

1 **FB** **EFORE THE FLORIDA PUBLIC SERVICE COMMISSION**

2 **DIRECT TESTIMONY OF**

3 **RUSSELL L. KLEPPER**

4 **ON BEHALF OF FLORIDA AFFIRM**

5 **DOCKET NO. 090079-EI**

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7 **Q. PLEASE STATE YOUR NAME, TITLE, AND BUSINESS ADDRESS.**

8
9 A. My name is Russell L. Klepper. I am a Principal of Energy Services Group, LLC, an
10 energy and utility consulting firm that I helped to found. Our business address is 316
11 Maxwell Road, Suite 400, Alpharetta, Georgia 30009.

12
13 **Q. PLEASE SUMMARIZE YOUR EDUCATIONAL AND PROFESSIONAL**
14 **EXPERIENCE.**

15
16 A. I hold a Bachelor of Science in Business Administration with a major in Economics and a
17 Master of Business Administration with a major in Finance, both from the University of
18 Florida, and a Master of Professional Accountancy from Georgia State University. I have
19 over thirty-two years of applicable utility experience, the first seven of which were spent
20 in the financial areas of Georgia Power Company. During my last three years of
employment by that electric utility, I held the title of Manager of Financial Services. For
the past twenty-five years, the preponderance of my time has been spent as an
independent consultant on utility finance, rates and regulation, and regulatory transition

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1 issues, as well as certain facets of the economics of both regulated utilities and
2 unregulated firms that produce, sell, and distribute energy for consumption by ultimate
3 consumers. I have provided professional services to both investor owned and
4 governmental utilities, to private companies that have significant interests in the energy
5 industry, and to entities such as the World Bank, the United States Energy Association,
6 and the Edison Electric Institute. As a consultant, I have developed and presented two
7 national seminars and numerous in-house seminars that focus on different aspects of
8 utility planning and decision-making. A more detailed Summary of Professional
9 Credentials is attached as an Appendix to this direct testimony (Exhibit RLK-1).

10
11 **Q. ON WHOSE BEHALF ARE YOU APPEARING IN THIS PROCEEDING?**

12
13 A. I am here on behalf of Florida AFFIRM (the “Association For Fairness In Rate Making”
14 or “AFFIRM”), a coalition of quick serve restaurants that have substantially similar
15 electrical usage characteristics. The Members of AFFIRM are the corporations and the
16 corporations’ franchisees that own and operate over 250 business locations served by
17 Progress Energy Florida, Inc. (“PEF” or the “Company”) under the following brand
18 names: Waffle House, Wendy’s, Arby’s, and YUM! Brands, doing business as Pizza Hut,
19 Kentucky Fried Chicken, Taco Bell, Long John Silver’s, and A&W.

20
21 **Q. PLEASE BRIEFLY SUMMARIZE THE PURPOSE OF YOUR TESTIMONY.**

22

1 A. As explained in detail below, the AFFIRM Members are economically disadvantaged in
2 the purchasing of electric service from FP&L because the pricing alternatives currently
3 available to such multi-location customers do not reflect the economies of scale to PEF
4 that result from providing such service and because the load characteristics of the
5 AFFIRM Members are not effectively captured by PEF's currently available rates.
6 Accordingly, this testimony will propose that the Florida Public Service Commission (the
7 "Commission") direct the Company to establish one or more new rates to be available to
8 commercial customers that will (1) more effectively reflect the beneficial cost causation
9 characteristics of the AFFIRM Members and similarly situated PEF customers, and (2)
10 provide a realistic, cost based economic incentive for commercial customers to undertake
11 load shifting and other voluntary measures to control loads and associated costs. In
12 addition, it is recommended in this testimony that PEF be required to develop new rates
13 based on a cost of service methodology based on 12 CP and 1/13th AD, rather than the 12
14 CP and 50% AD allocation sought by the Company for fixed production capacity costs.

