

**Proposal for Independent Review
and
Verification of Modeling of New Electric Utility
City of Boulder, Colorado
RFP #21-2013**

**Strategic Utility Management LLC
With
Downes Associates Inc.**

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PROPOSAL OVERVIEW

The City of Boulder Colorado (“City”) is considering the purchase and operation of the electric facilities serving its community. Section 178 of the City’s Home Rule Charter requires that certain threshold criteria be met before the City can proceed, to be verified through an independent review. These threshold criteria can be summarized as:

1. Electric rates at the time of acquisition are less than Xcel Energy;
2. A debt service coverage ratio of at least 125%;
3. Reliability equal to or better than Xcel Energy;
4. A plan to reduce greenhouse gas emissions, criteria pollutants, and to increase the use of renewable energy.

Since the fall of 2010, The City has engaged in a process of significant research and analytical work to explore energy futures for the community. The process has proceeded to the point that the City has issued a request for proposals to perform for the independent verification (RFP #21-2013).

Although Section 178 may be interpreted as applying only to near term rate comparisons with Xcel, this proposal includes a close look at how sustainable competitive rates will be. Furthermore the operation of any electric system carries with it certain risks that affect rates and financial performance. The major sources of risk for an electric utility are driven by: a) fuel prices and transportation costs, which are typically passed through in power purchase agreements; b) retail revenues, which are greatly affected in the short run by weather and economic conditions, c) Financial markets, depending on the underlying financial structure, bond ratings and reliance on swaps, variable interest debt, and short term commercial paper; d) catastrophic events, such as storms, equipment failure, and deliberate malfeasance; e) regulatory changes, which could affect electric utility operations, especially as most power purchase agreements include “change of law” provisions; f) technology obsolescence; and h) staffing requirements.

Given the City’s operating experience in delivering life safety services (police, fire, water, wastewater) and the current electric regulatory regime in Colorado (defined service territories without retail wheeling), there is little doubt that the

City will be able to manage the electric system in a feasible and reliable manner, as do many municipalities across the nation. The issue of concern is the risk of not meeting the threshold criteria of Section 178, which protect the financial and service quality interests of electrical consumers in Boulder. Accordingly, this proposal is not only designed to examine the specific assumptions and methodologies used, but to explore the effect variations in these assumptions might have on the results, and to anticipate and address issues that might arise during the acquisition process.

The approach proposed here is fivefold and will be more fully discussed under the proposed scope of work.

Task 1. Expert review of for adequacy and completeness of all studies performed to date;

Task 2. Overview of physical assets for general condition;

Task 3. Analysis of historical trends and forecasts for load and power supply as well as demand side management and distributed generation potential to establish measures of volatility;

Task 4. Develop an indicative “cash flow at risk” model;

Task 5. Review physical, financial and policy plans and opportunities to manage risk; and

Task 6. Presentation of results and conclusions.

INTRODUCTION TO THE STUDY TEAM

The independent evaluation will perform by a seasoned team of executive level career utility professionals (“Study Team”). Strategic Utility Management LLC (“SUM”) will serve as primary contractor to the City. Downes Associates, Inc. (“DAI”) will provide services through a subcontract with SUM. Ed Regan, P.E. the owner and president of SUM will serve as project manager with specific tasks to be assigned to qualified DAI staff as agreed with DAI’s senior vice president, Alexander Grier P.E. Professional liability insurance for this project will be held

by SUM, although DAI does carry its own general liability insurance. Two DAI staff members have been designated to be a part of the core Study Team, Terry Weaver and Alan Todd P.E. Mr. Weaver and Mr. Todd bring expensive utility engineering, management, and financial experience to the team and will supervise tasks to be performed by other DAI staff.

