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BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Petition of Gulf Power Company for an increase in its rates and charges.	)	DOCKET NO. [redacted]-EI
	)	Filed: July 9, 1990

POST-HEARING BRIEF OF INDUSTRIAL INTERVENORS

John W. McWhirter, Jr.
Fla. Bar No. 53905
Lawson, McWhirter, Grandoff & Reeves
201 East Kennedy Boulevard
Suite 800
Tampa, FL 33601-3350
813/224-0866

Joseph A. McGlothlin, Jr.
Fla. Bar No. 163771
Lawson, McWhirter, Grandoff & Reeves
522 East Park Avenue
Suite 200
Tallahassee, FL 32301
904/222-2525

Attorneys for the Industrial Intervenors

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BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Petition of Gulf Power Company for an increase in its rates and charges.	DOCKET NO. 891345-EI Filed: July 9, 1990

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John W. McWhirter, Jr.
Fla. Bar No. 53905
Lawson, McWhirter, Grandoff & Reeves
201 East Kennedy Boulevard
Suite 800
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Joseph A. McGlothlin, Jr.
Fla. Bar No. 163771
Lawson, McWhirter, Grandoff & Reeves
522 East Park Avenue
Suite 200
Tallahassee, FL 32301
904/222-2525

Attorneys for the Industrial Intervenors

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PRELIMINARY STATEMENT

Pursuant to Rule 25-22.0561(1), Florida Administrative Code, Air Products & Chemicals, Inc., American Cyanamid Company, Champion International Corporation, Exxon Company, USA, Monsanto Company, and Stone Container Corporation (the "Industrial Intervenors") files their post-hearing brief. As required by Rule 25-22.056(3)(a), Florida Administrative Code, the Industrial Intervenors are simultaneously filing their Post-Hearing Statement of Issues and Positions, which contains a summary statement of the positions developed and supported in this brief. The brief consists of argument directed to the issues treated at the hearing, presented in the same order in which they appeared in the Prehearing Order.

The following abbreviations are used in this brief. Air Products & Chemicals, Inc., American Cyanamid Company, Champion International Corporation, Exxon Company, USA, Monsanto Company, and Stone Container Corporation are referred to as the Industrial Intervenors. The Office of Public Counsel is referred to as Public Counsel or OPC. Gulf Power Company is designated Gulf. The Florida Public Service Commission is referred to as Commission or PSC. The transcript of the record is designated Tr. and hearing exhibits are designated Ex.

INTRODUCTION

The author of this brief suspects that often times in complex rate cases observers, maybe even Commissioners, feel as though they are engulfed in an impenetrable fog when lawyers and expert witnesses and not so expert witnesses begin to discuss arcane and complex issues, such as,

> One reasonable approach could be to allocate the demand-related production and transmission costs to identified peak seasonal months and non-peak months according to aggregate reliability index values in the peak and non-peak months. The allocation of energy-related production costs and non fuel charges, should not vary seasonally, with a possible exception for seasonal variations in on fuel variable O&M costs, if identifiable. (OPC's response to Issue No. 127)

One may begin to wonder whether perhaps in a simpler world there could be some old reliable principles that we could fall back on for guidance. This brief will attempt to pinpoint for its readers some simple governing principles to fall back on that may have some value even to those who have a far greater understanding of regulatory principles than the author of this monograph.

The Industrial Intervenors in this case have not focused upon revenue issues and do not intend to do so in this brief. Those issues have been amply and thoroughly explored by others. The Industrial Intervenors became involved in this case because it is the first rate case in which cost of

service principles will be addressed since the Commission experimented with an early version of its former staffer, Shef Wright's, equivalent peaker cost of service methodology in the Tampa Electric Company case in 1986.

In this case, the Office of Public Counsel embraced Mr. Wright's equivalent peaker methodology and has proffered it as a solution for allocating Gulf's charges to the different classes of customers. It is unusual for the OPC to become involved in cost of service methodologies, because when he does so, it necessarily requires him to abandon some customers and favor others even though the statutory mandate which governs his office gives him the responsibility of protecting the rights of all consumers.