15

16 **Q. HOW ARE THE AFFIRM MEMBERS ECONOMICALLY DISADVANTAGED**
17 **IN PURCHASING ELECTRIC SERVICE FROM THE COMPANY?**

18

19 A. There are two distinctly different ways in which the AFFIRM Members are economically
20 disadvantaged in such purchases. First, the electrical usage characteristics of the
21 AFFIRM Members reflect consumption patterns that materially differ from the majority
22 of commercial customers. Most AFFIRM Members (1) open in the morning, and
23 business activity starts in earnest before the stores open; (2) remain open until late in the

1 evening, and some remain open twenty-four hours per day; (3) are open for business
2 every weekend day and every holiday, with the possible exception of Christmas; (4) have
3 a significant percentage of their load in exterior lighting, with the preponderance of such
4 loads occurring during off-peak hours, and (5) have significant around-the-clock
5 refrigeration loads that are not typical for commercial customers except for restaurants.
6 Most AFFIRM Members will peak during the Company's designated peak hours, but
7 because exterior lighting is a significant portion of the loads, almost none of the AFFIRM
8 Members will peak in the specific hours during which the Company will experience its
9 monthly peak loads. Typically, the peaks of the individual stores will occur during the
10 lunch rush or after sunset, during the hours that many utilities will designate as either off-
11 peak hours or "shoulder hours" rather than on-peak hours. Based on the electric usage
12 characteristics set forth in this paragraph, when compared to the majority of commercial
13 customers, the AFFIRM Members cause a disproportionately smaller contribution to the
14 Company's monthly system peaks, and also use a disproportionately greater percentage
15 of total energy consumption during off-peak periods.

16
17 Almost all of the individual locations of the AFFIRM Members are served under GSD-1.
18 (The very few exceptions may be generally smaller stores that are located in shopping
19 mall food courts.) The structure of GSD-1 is highly unfavorable, for several reasons, to
20 any commercial customers, including the AFFIRM Members, that have the electrical
21 usage characteristics described in the previous paragraph.

1 **Q. WHY DO YOU CONTEND THAT GSD-1 IS UNFAVORABLE TO THE**
2 **MEMBERS OF AFFIRM?**

3

4 A. First, GSD-1 assumes that all customers served under this rate will make approximately
5 the same contribution to the system peak. But as explained above, this assumption is
6 incorrect with respect to the AFFIRM Members, whose monthly peaks typically occur
7 during what most utilities deem to be either off-peak hours or shoulder hours rather than
8 on-peak hours. Second, GSD-1 sets forth a proposed base energy charge for all hours of
9 2.320 cents per kWh, based upon an assumption that the allocation of energy usage
10 between on-peak and off-peak hours is approximately the same for all commercial
11 customers. But as explained above, this assumption is incorrect with respect to the
12 AFFIRM Members, whose pattern of energy consumption is disproportionately higher
13 during off-peak hours compared to the commercial class as a whole. Third, GSD-1
14 provides that during the five winter months, the period from 6:00 PM to 10:00 PM will
15 be a peak period. Because of the outdoor lighting loads of most AFFIRM Members, the
16 monthly peaks for these customers will almost always occur during these hours. But data
17 produced by the Commission Staff published in the February 2009 Annual Report on
18 Activities Pursuant to the Florida Energy Efficiency and Conservation Act (FEECA),
19 attached hereto as Exhibit RLK-2 and entitled "Typical Florida Daily Electric Load
20 Shapes", shows that the winter peaks during the PM hours are no more than 82% of the
21 corresponding winter peaks during the AM hours. Based on such data, customers that
22 peak during the winter PM hours are unjustifiably penalized.

23

1 In summary, GSD-1 is made available as a “one size fits all” rate for commercial
2 customers, but the AFFIRM Members have usage characteristics that make GSD-1
3 particularly ill-suited. Regrettably, notwithstanding the very poor correlation between the
4 structure of GSD-1 and the usage characteristics of the AFFIRM Members, there is no
5 other rate that provides a better economic result to the individual locations of the
6 AFFIRM Members.

7
8 **Q. PLEASE EXPLAIN WHY NO RATE OTHER THAN GSD-1 WOULD PROVIDE**
9 **A BETTER ECONOMIC RESULT TO THE AFFIRM MEMBERS.**

10
11 A. There are only two rates available from PEF to commercial and industrial customers that
12 do not have their own generating resources and that do not wish to take curtailable or
13 interruptible electric service. These rates are GSD-1 (General Service Demand), as
14 discussed above, and GSDDT-1 (General Service Demand – Time of Use).