Project Manager. Mr. Regan P.E., a registered engineer in Florida, has over thirty-two years of electric, water, wastewater, natural gas, and telecommunications utility experience (resume and references attached as Exhibit 1). This experience includes 21 years over planning and six years over bulk power operations with Gainesville Regional Utilities (“GRU”). GRU is one of a very limited number of municipal electric utilities able to sustain a AA credit rating with both Standard and Poor’s and Moody’s Investment Services since the mid 1980’s. His experience includes several rounds of Integrated Resource Planning and the financing and permitting leading to the construction of conventional fossil fueled units and the repowering of older steam units as well as combined heat and power, landfill gas to energy, biomass, and solar generation capacity. He introduced “self directed work teams” to GRU and was responsible for working with investors and bond rating agencies, not only for electric, but water, wastewater and natural gas systems. He has had management authority over: a) bulk power operations; b) coal and natural fuels management and transportation; c) power marketing and purchasing; and d) power contract management. He was also an active member of the team assigned to financially hedge commodity costs. GRU currently has the lowest kWh per residential customer use in Florida and beginning in 2014, roughly 40% of its energy supply will come from renewable sources (landfill gas, solar, and biomass generated electricity). He has been active in industry organizations state and nation-wide, and has served on the Board of Directors (at various times) of the Florida Municipal Electric Authority, the Florida Municipal Power Agency, the Energy AuthorityTM and the Solar Electric Power Association. He introduced the Gainesville community to renewable energy Feed In Tariffs and in 2009 his team authored the first European style solar Feed In Tariff to be implemented by a utility in the USA.

Strategic Utility Management LLC. Mr. Regan retired from GRU in early 2012 to start up Strategic Utility Management LLC, a utility management consulting firm. SUM’s approach is to assemble a virtual network of expertise and appropriate staff to address specific problems, which is the approach being proposed here. In the last year, SUM has taken this approach to: a) create an inter-local agreement

between four governmental entities for a public safety radio system in St. Johns County, Florida; b) an independent evaluation of Florida's Energy Efficiency and Conservation Act with the University of Florida's Public Utility Research Center, a study was funded by the Florida Legislature and successfully concluded in January of this year; and c) a project to improve the financial performance of a municipally owned voice, video and Internet system in Florida through a team of staff and consultants (see references included with Exhibit 1).

Downes Associates Inc. DAI staff are experienced engineers, financial, legislative, regulatory experts, and technical experts able to address major energy resource issues for wind, coal, gas, solar, biomass, biogas, natural gas and hydroelectricity head quartered in Salisbury Maryland with a regional office in Fort Myers Florida. DAI's energy staff routinely advises clients regarding federal and state requirements, project funding, environmental credit market opportunities, off-take agreements, interconnection requirements, and retail rates. DAI's experience in advising clients on the costs of electric facility operation and maintenance and the risks involved in investing in electric services will be extremely important for this project. DAI's F330 staff qualifications are attached as Exhibit 2 and DAI's Project experience is attached as Exhibit 3. DAI individuals that will be taking senior roles on the Study Team include:

- a) Alexander M. Grier P.E, DAI Senior Vice President, Director of Generation Engineering and Chief Civil Engineer is a registered engineer in seventeen states. His resume and recent experience may be found summarized on page I-4 of Exhibit 1.
- b) Terry Weaver, DAI Southeastern Regional Representative has manager of municipal electric utility operations until he retired and joined DAI in 2004, where he has specialized in municipal utility management and planning, staffing analysis and reliability review. His resume and recent experience may be found summarized on page I-7 of Exhibit 1.
- c) Allen Todd P.E, DAI Senior Transmission Engineer was manager of transmission and distribution for Dominion until he retired to become director of utilities for Manassas Virginia for 11 years and is now associated with DAI. He is a professional engineer registered in Virginia and has provided consulting services for a number of wind projects, with an emphasis on grid connectivity and RTO compliance.

DETAILED SCOPE OF WORK

All work will be performed under a non-disclosure agreement to the full extent allowed under Colorado law. In addition to the Base Studies listed in Table 1, the Study Team will also review Section 178 of the City's Charter and City Ordinance No. 7898, the franchise agreement and continuations with Xcel Colorado's PUC requirements as applicable to the City's proposed action. As specified in the RFP the following information will be taken as givens and will not be considered a subject for review:

1. The range of costs provided by the City to acquire the electrical system serving the City of Boulder
2. The range of values provided by the City for stranded costs that may be due from the City to Xcel Energy under FERC Rule 888.
3. Rate compares will be based on average revenue requirements as opposed to detailed rate designs by customer class (an assumption made pursuant to the April 22, 2013 bidders conference staff representation).

