		P							
Water Heaters					X				
Solar Screens	X			X					
Window Film				X					
Low-Income Weatherization Incentives	X			X					
Appliance Recycling									
Home Efficiency Loans	X						X	X	
Home Efficiency Grants								X ³	
Energy Star Home Program	X	X		X	X	X	X		
Multi-Family Home Cons. Incentives		X						X	
Performance Contracting									
New Construction Incentives									
New Construction Evaluations									
Green Building Incentives	X	X							
Solar PV Installation:									
Rebates	X		X		X				
Loans	X					X			
Service									
Solar Water Heating:									
Rebates		X	X		X	X			
Loans						X			
Service									
Water-Saving Equipment Incentives									
Load Management (direct load control)	X				X	X	X		
Education Programs	X	X				X	X	X	X
Total	26	24	4	12	32	12	11	7	3
% of max									

¹ P indicates programs proposed for implementation in FY05

² Energy Management Programs offered by Energy Trust of Oregon (<http://www.energytrust.org/index.html>)

APPENDIX D Commercial Conservation Program Spreadsheet

Conservation Programs by Utility C/I PROGRAMS	Austin		Portland		San Antonio	Seattle	Springfield		
	Energy	GRU ¹	JEA	OUC	(PGE) ²	SMUD	(CPS)	City Light	(City Utilities)
Business Energy Survey	X	X	X	X			X	X	
Business Energy Survey (Customer)		X							
Business Energy Survey (Online)			X			X			X
Energy Use Online				X		X			
Power Quality Analysis		X		X		X			X
Infrared Inspections		X		X					X
Single- and Three Phase Service				X					
Business Improvement Incentives:	X	X				X			
Energy Management	X								
Electrical System	X						X		
Efficient Transformers							X		
Controls (HVAC, lighting, etc.)					X		X		
Window Film									
Roof Coatings						X	X		
Compressed Air					X				
Refrigeration					X				
Low-Flush Toilet									
Gas Conversion									
Efficient Lighting (incentives)	X				X	X	X	X	
Efficient Lighting (shared savings)		X		X					
Vending Machines								X	
HVAC Incentives:	X				X	X	X	X	
DX		G ³			X	X		X	
Ventilation									
Chillers	X	G						X	
Thermal Energy Storage (TES)	X								
Heat Pumps					X	X		X	
Variable Speed Drives or Fans					X			X	
Motors	X				X	X	X		
Building Retrofit Measures									
Solar PV Installation:	X								
Rebates	X		X						
Loans	X								
tax credit					X				
Solar Water Heating:	X								
Rebates	X	X	X		X				
Loans									
tax credit					X				
Service									
tax credit					X				
Electric Forklift Incentive						X			
Hybrid/Alternative Fuels Vehicles tax credit					X				
Water-Saving Equipment Incentives									
Green Building Incentives					X		X		
C/I New Construction Incentives							X		
Building Envelope Measure Incentives	X				X			X	
Multi-Family Efficiency Incentives	X								
Performance Contracting		X	X					X	
Business Efficiency Loans									
Shared Savings Loan									
New Technology Use Incentives								X	
Innovative Incentive Program		P						X	
Distributed Generation	X						X		
Standby/Backup Generation									
Dispatchable Standby Generation		X			X				
Real Time Pricing (RTP)					X				
Interruptible Rate									
Curtable Rate		X			X	X			
TOD Rates									
Load Management (direct load control)	X					X			
Demand Buy-Back Program (DBB)					X				
Education Programs	X	X	X			X			

¹ P indicates programs proposed for implementation in FY05

² Energy Management Programs offered by Energy Trust of Oregon (<http://www.energytrust.org/index.html>)

³ G indicates Gas cooling and dehumidification rebates

APPENDIX D

Research and Development Conservation Program Spreadsheet

Conservation Programs by Utility

	Austin		Portland		San Antonio		Seattle		Springfield	
	Energy	GRU ¹	JEA	OUC (PGE) ²	SMUD	(CPS)	City Light	City Light	(City Utilities)	(City Utilities)
RESEARCH AND DEVELOPMENT										
Photovoltaic R&D	X	X			X					
Green Energy:										
	X	X		X	X	X	X	X	X	X
Solar	X	X	X	X	X					
Landfill Gas	X	X	X							
Biomass		P		X	X					
Ground Source Heat Pump (GSHP)										
Real Time Pricing (RTP)				X						
Load Management				X						
Curtailable Rate		X		X						
	4	6	2	0	4	1	2			2

¹ P indicates programs proposed for implementation in FY05

² Energy Management Programs offered by Energy Trust of Oregon (<http://www.energytrust.org/index.html>)

APPENDIX E

Winter, Summer Peak Demands, and Energy Sales

<u>Utility</u>	<u>State</u>	<u>Ownership</u>	<u>Summer Peak</u>	<u>Winter Peak</u>	<u>Net Gen</u>	<u>Total Source</u>	<u>Sales to Consumers</u>	<u>Sales for Resale</u>
GRU	FL	Municipal	417	394	1905160	2086939	1785967	217934
OUC	FL	Municipal	969	1019	6352742	7616383	5092233	2475165
San Antonio	TX	Municipal	4117	2730	17176881	19114783	17066094	1195538
JEA	FL	Municipal	2485	3055	14178581	16605119	12293323	3871217
Seattle	WA	Municipal	1314	1622	6087274	15258276	8905944	5658899
Springfield	MO	Municipal	691	440	2971596	3938860	2813462	953280
SMUD	CA	Political Subdivision	2809	1645	3900037	11965031	9917373	1544778
Austin Energy	TX	Municipal	2350	1691	9370969	11122672	10326246	221930
PGE	OR	Private	3351	3299	7921607	31806411	18425854	12081910

Data from USDOE EIA form 861 for Calendar Year 2003