15
16 In its present form, GSDDT-1 is a highly ineffective rate. From a technical standpoint, the
17 structure of this rate is deficient because the generally higher customer cost incurred
18 under GSDDT-1 weighs against the use of this rate by the vast preponderance of
19 commercial and industrial customers. In turn, the unwillingness of customers to use the
20 higher cost GSDDT-1 rate precludes any cost reduction benefits that might otherwise be
21 obtained through the rate incentive inherent within time of use rate. Under the rate
22 structure of GSDDT-1, it is nearly impossible for any commercial customer to obtain a
23 better economic outcome by using the GSDDT-1 rate instead of the “one size fits all”

1 GSD-1 rate. This situation exists because when the around the clock base energy charge
2 under GSD-1 is compared to the on-peak and off-peak base energy charges under GSDT-
3 1, the customer can consume no more than 29.4% of its total energy usage during on-
4 peak hours to realize a lower cost. By way of comparison, the number of on-peak hours
5 during a calendar year is about 25% of the total hours, and the total energy provided by
6 PEF during on-peak hours is in the neighborhood of 45% of all energy provided by PEF.
7 To place these percentages into perspective, a typical AFFIRM Member consumes about
8 32% of its total energy usage during on-peak periods, compared to around 45% for the
9 total system, so the load pattern of the AFFIRM Members is clearly more favorable than
10 the Company's total load because the costs incurred in serving off-peak loads are
11 substantially lower than the corresponding costs incurred in serving on-peak loads.

12
13 The inferior nature of PEF's commercial time of use rate (GSDT-1) is difficult to
14 illustrate because PEF does not provide the public reporting of information that would
15 demonstrate the ineffective nature of GSDT-1. Specifically, the information shown on
16 PEF's Sales of Electricity by Rate Schedules, a component of PEF's filing of the 2007
17 FERC Form No. 1, reports aggregate revenues and the aggregate number of customers
18 served under both GSD-1 and GSDT-1. The failure to report separately the revenues and
19 the number of customers under each of GSD-1 and GSDT-1 serves to disguise the fact
20 that very few customers, if any at all, can obtain a lower average cost per kWh by use of
21 GSDT-1 than by simply using the GSD-1, the "one size fits all" rate.

1 Q. DO YOU BELIEVE THAT A NEW COMMERCIAL TIME OF USE RATE
2 SHOULD BE DEVELOPED AND IMPLEMENTED, AND IF SO, WHY?

3
4 A. Yes, a new commercial time of use rate should be developed and implemented. It should
5 be noted that residential customers are a substantially homogeneous group (PEF seeks to
6 terminate its residential time of use rate because only 38 out of approximately 1,455,000
7 residential customers use the time of use rate). However, by contrast to residential
8 customers, commercial and industrial customers are a heterogeneous group with wide
9 variations in patterns of energy usage. When placed within the same rate class, some
10 commercial and industrial customers have favorable load patterns and others have
11 unfavorable load patterns. When the only viable rate available has a “one size fits all”
12 structure, the commercial and industrial customers with favorable load patterns are forced
13 to subsidize the commercial and industrial customers in the same class. Simply stated, an
14 array of rates should be made available to commercial and industrial customers such that
15 the revenue burden borne by individual customers is more closely related to the costs
16 caused in serving such customers. The most effective means to accomplish this objective
17 is through properly structured time of use rates where the rates in each time period are
18 aligned as closely as possible to the costs in each such time period.

19
20 Unfortunately, the existing time of use rate (GSDT-1) is so badly structured that for most
21 customers, it results in a total cost that exceeds the total cost that would be realized by
22 that same customer under the plain vanilla rate (GSD-1). Accordingly, commercial
23 customers (including the AFFIRM Members) who wish to become more energy efficient

1 by responding to electric price signals are denied the realistic opportunity to do so. For
2 this reason, the Commission should instruct the Company to develop a new commercial
3 time of use rate that would be more effective by providing periodic price signals that
4 would in turn provide an incentive to customers to actively endeavor to control their
5 energy costs.

6
7 **Q. DOES THE COMPANY SUPPORT THE CONCEPT THAT RATES SHOULD**
8 **PROVIDE APPROPRIATE PRICE SIGNALS TO CUSTOMERS?**

9
10 A. It appears so. The testimony of PEF Witness Slusser recommends the setting of rates in a
11 manner such that the vast majority of PEF customers would pay rates that are very close
12 to parity, i.e., the rates would cover the costs attributable to the major customer classes
13 without any unreasonable degree of cross subsidization between customer classes. When
14 rates are established based on related costs, as recommended by the Company, then the
15 rates provide appropriate price signals and the objective of economic efficiency is well
16 served.

17
18 On behalf of AFFIRM, it is requested that the Commission direct the Company to extend
19 this same theory of ratemaking on a more micro-cosmic basis by allocating costs more
20 precisely among sub-groups in the commercial and industrial class and by creating rates
21 that recover revenues from the commercial and industrial customers based more precisely
22 on the cost causation of the individual customers.