Tasks 2, 3, 4, and 5 will require the Study Team to extract and apply information from the Base Studies in a way that might seem a bit out of scope for the immediate objective of verifying that the short-term objectives of Section 178 could be met. It is the Study Team's experience that having to use and manipulate data and related studies often reveals items of interest or concern not otherwise apparent.

Each of the tasks described below have a number of subtasks. A detailed, written project plan will be developed describing each subtask, providing a code for the subtask, who will perform the task, and the date for completion. The Study Team and contributing staff will document their results for each subtask in the form of an email to the Study Team with a coded subject line to allow easy management of progress and assembly of results. Emails will attempt to follow a standard format, describing the materials reviewed, the observations made, and/or the results obtained.

Task 1. Adequacy and Completeness Review

The Study Team will work with the City staff to ascertain that they are in full possession of the information needed to perform this function and meet the performance objectives of the diligence review listed below. The Study Team will immediately request non-protected (i.e. not locked) version of the spreadsheets and data of the Base Studies listed in Table 1, not all of which were online at the time this proposal was being written. Unlocked versions are necessary to test and explore the spreadsheets and their underlying formulas. In addition, on or before May 25, 2013, depending on initial reviews, the Study Team may request additional backup information or studies or access to staff or consultants performing the work being reviewed.

Each of the Base Studies and supporting information will be carefully and critically reviewed to meet the following due diligence objectives and to allow findings to be made as identified under Task 6.

1. Determine whether the inputs used are appropriate to verify that the City can meet the Charter Requirements, which include the following findings:
2. Determine whether it meets industry standards and represents a reasonable manner to evaluate anticipated debt service costs and revenues;
3. Verify that the City can provide reliability comparable to Xcel Energy;
4. Verify that the City can reduce greenhouse gas emissions and other pollutants and increase renewable energy.

Task 2. Overview of Physical Assets

The condition of the physical assets to be acquired can have a direct bearing on the longer term operation and maintenance costs the City is exposed to. Although this has been considered in the Base Studies, and full and complete assessment is the beyond the scope of the proposed project, the Study Team believes it to be necessary to perform a limited overview of the general condition of the physical assets and the difficulty of system separation and reintegration in order to validate the adequacy and completeness of the Base Studies. Accordingly, the study team proposes to review: field conditions; circuit layouts and service territory

Table 1
Base Studies Identified For Analysis

Base Study	Documents
April 16, 2013 Report to City Council	Memo with Attachments
	Presentation Slides
February 26 2013 Study Session	Options Analysis Memo to City Council w/ Attachments
	Presentation Slides
	Study Session Summary
December 11 2012 Study Session	Memo to City Council
	Study Session Summary
	Presentation Slides
	Financial Advisor Slides
November 15, 2012 Council Meeting	Memo with Attachments
	Presentation Slides
	Council Actions
	Response to Community Questions
Load Model	Hourly Energy Data
	Meter Counts by Service Level
	Forecasts of Energy and Demand
Resource Model (HOMER) ^a	5 Energy Portfolio Options
	Power Purchase Agreement Parameters
	Resource Costs
	Optimized 20 Year Resource Portfolios
Financial Model	Xcel Stranded and Acquisition Costs
	Capital Costs for Replacement and Undergrounding
	Bond Financing Assumptions
	Xcel's costs, rates, resources
	Transmission Costs
	Operation and Maintenance Costs
Decision Analysis Model	20 Yr Op. Exps., Cost/kWh, CO2 intensity, Supply Mix
	Results of Modeling
	Reliability Considerations
	Model limitation

a. HOMER – Hybrid Optimization Model for Electric Renewables

boundaries; and the ratings, loading, and ages of key equipment, at substations; and the status of the current stock of distribution transformers serving Boulder (including age, PCB status, etc.). The study team would also be interested in reviewing compliance records and reports maintained in compliance with NERC standards as well as plans for providing balancing area, ancillary, and other services. The City will be requested to provide a tour guide, transportation, and an Xcel liaison for these purposes.