The Industrial Intervenors believe Mr. Wright's theoretical approach is distorted from reality, and that his mistaken view produces skewed results which are unreasonable and onerous. High load factor customers would be severely and adversely impacted if the Commission chose to select and apply the OPC's proffered cost of service methodology. For that reason, the Industrial Intervenors devoted their resources to a comprehensive analysis and exposition of the OPC methodology. In this case, it has been carefully dissected to ferret out its diseased components.

The Commission Staff has apparently recognized some of the shortcomings in the OPC methodology. It has promoted a refined equivalent peaker methodology in this case.

Unfortunately, while an improvement, this progeny of a blighted forebear likewise suffers from genetic defects that must be cured.

Before starting on these analyses, it is best first to examine how we got here and where it is we ought to go. Gulf Power Company has constructed or purchased 2,174 megawatts of generating capacity in the states of Florida, Mississippi and Georgia[1/] to be included in the rate base allocated to Florida retail customers. It is this production plant and its attendant transmission lines which creates the most complex problem for the Commission to solve in adopting a cost of service methodology, because it is jointly used by a diverse group of customers.

Assume for a moment that an electric utility were the same as other industrial operations. We know from basic economics and what we read in the newspapers that an efficiently operated industrial plant utilizes more than 80% of its capacity. Economists tell us that the country is in a recession when less than 80% of its industrial capacity is productively employed.

If Gulf operated at even a 75% load factor, it would sell 14.3[2/] million megawatt hours rather than the 7.7 million that has been projected for 1990. Under these circumstances, if

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1/ MFR Section A, page 12, line 7 and page 50.

2/ MFR Section E, page 219

all classes of customers had the same load characteristics, it would be appropriate to charge for electricity based upon the energy consumed. Gulf says it needs $448 million to cover its operating costs and a fair return on its investment.[3/] This sum could be achieved by charging each customer 3.1¢ per kilowatt hour.

Unfortunately, electric utilities are not as efficient in their operations as other industrial companies. In 1987 Gulf's annual load factor was 56.5%,[4/] far below the mean for other industrial companies. The reason for this performance is because electricity cannot be stored for future sale. It must be produced contemporaneously with customers' demands. Customers' demands are generally mercurial.[5/] Gulf's customer classes have different load characteristics. The PXT annual class load factor in 1987 was 92%,[6/] whereas its residential class on the opposite end of the spectrum had a load factor in the range of 48%.[7/]

Another basic problem that is faced by electric utilities is that they are capital intensive. If the costs incurred by an electric company varied in proportion to the quantity of

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3/ MFR Section A, page 10

4/ MFR Section A, page 50

5/ Alert readers will appreciate this pithy pun.

6/ MFR Section E, page 227

7/ MFR Section E, page 222

electricity produced, it would still be appropriate to price electricity on a kilowatt hour sales basis. Unfortunately, Gulf's costs do not vary in direct proportion to sales. Gulf alleges that its rate base is $924 million. It seeks an 8.34% return on this investment. This is $77 million. This return is sought to be achieved after income taxes are paid, which means that it requires over $125 million to cover Gulf's return including income taxes plus $21 million for ad valorem taxes and $48 million for depreciation expense.[8/] Thus, the sum of $194 million (43% of the requested revenues) must be met even if Gulf fails to sell the first kilowatt hour of electricity. In other words, these are fixed costs. By law, a pricing mechanism must be developed so that customer classes with different load characteristics, sizes, voltage levels and customer costs will each pay a fair share of these fixed costs.