23

1 AFFIRM asserts that the rates approved by the Commission in this ratemaking
2 proceeding should be reasonable, cost-based and send the appropriate price signals to
3 customers. Unfortunately, while the GSD-1 rate may be just and reasonable as required
4 by applicable statutes, the indiscriminate application of GSD-1 to a group with widely
5 differing load characteristics does not produce just and reasonable charges to all electric
6 customers within the GSD-1 rate class. As discussed above, because the electric
7 characteristics of the AFFIRM Members are materially different from the assumptions
8 upon which the GSD-1 rate is based, the AFFIRM Members are the most disadvantaged
9 customers within the GSD-1 rate group. Further, the only commercial rates available
10 from PEF to AFFIRM Members are not just and reasonable because they are not based
11 on the cost causation characteristics of the AFFIRM Members nor do they send the
12 appropriate price signals to AFFIRM Members or other similarly situated customers.

13
14 **Q. ARE YOU ABLE TO CITE ADDITIONAL AUTHORITY PROVIDING FOR THE**
15 **DEVELOPMENT AND IMPLEMENTATION OF COST BASED TIME OF USE**
16 **RATES FOR AFFIRM MEMBERS AND SIMILARLY SITUATED**
17 **CUSTOMERS?**

18
19 **A.** Yes, I am. The Energy Policy Act of 2005 was enacted by Congress and became federal
20 law on August 8, 2005. Section 1252 of the Energy Policy Act, "Smart Metering",
21 amended Section 111(d) of the Public Utilities Regulatory Policy Act of 1978 by adding
22 the following:

1 “(14) TIME BASED METERING AND COMMUNICATIONS. – (A) Not later than 18
2 months after the date of enactment of this paragraph, each electric utility shall offer each
3 of its customer classes, and provide individual customers upon customer request, a time-
4 based rate schedule under which the rate charged by the electric utility varies during
5 different time periods and reflects the variance, if any, in the utility’s cost of generation
6 and purchasing electricity at the wholesale level. The time-based rate schedule shall
7 enable the electric consumer to manage energy use and cost through advanced metering
8 and communications technology.”

9
10 By submission of this direct testimony in this proceeding, the Members of AFFIRM
11 hereby request that the Commission direct the Company to develop, within the context of
12 this proceeding, a newly developed commercial time of use rate that will satisfy the
13 above cited objective set forth in the Energy Policy Act of 2005.

14
15 **Q. WHAT IS THE SECOND WAY IN WHICH THE AFFIRM MEMBERS ARE**
16 **ECONOMICALLY DISADVANTAGED IN PURCHASING ELECTRIC**
17 **SERVICE FROM THE COMPANY?**

18
19 **A.** The AFFIRM Members are multi-location customers that have aggregate diversified
20 loads that in turn provide economies of scale that are realized by the Company in
21 generation, transmission, and administrative functions. Currently, PEF does not make
22 available any multiple location rates that recognize the economic benefits to the
23 Company of serving such customers.

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By way of illustration, each of Wendy's/Arby's Group and YUM! Brands has over one hundred fifty locations served by PEF, with each having an aggregate load of approximately 12,000 kW. But this load of 12,000 kW is the sum of the non-coincident peak loads at each location rather than the coincident peak of all locations operated under the same brand. Given the widespread dispersion of such restaurants within the PEF territory, it is possible that the diversity in peaks is 4%, or 480 kW per month. Based on PEF's proposed demand charge of \$5.65 per kW per month, the recognition of peak diversity among restaurants operated under the same brand would produce an annual savings of \$32,544.

The primary reason for this cost difference is that the AFFIRM Members are treated for rate making purposes as if they were hundreds of unaffiliated small retail customers. This treatment as individual customers is inconsistent with the collective manner in which the AFFIRM Members are treated in competitive markets by almost all energy suppliers, and is further inconsistent with the collective treatment that the AFFIRM Members enjoy from the suppliers of almost all other products purchased by such companies.

Q. WHAT ACTION DOES AFFIRM ASK OF THE COMMISSION WITH RESPECT TO THE ISSUE OF THE DEVELOPMENT OF MULTI-LOCATION RATES?

1 A. The Commission is aware that a primary purpose of rate regulation is to attempt to create,
2 in the absence of competition for the regulated entity, the same competitive pressures that
3 would exist if competition were present. The Commission should take notice that in
4 states where electric service or natural gas service has been deregulated, it is common for
5 energy suppliers to actively seek to provide service to these multi-locations customers
6 under pricing schemes that recognize the aggregate size and usage characteristics of these
7 customers. For that reason, AFFIRM requests that the Commission direct the Company
8 to engage in good faith negotiations with representatives of AFFIRM such that multi-
9 location rates can be developed and considered in this rate proceeding or in subsequent
10 rate proceedings of the Company.