Task 3. Trends and Forecasts

The Study Team will review load profiles and energy and demand forecasts, with a particular emphasis on historical volatility, forecast methodology, and forecast accuracy, and Demand Side management (DSM) plans. Depending on how and by whom forecasts and DSM plans were produced, the City may be requested to provide liaison personnel to obtain needed information. These will be compared to currently available appliance penetration studies and DSM Plans. In terms of reducing and managing environmental externalities, DSM is often the most cost-effective solution and can affect long-run revenue potential, and distributed renewable energy can have important implications for retail revenues.

4. Risk Assessment

Nearly any assumption used for a forward-looking economic evaluation has a range that could be applied. In some cases, assumptions can be assigned a statistical measure of variability, such as related to fuel price, load, forced outage rates etc. A fully specified risk model for the electric system serving Boulder is beyond the scope of this project, yet the Study Team intends to select key parameters to which the outcomes are most sensitive and perturbate the models and results developed to date to demonstrate and provide indicative values for a cash flow at risk model. This work will provide a deeper level on insight the probability that the requirements of Section 178 will be met.

5. Risk Management

The Study Team will review physical and financial plans and opportunities to hedge risks inherent in the Base Studies as well as any that may not yet have been contemplated. These hedging opportunities may be broadly categorized as:

1. Operating reserves & rate stabilization policies
2. Management of fuel costs and purchased power costs
3. Strategic alliances (power marketers, mutual aid)
4. Environmental/NERC compliance programs
5. Insurance

Task 6. Results and Conclusions

The Study Team will prepare a draft power point presentation on or before July 1 2013 summarizing the results and conclusions from Tasks 1 through 5. These will at a minimum answer the following questions:

1. Are the assumptions made reasonable based on established standards and practices of the public power industry?
2. Were any considerations omitted that could be material for answering the threshold questions of the Charter Requirements, including the following:
 - a. Findings that the utility can acquire the electrical distribution system in Boulder and charge rates that do not exceed those rates charged by Xcel Energy at the time of acquisition;
 - b. Findings that the anticipated rates charged by the utility will produce revenues sufficient to provide a 125% debt service coverage ratio;
 - c. Findings that the acquisition, separation, and operational plan will result in electric reliability comparable to Xcel Energy; and
 - d. Findings that the City's plan for reduced greenhouse gas emissions and other pollutants and increased renewable energy is reasonable;
 - e. Whether, based on established standards and practices of the electric utility industry, the inputs of the Base Studies are sufficient to determine whether the utility can meet the Charter Requirements; and
 - f. Whether any significant factors necessary to determine the Charter

Requirements are not included in the Base Studies?

3. Does the proposed acquisition and creation of a new electric utility meet the Charter Requirements of Section 178?

The study team proposes to use the power point format for the following schedule of deliverables and presentation from RFP #21-2013:

Table 2
Schedule for Deliverables

Date (2013)	Item
July 1	Draft to staff
July 8	Preliminary Findings to Project Manager
July 16	Draft to City Manager
July 23	Presentation to Council
August 6	Follow Up and Q/A Presentation

A written report will be prepared at the option and upon the request of the City Manager for the price specified in the Confidential Fee Proposal

FOLLOW UP VERIFICATION

The City anticipates that additional follow up work may be required, depending on the outcome and findings of the detailed scope of work. The Study Team is prepared to engage to perform is work as in this if required. If required, the Study Team will negotiate a scope of work and proposed budget for the desired follow up and verification.

ACCEPTANCE OF AGREEMENT

The form of Agreement appended to RFP #21-2013 is acceptable to the Study Team.

ADDITIONAL INFORMATION

The following information is provided to assure that this proposal is fully responsive and to assist City staff in locating critical information needed to evaluate this proposal against others, the items from RFP #21-2013 are presented

here as a simplified check list.