11

12 **Q. ARE THERE OTHER ASPECTS TO THE DEVELOPMENT OF MULTI-
13 LOCATION RATES THAT THE COMMISSION, AND IN TURN THE
14 COMPANY, SHOULD CONSIDER?**

15

16 A. Yes. Another important aspect of the consideration of multiple location rates is that the
17 customers to whom such rates would be available should be defined as all premises
18 operated as a single brand under common ownership or under common control via
19 written franchise agreements with a single controlling entity.

20

21 **Q. WHY SHOULD ALL PREMISES THAT ARE OPERATED AS A SINGLE
22 BRAND UNDER COMMON CONTROL PURSUANT TO FRANCHISE**

1 **AGREEMENTS WITH A SINGLE CONTROLLING ENTITY BE ALLOWED TO**
2 **USE A MULTIPLE LOCATION RATE/**

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A. The operation of certain premises under franchise agreements is an integral component of the business operation of many recognized brands, including all of the AFFIRM Members. Franchise holders operate their premises subject to the same degree of operational control by the controlling entity as the controlling entity exercises over its company-owned premises. Such controls include, but are not limited to, signage, appearance of premises, training of employees, products offered, product pricing, and adherence to the policies and rules of the controlling entity as set forth in written documents. In essence, the controlling entity holds every incidence of ownership in the premises, with the exception of title to the premises. This is the reason that customers are unable to distinguish between stores operated by the company versus stores operated by franchisees.

The existence of a franchise arrangement should properly be viewed not as an ownership issue, but rather as an alternative form of financing. The franchisee provides the initial financing, and earns a return on that investment. The controlling entity (the franchisor) is relieved of the burden of financing, and receives revenues from franchise fees and royalties instead of through the direct operation of the premises. One of the elements of the value of a franchise or brand is the ability to realize reduced operational costs through widespread economies of scale, including the collective purchase of goods and services

1 such as energy products and services. This value is often directly reflected in the level of
2 franchise fees collected by the controlling entity.

3
4 **Q. DOES AFFIRM WISH TO COMMENT ON THE COST OF SERVICE**
5 **METHODOLOGY SUGGESTED BY THE COMPANY IN THIS PROCEEDING?**

6
7 A. Yes. In this proceeding, the Company proposes that fixed production capacity costs
8 should be allocated based on 12 CP and 50% AD rather than the historical allocation
9 factor of 12 CP and 1/13th AD. The Members of AFFIRM object to the Company's
10 proposed methodology and urges the Commission to reject this proposal and instead to
11 adopt the methodology that has historically been used. The 12 CP and 1/13th AD
12 methodology for allocating fixed production capacity costs has been a foundation for
13 electric rate regulation in Florida, as evidenced by the fact that the MFRs that must be
14 submitted by the Company require cost of service data to be submitted using the 12 CP
15 and 1/13th AD allocator.

16
17 The testimony of Company Witness Slusser advocates the use of the 12 CP and 50% AD
18 methodology on the basis that it "is intended to provide a better matching of the
19 allocation of costs and benefits to customer rate classes". The Members of AFFIRM
20 agree that the cost of service study should provide the optimum matching of the
21 allocation of costs and benefits to customer rate classes. However, the issue to be
22 addressed by the Commission in this matter is to choose the methodology that best
23 accomplishes the objective of matching costs and benefits.

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The Company argues that the methodology that provides a 50% weighting to energy in the allocation of fixed production capacity costs is appropriate because generation investment strategies are different today than the strategies used in developing the Company's generation fleet thirty years ago. That premise fails on two counts. First, a significant portion of the generation related capacity costs that are being allocated today arose from the generation related investment strategies of thirty years ago, and thus should continue to be allocated on the same basis as the decisions to make those investments. As explained by Mr. Slusser, the methodology developed by the Commission at that time was the 12 CP and 1/13th method, and as those investments remain in place today, such investments should be allocated on the basis that was adopted at the time of investment.