- A. *The anticipated time necessary of City staff and consultants to obtain the information necessary for the verification by the selected firm;*

For planning purposes, the Study Team suggests the following resource commitments for planning purposes:

Table 5
City Staff Resource Requirements

Purpose	Task Components	Hours
Kick Off Meeting	Advance preparation	6
	Meeting Time (4 hours @ 4 staff)	16
Field Tour of Electric Facilities	System map preparation	4
	Conduct tour	8
Liaison With Xcel	Transformer data	4
	Substation data	4
Provide Source for Base Studies Not on Web	Spreadsheets	4
Obtain additional documentation	TBD	8
Bi-weekly meetings	4 @ 2 hours @ 4 staff	24
Review Drafts	RFP specifies 3 reviews @ 4 hours ea.	12
	Total	90

- B. *Proposed schedule for performing Detailed Scope of Work.*

See Tables 2, 3, and 4. Note that the Study Team anticipates the need to set logistics and timing for kick off and bi-weekly meetings to accommodate schedules.

- C. *Proposed form of presentation to the City Council on July 23 and August 6, 2013;*

Power point slides (see task 6)

- D. *Proposed form of written report to the extent it varies from Suggested Form of Report;*

The form of report provided in RFP #21-2013 is acceptable to the Study Team.

E. Detailed discussion of the municipal utility work the firm has done related to the factors in the scope described above, including

- i. Acquisition of distribution assets;*
Mr. Regan has been peripherally involved in a number of municipalization attempts in Florida through his involvement with FMEA, and one, Winter Park, was completed.
- ii. Financing of a municipal utility;*
Mr. Regan has been involved in numerous bond issues and refinancing programs. See Exhibit 1 and also Exhibit 2 page I-5 and Exhibit 3 page I-1.
- iii. Software used by the City for modeling of financial, resource mix and decision analysis factors;*
Mr. Regan is experienced in the use of EGEAS (developed by EPRI) for generation portfolio optimization as well as GenTrader for production cost modeling and optimization.
- iv. Experience with decision analysis used in Base Material;*
Mr. Regan has used numerous expected value, normative weighting and other approaches for decision analysis including allowing the public to suggest the weights for scaled factor ranges in real time during a televised Commission meeting.
- v. Reliability standards for electric distribution system;*
All of the study team members have worked with the industry standard reliability indices the City is considering.
- vi. Innovative technology and strategies for reducing greenhouse gas emissions and other pollutants and increasing the use of renewable energy;*
See Exhibits 1, 2, and 3. The Study Team members have all had extensive involvement with renewable energy; and Mr. Regan in particular has been heavily involved in planning to allow GRU to the policy objective of meeting Kyoto

protocols, pursuant to the Mayor's climate challenge, despite owning and operating a coal plant as the principal source of electricity.

- vii. *Consultation to investor-owned utilities; and*
See Exhibit 2 and 3 for numerous examples. Mr. Todd on the Study Team has spent a significant portion of his career managing electrical distribution for an IOU in Virginia (Dominion).
- viii. *Consultation to public power utilities.*
See Exhibits 1, 2, and 3 and the section above introducing Study team members.

- G. *References for work the firm has done on the matters identified above;*
See introduction to the Study Team above, Exhibit 1 for Mr. Regan's references, and Exhibits 2 and 3 for DAI staff.
- H. *The licenses and certifications held as engineers and financial advisors licensed in Colorado and nationally;*
None of the Study team is licensed in Colorado. Mr. Regan is licensed as a professional engineer in Florida, Mr. Todd as a professional engineer in Virginia, and Mr. Grier as a professional engineer in CT, DE, FL, IL, ME, MD, MA, NH, NJ, NC, OH, PA, RI, SC, VT, VA, and WV
- I. *The special talents or expertise of the firm related to advising municipal utilities on the matters identified above;*
All of the study team members are innovative and creative with regard to power supply and management issues. Mr. Regan's involvement in The Energy Authoritytm, the Solar Electric Power Association, and the fact finding missions he has accompanied to Denmark, Germany, Belgium, the Netherlands, Italy and Japan in a professional capacity to observe technologies and policies (both coal and solar) provides a very unique perspective to the issues of concern to the City (see Exhibit 1).
- J. *Recent teaching, workshops or other forums in which any individuals of the firm have participated related to financing start-up government operations or financing municipal utilities;*

In the last four years Mr Regan has participated PIRA's annual fuel forecasting symposium in NYC, SEPA's annual utility conferences and Solar Power International Conference and Trade shows, the University of Florida's International Utility Regulation training courses, and JP Morgan's Utility Investor Conferences. DAI has held training to introduce staff to new technologies and/or practices (see Exhibit 3, page I-8).