Second, and equally important, the changes in generation investment strategies that have occurred over time may reflect differences in the choices of generation resources based to fuel costs and environmental considerations, but at the foundation of such generation planning is the proposition that whatever generating resources are developed must be capable of reliably serving the expected loads of the Company. As the underlying foundation for generation investment planning remains the objective of reliably serving loads, it is inappropriate to provide such a disproportionate weighting to energy usage in the allocation of fixed production capacity costs.

1 **Q. Are there other factors that should be considered by the Commission in the selection**
2 **of the appropriate methodology for allocating fixed production capacity costs?**

3

4 A. Yes, there are. The Commission should be sensitive to the fact that price signals for the
5 consumption of electric energy are becoming increasingly important in the way that
6 customers use electricity. Accordingly, when rates are developed, the Commission
7 should take great care in assuring that rates are established and structured in a manner
8 that most closely aligns the price with the related costs.

9

10 The failure properly to align prices with related costs results in sub-optimal price signals
11 and inappropriate usage of energy. Customers that receive a price signal that does not
12 reflect the full cost of service have an incentive to overuse energy, instead of foregoing
13 energy usage or undertaking investments that will suppress energy consumption.

14 Correspondingly, customers that receive a price signal that reflects more than the full cost
15 of service have an incentive to forego energy use that would be economically productive.

16 The objective of economic efficiency is satisfied best when prices directly reflect related
17 costs.

18 The use of the allocation method proposed by the Company is not supported by economic
19 principles and does not result in prices that reflect related costs, and accordingly should
20 be rejected by the Commission.

21

22 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

23 A. Yes, it does.

Russell L. Klepper
Summary of Professional Credentials

Energy Services Group, LLC
770-751-8379

Mr. Klepper is a founder and principal of Energy Services Group, LLC, a utility and energy consulting services firm established in 1998. In 1984, Mr. Klepper established Rawson, Klepper & Company, the predecessor to ESG. With a strong academic background and more than thirty-two years of experience as a utility practitioner and consultant, Mr. Klepper specializes in the areas of energy economics, utility expenditure planning and cost control, ratemaking, negotiation of contracts for energy and energy transportation, and strategic analysis, planning and decision making in a regulated or transitory energy environment.

PROFESSIONAL INTERESTS

Mr. Klepper prepares and presents public and in-house seminars, serves as an expert witness on energy related economic and regulatory issues, and advises large energy consumers, regulatory intervention groups, trade associations, public policy foundations and other energy industry participants on matters related to analysis of capital expenditure alternatives, acquisition and allocation of capital, strategic, financial, and integrated resource planning, and determination of revenue requirements and rate structuring in an increasingly competitive energy industry. He is a noted writer and speaker in the areas of privatization of utility operations and the impacts arising from federal participation in the electric industry.

In addition, Mr. Klepper has prepared and presented reports on topics such as Strategic Issues in Utility Planning, Utility Service Obligations in a Changing Environment, Competition within the Utility Industry, Co-Ownership of Utility Assets, Resource Recovery and Waste Utilization, Cogeneration and Independent Power Production, Transmission Access and Pricing, Determination of Costs in Railroad Ratemaking, and Fuel Acquisition and Transportation.

PROFESSIONAL ACTIVITIES

Instructor of Economics and Money and Banking, American Institute of Banking, 1974-75.

Expert Witness on Financial and Regulatory Matters.

- ◆ Interstate Commerce Commission, 1979-81.
- ◆ Utah Public Service Commission, 1985-86.
- ◆ Kentucky Public Service Commission, 1993-98, 2000-2001, 2003.
- ◆ Florida Public Service Commission, 1994, 1996-1997.
- ◆ Georgia Public Service Commission, 2004.

Southeastern Electric Exchange. Member, Finance Committee, 1982-83.

Financial Management Association. Industry Reviewer of utility related presentations. 1983 Southeastern Conference.

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Edison Electric Institute. Member, Committee on Electric Power Ownership Alternatives, 1983-84. Presenter of "A Strategic View of the 1990s" to EEI Strategic Planning Committee, 1989.

Southeastern Regional Public Utilities Conference. Presenter of "A Viewpoint on Utility Privatization". 1990.

The Management Exchange, Inc., faculty member, 1982-92.

- ◆ Co-Developer and Co-Presenter of national seminar "Capital Expenditure Analysis for Utilities."
- ◆ Developer and Presenter of national seminar "Financial Planning for Utilities."

Energy Bureau. Presenter of "Evaluating Financing Techniques." Conference on "Utility Financing for a Beleaguered Industry." 1984.

Public Utility Reports. Conference Moderator and Discussion Group Leader. "Managing Utilities in a Changing Environment." 1984.