DISCLOSURES AND CONFIDENTIAL TRADE INFORMATION

SUM and DAI have taken no positions in lobbying, court actions, public financing, or other forums that could be contrary to the City's position in acquiring or operating the electric utility infrastructure serving Boulder. SUM and DAI have taken no positions in lobbying, court actions, financing, or other forums performed for Xcel Energy or any other alternative energy provider wishing to serve Boulder. SUM and DAI have no ownership interests in Xcel Energy or any other electric utility serving any portion of Colorado

The Study team requests that the City treat Exhibits 2, 3, and 4 as confidential. The following confidentiality statement is contained on the third page of Exhibit 2, and DAI wishes it to extend to Exhibit 3 as well.

Please be advised that the information contained herein is strictly confidential and is intended for the sole and exclusive use of the recipient for whom this document was prepared. Because this information is confidential, its contents shall not be disclosed to others outside your own organization, nor shall it be duplicated, used, or disclosed by you to others for any purpose other than to permit you to evaluate its contents.

Exhibit 4 contains salary information for individual members of the Study Team and is to be treated as confidential trade information as well.

FEE PROPOSAL

The fee proposal is based on a schedule of tasks and subtasks, an estimate of the hours required, and an hourly rate as applicable to each of the individuals on the Study Team. The budget calls for three separate trips to Boulder, as in Table 3. The salary rates associated with individual Study Team members as well as the proposed "not to exceed" cost for the Independent Review and Verification are contained in Exhibit 4. The Study Team requests that this exhibit be considered confidential trade information.

Table 3
On-Site Visits Included in Proposed Budget

Date (2013)	Team Participants	Purpose
May 28-29	Project Manager Principle Engineer Associate Engineer	Kick off meeting Field tour of electrical system
July 23	Project Manager Principle Engineer	Presentation to City Council
August 8	Project Manager	Q&A with City Council

STRATEGIC UTILITY MANAGEMENT LLC
Ed Regan, P.E. President And Owner

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PERSONAL QUALIFICATIONS

-Registered Florida Professional Engineer with over thirty two years of progressive strategic planning, operational, and executive responsibility related to an extremely broad range of electric, water, wastewater, natural gas, and telecommunication issues for a municipal utility system that consistently earns a "Double A" bond rating from Moody's, Fitch and Standard and Poor's' investor services (Gainesville Regional Utilities- "GRU").

-Resourceful and innovative thinker with extensive engineering and operations experience, credited with introducing a number of successful and profitable innovations to Florida's utility industry, in the realms of energy efficient consumer products, renewable energy, telecommunication services, and distributed energy.

-Senior executive experienced in managing a customer focused, financially strong, and environmentally sensitive utility system, with over 878 employees, 90,000 customers, and \$420,000,000 per year in gross revenues, which is prepared for deregulated and carbon constrained power markets and operated by a diverse group of employees with aligned interests and objectives.

-Profit/Loss responsibility for the initial start-up and long term planning and operation of fiber optic based a telecommunications system which successfully introduced ATM, SONET, and Gigabit Ethernet services into the north Florida region, as well as bulk and retail Internet access, including fiber to the home technologies.

-Knowledgeable about: FERC, NERC, USEPA and Florida Public Service Commission regulations, standards, and policies; electric generation planning; bulk power and transmission operations; wholesale power contracts; rate design; forecasting; corporate modeling; demand side management; rail and pipeline fuel transportation; ecosystem analysis; groundwater modeling; and water and wastewater distribution, collection, treatment, and disposal.

-Proven leadership in developing demand and supply side programs to promote the efficient use of utility services and to reduce the carbon footprint of utility operations, including consumer rebate programs and the development of landfill gas, solar, and biomass resources as well as: 1) introducing the first European-style Solar Feed in Tariff to be offered by a utility in the USA; 2) the construction of the first combined power, steam, and chilled water facility to serve a major hospital complex in Florida; and 3) negotiating the contracts for a 100 MW biomass fueled power plant in Florida.

-Sensitive to community planning, economic development, and other special interest concerns. Able to listen carefully and communicate effectively with employees, elected officials, regulators, customers, and other individuals with a diverse range of expertise, backgrounds and interests.

-Patient and creative in negotiating purchase and sale wholesale power contracts based on asset management, fuel cost hedging and innovative contract structures.

Exhibit 1

-Successful at introducing innovative and profitable new products and services based on cross-departmental core competencies and customer needs.

-Adept at collaborative efforts to assure favorable bond ratings, issue bonds, and manage financial and commodity risk. Experienced with the use of financial tools such as NYMEX market options and contracts to hedge fuel costs, and the potential for strategic alliances with other utilities to protect financial strength.

-Participated in extensive utility industry fact-finding missions on central station power generation and decentralized solar power with travel to Denmark, Germany, Belgium, Netherlands, Italy and Japan.

-Served on Board of Directors for Florida Municipal Power Agency, Florida Municipal Electric Association, Florida Reliability Coordinating Council, Solar Electric Power Association, and the Settlement and Operating Committee of The Energy Authority™. Past President, Florida Municipal Electrical Association. Currently Senior Fellow with the University of Florida's Public Utility Research Center, and member of the Florida Solar Energy Center's Policy Advisory Committee. Currently owner and president of Strategic Utility Management LLC, with clients in public safety telecommunications, wholesale power, and demand side management sectors.

KEY PROJECTS

GRUCom: Gainesville Regional Utilities Telecommunication Utility

- First Alternative Local Exchange Carrier licensed in Florida – 1994
- Positive cash flow after 1998
- GRUCom's product offerings include:
 - a. wholesale carrier to carrier transport services
 - b. private line networks for educational, medical, financial, professional and retail organizations, examples include:
 - all Alachua County Schools
 - all Alachua County Libraries
 - all Shands HealthCare affiliated facilities
 - University of Florida east campus
 - c. PRI and T-1 transport for PBX telephone exchange vendors
 - d. Tower leasing and backhaul transport for personal communication providers (cell phones)
 - e. Wholesale Internet access for Internet service providers
 - f. Retail Internet access over fiber to the home
 - g. Public safety radio system for all agencies in Alachua County
 - h. 24/7 network monitoring, 7-11 help desk, 24/7 trouble response
- Profit/Loss responsibility 1994-2005, 2010-2012
- Managed teams for:
 - a. Business case development,
 - b. Network design and development
 - c. Administrative and financial functions
 - d. Key strategic decisions for product offerings, pricing
 - e. Sales and service contracts
 - f. Carrier interconnection agreements
- Revenues in excess of \$12,800,000 per year

South Energy Center

- 4 MW combined heat and power facility

Exhibit 1

- Produces electricity, chilled water, steam, emergency power and medical gases
- Retail customers include major new Shands HealthCare hospital campus, retail
- First GRU chilled water product offering, positive cash flow on day 1
- Managed design team and structured response to Shands Healthcare RFP
- Led contract negotiations including:
 - a. Gain sharing,
 - b. Operation and management
 - c. Capital for renewal and expansion
 - d. 50 year term
- Online 2009, revenues in excess of \$10,000,000 per year
- Over 70% thermally efficient

Gainesville Renewable Energy Center

- 100 MW biomass powered base load power plant, dedicated PPA
- PPA structure adopted to take advantage of federal tax incentives
- Contract structured to minimize long term financial and operational risk exposure
- Managed controversial IRP, public outreach, and solicitation process
- Led contract negotiation team
- Commercial operation scheduled 4th qtr. 2013

Innovation HUB

- New research park and business incubator in downtown Gainesville
- Collaborative project between:
 - a. Shands HealthCare
 - b. University of Florida ("UF")
 - c. City of Gainesville
- GRU has exclusive right to provide:
 - a. Distributed chilled water
 - b. Emergency power
 - c. Electricity, water, wastewater, and natural gas
- Closet space and conduit for GRUCom required in all construction
- First phase energy plant and first building fully occupied 2012
- Managed:
 - a. Contract negotiations
 - b. Design team

University of Florida Public Utility Research Center

- Project manager for Independent Evaluation of Florida's Energy Efficiency and Conservation Act