The World Bank

- ◆ Consulting Member of the Power Section Mission to PLN, the National Electric Utility of the Republic of Indonesia, specializing in utility financial and strategic planning. 1987.
- ◆ Developer and Presenter of internal seminar "Financial Planning and Analysis for Underdeveloped Countries." 1989.
- ◆ Developer and Presenter of materials for "Seminar on Energy Policy and the Environment", presented in Ethiopia in collaboration with the United Nations Economic Commission for Africa and in Egypt in collaboration with the Organization of Energy Planning. 1992.

United States Energy Association. Developer and Presenter of Materials at "Seminar on Natural Monopolies: Regulation, Structure and Pricing Decisions", a conference conducted in Vienna, Austria, for electric utility executives from Hungary, Poland, and the Czech and Slovak Republics. Jointly sponsored by the World Bank and the U.S. Agency for International Development. 1992.

The Cato Institute and the Institute for Energy Research. Presenter of "Federal Participation in the Electric Industry; A Review and Assessment of the Implications Upon Industry Restructuring". Conference on "New Horizons in Electric Power Deregulation". 1995.

National Rural Utilities Cooperative Finance Corporation. Presenter of "Federal Participation in the Electric Industry; A Focus on the Rural Utilities Service". Cooperative Financing Forum. 1995.

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The World Research Group. Presenter of "The Impact of Federal Participation in the Power Industry". Conference on "Public Power in a Restructured Electric Industry". 1995.

Kentucky Industrial Utility Customers, Inc. Presenter of "Economic Underpinnings to the Changing Regulatory Environment". Annual Conference. 1996.

MONOGRAPHS

The Utah Transmission Proceeding: Public vs. Private Ownership - A Case Study. Prepared under contract with the Economics Division of the Edison Electric Institute. 1987.

Privatization: An Overview of Worldwide Experience with Implications for the Electric Utility Industry in the United States. Prepared under contract with the Public Policy Analysis Division of the Edison Electric Institute. 1988-89.

Discussion of Considerations and Recommendations for Appropriate Methodologies for Determining the Cost of Equity Capital for Independent Telephone Systems. Co-authored with Roger A. Morin. Prepared under contract with the Ontario Telephone Service Commission. 1989.

Review and Assessment of Recent Executive Branch Initiatives with Ownership Implications for the Electric Utility Industry in the United States. Prepared under contract with the Bulk Power Policy Group of the Edison Electric Institute. 1993.

An Overview of the Bonneville Power Administration: Its Purpose, Performance, and Prospects. Prepared under contract with the Bulk Power Policy Group of the Edison Electric Institute. 1994.

Federal Participation in the Electric Industry; A Review and Assessment of the Implications Upon Industry Restructuring. Prepared for publication of proceedings on "New Horizons in Electric Power Deregulation", a conference cosponsored by the Cato Institute and the Institute for Energy Research. 1995.

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EDUCATIONAL HISTORY

Bachelor of Science in Business Administration,
Major in Economics, University of Florida, 1971.

Master of Business Administration, Major in Finance,
University of Florida, 1972.

Master of Professional Accountancy,
Georgia State University, 1980.

Member, MBA Advisory Board, Warrington College of Business Administration, University of Florida, 1995 to 2001.

EMPLOYMENT HISTORY

First National Bank of Florida in Tampa, Investment Division.

Employed 1972. Assistant Cashier 1973-74. Assistant Vice President 1974-76.

Exercised responsibilities for liabilities, portfolio management, analysis of bank operations, and pricing of deposit related bank services.

Georgia Power Company, Corporate Finance Department.

Financial Analyst 1977-81. Financial Services Manager 1981-84.

Participated in the financial planning process, special financial projects, and the development and preparation of rate filings. Later directed the evaluation of capital expenditure alternatives, managed the administration of the portfolio of outstanding capital instruments, and coordinated the financial, regulatory, legal and marketing aspects of raising over \$1.2 billion in capital through the issuance of preferred stock, first mortgage and pollution control bonds, and other debt instruments.

Section 1. Overview of Florida's Electricity Market

1.1 Energy Demand in Florida

Understanding customer electrical demand in Florida is essential to comprehending the importance of conservation. Florida's electrical demand and energy usage patterns are somewhat unique because the state's customer base is heavily weighted toward residential customers, due in part to high air-conditioning use during hot summer months and widespread use of electricity for home heating during winter months. Table 1 illustrates that residential customers make up nearly 89 percent of Florida's electricity customers. These customers purchase about 52 percent of the state's total electrical energy. Florida's commercial electrical energy usage is approximately 37 percent, while industrial customers account for the balance of 10 percent of total Florida energy sales.