Miscellaneous other key projects

- Satellite water/wastewater treatment systems for Gainesville Speedway
- Main St. WWTP upgrade
- GRU's reclaimed (dual water) water system
- Paynes Prairie wetlands storm water treatment
- Manufactured gas plant site remediation
- Deerhaven GE 7EA CT 3
- Kelly Steam Unit 6 repowering into CC configuration with GE 7EA unit
- First European style solar feed in tariff in the USA

Exhibit 1

- Institution of self directed work teams
- GRU has lowest kwh use per residential customer in Florida

EMPLOYMENT HISTORY	Gainesville Regional Utilities in north central Florida (unless stated otherwise)
Current	Owner and President Strategic Utility Management LLC with clients in public safety, wholesale power, and demand side management sectors.
2002 to Retirement (Feb 2012)	Assistant General Manager for Strategic Planning <ul style="list-style-type: none">-Electric, Water, Wastewater, and Natural Gas System Planning<ul style="list-style-type: none">a. Integrated Resource Power Supply Planningb. DSM Program Design, measurement & Verificationb. Load and Revenue Forecastingc. Cost of Service and Rate Designd. Permitting and Regulatory Compliancee. Financial Planningf. Community, Legislative, and Regulatory Affairs-Generation Dispatch Operations-Retail Telecommunications Networks and Services P&L<ul style="list-style-type: none">-1994 through 2005, 2010 through 2012-Operations and Settlement Committee, The Energy Authority™ (TEA)-GRU's Risk Oversight Team-P/L over combined heat and power services-P/L over GRUCom (fiber based telecommunication services)
1990-2002	Strategic Planning Director <ul style="list-style-type: none">-Retail Telecommunications Networks and Services (GRUCom)-Electric, Water, Wastewater, and Natural Gas System Planning (See above)
1987-1990	Senior Utility Engineer <ul style="list-style-type: none">-Major Water and Wastewater Facility Design and Permitting-Process Design and Network Analysis-Community Outreach-Reclaimed Water Services Start-Up
1984-1987	Utility Engineer II <ul style="list-style-type: none">-Water/Wastewater Master Planning
1981-1984	Utility Analyst <ul style="list-style-type: none">-Integrated Resource Planning-Demand Side Program Design and Evaluation-Small Area Forecasting and GIS-Commercial Lighting Services Start-Up
1979-1981	Technical Energy Management Coordinator <ul style="list-style-type: none">-Energy Conservation Program Creation-Staff Training-Program Delivery
1977-1979	Regional Environmental Planner <ul style="list-style-type: none">-North Central Florida Regional Planning Council

Exhibit 1

- Water and Wastewater Supply and Treatment Plans
- Surface Hydrology, Soils, Flood Maps
- Land Management and Conservation

EDUCATION, CERTIFICATIONS, TRAINING

- Bachelor's of Behavioral Psychology**, UF, Gainesville, Florida. 1974
- Master's of Environmental Sciences**, UF, Gainesville, Florida 1977
- Registered Professional Engineer**, Florida License 41166
- Certified Energy Auditor
- Word Processors, Spreadsheets, Statistical Analysis (SAS, SPSS, Fortran, PL1)
- Engineering Simulation Systems (FlowMod, GenTrader, EGEAS, groundwater)
- Self-Directed Work Teams, Balanced Scorecard
- Numerous Studies, Reports, Expert Testimony For:
 - Industry Associations
 - Bond Rating Agencies
 - Regulatory Proceedings
 - Boards Of Directors

ASSOCIATIONS

- | | |
|----------------------|------------------------------------------|
| Past President | Florida Municipal Electric Association |
| Retired Board Member | TEA Settlement and Operating Committee |
| Retired Board Member | Solar Electric Power Association |
| Prior Board Member | Florida Reliability Coordinating Council |
| Prior Board Member | Florida Municipal Power Agency |
| Senior Fellow | UF Public Utility Research Center |
| Member | FSEC Policy Advisory Committee |

REFERENCES

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Joan Teofilo, Chief Executive Officer, The Energy Authority™ (904) 360-1403 jteofilo@teacinc.org