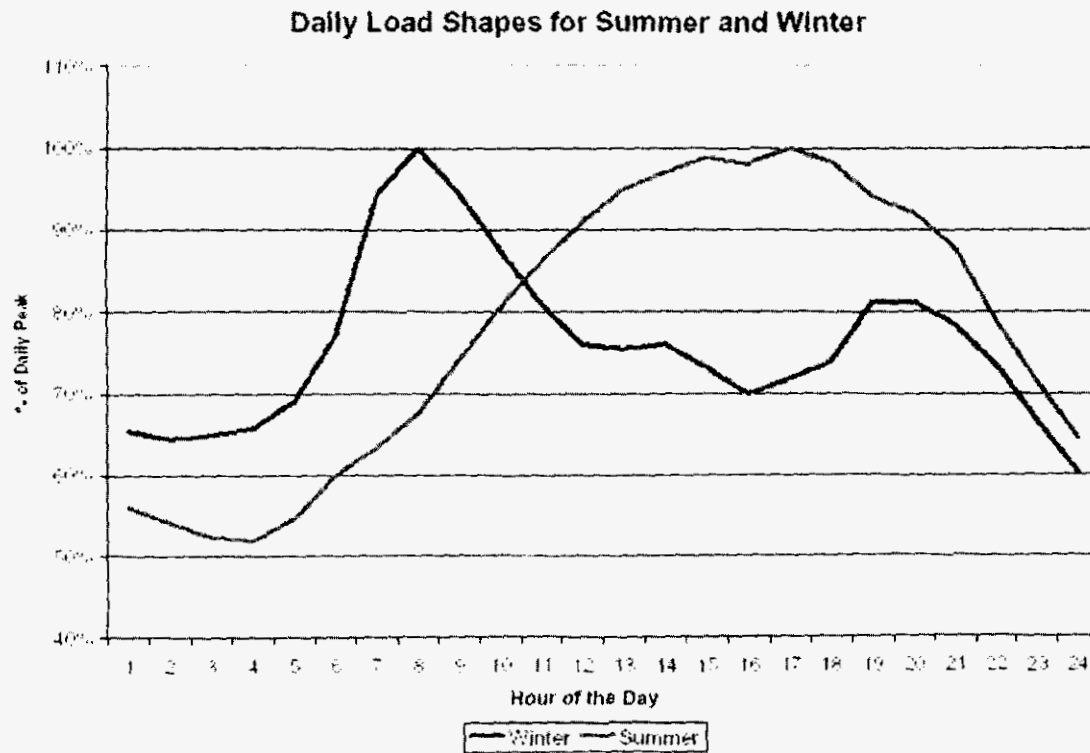
Table 1. Florida's Electric Customers by Class and Consumption in 2007

Customer Class	Number of Customers	% of Customers	Energy Sales (gigawatt-hours)	% of Sales
Residential	8,318,132	88.6	116,132	52.3
Commercial	1,029,331	11.0	82,758	37.3
Industrial	35,733	0.4	23,107	10.4
Total	9,383,196	100.0	221,997	100.0

Florida's warm and humid climate has a profound effect on residential electric usage. A typical residential customer's electrical usage varies more throughout the day than a commercial customer's usage and shows more pronounced peaks in the early evening in the summer and in the mid-morning and late evening in the winter. Electric energy usage in the industrial sector, however, is more uniform throughout the day. Compared to a state with a higher proportion of industrial customers, the summer and winter peak demands in Florida are more pronounced due to the patterns of energy use by residential customers.

Figure 1 depicts the daily load shape curves for typical summer and winter days in Florida. In the summer, customer demand begins to climb in the morning and peaks in the early evening, a pattern which corresponds to the sun heating buildings and the resulting air conditioning loads. In contrast, the winter load curve has two peaks, the largest in mid-morning, followed by a smaller peak in the late evening. Both correspond to heating loads.

Figure 1. Typical Florida Daily Electric Load Shapes



Historically, Florida's electric demand has been highest in the summer. In 2007, peak electric demand reached 49,391 megawatts (MW) in the summer and 44,240 MW in the winter. In 2017, Florida's peak electric demand is projected to increase to 57,305 MW in the summer and 58,953 MW in the winter, indicating a reversal of the historic trends.