The most difficult part of a cost of service study is how to allocate these fixed costs to the various customer classes. To the degree that costs are loaded on kilowatt hour charges, the fixed costs will be shifted toward the customers who continuously consume energy at a constant rate. To the degree they are loaded on the customer classes on the basis of the class demands imposed during periods when the plant is fully utilized, the costs will be shifted toward the low load

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8/ MFR Section A, pages 1 and 16

factor customers. The debate over cost of service and rate design issues addressed in the first part of this brief centers upon the most theoretically sound, fairest and most practical methodology to employ. It is often said that cost of service analysis and rate design are matters of art and science, but they are really a matter of wisdom and good judgment.

The second part of this brief deals with the pricing of standby service provided to self-generating customers. Cogeneration is anathema to utilities and a thicket for regulators. It is conceptually embraced by conservationists, legislators, regulators and utilities because it conserves fossil fuel and defers new electric plant construction. It is the subject of ambivalent feelings by industrial concerns who would prefer to employ their capital in manufacturing the products they produce rather than in making electricity.

In spite of a natural inclination to focus on its own product lines, industry is forced into cogeneration because of economic reality when it becomes cheaper to produce electricity than to buy it. Electric utilities pay lip service to cogeneration but economic reality compels them to recognize it as competition. In response to the competition, utilities are led to hold the price line for prospective cogenerators and also establish barriers to cogeneration by overpricing standby service, through overpriced interconnection costs and by other subtle charges and

devices. The burden is upon the regulator to separate the wheat from the chaff, to promote legitimate conservation, to recognize value of service if it is cost beneficial to the utility to retain a customer. When cogeneration occurs the regulators should price the charges for standby service and supplemental service so that the utility's off-peak sales to cogenerators can provide additional revenue to cover the utility's fixed costs. This regulatory approach will reduce the fixed cost burden for the benefit of the utility's diversified customer base.

Cogeneration is an idea whose time has come. It will prove to be greatly beneficial to society if it evolves rationally and economically rather than by bursting through the seams of artificial barriers.

PART I.

A. COST OF SERVICE ISSUES

115. ISSUE: WHAT IS THE APPROPRIATE COST OF SERVICE METHODOLOGY TO BE USED IN DESIGNING THE RATES OF GULF POWER COMPANY?

116. ISSUE: HOW SHOULD DISTRIBUTION COSTS BE TREATED WITHIN THE COST OF SERVICE STUDY?

117. ISSUE: HOW SHOULD UNCOLLECTABLE EXPENSES BE ALLOCATED?

118. ISSUE: HOW SHOULD FUEL STOCKS BE CLASSIFIED?

120. ISSUE: IS THE METHOD EMPLOYED BY THE COMPANY TO DEVELOP ITS ESTIMATES BY CLASS OF THE 12 MONTHLY COINCIDENT PEAK HOUR DEMANDS AND THE CLASS NONCOINCIDENT PEAK HOUR DEMANDS APPROPRIATE?

In summary, the Industrial Intervenors answer the above questions in the following manner.

(115) The "near-peak" methodology approach is the best approach to fairly allocate the cost of production and transmission plant between the customer classes because it best matches the principle of placing costs on those who cause them to be incurred.

(116) It is reasonable and consistent with accepted industry practice to recognize that a portion of the investment in poles, overhead conductors, underground conduit conductors and line transformers should be classified as a customer-related cost. This is in contrast with Gulf's cost of service study in which only 16.4% of overhead conductor investment was classified as customer-related and all of the

remaining distribution network investment was classified as demand-related.

(117) Uncollectable expenses should be allocated to those classes which incurred them.

(118) Fuel stocks, a working capital component of rate base, should be classified the same as production plant, because they are as much a component of the plant as are the boiler and turbine generator.

(120) Gulf's methodology is appropriate. The adjustment to the calculation was necessary to prevent the raw data from indicating an increase in CP demands occasioned by SE usage that the conditions of the SE offering prohibit from taking place.

ARGUMENT

Issue 115: In this case, there have been essentially four cost of service methodologies presented: the "near-peak" system proffered by the Industrial Intervenors; the "12 monthly peaks and 1/13 average demand" methodology proffered by Gulf; the "equivalent peaker methodology" proffered by the OPC; and the "refined equivalent peaker methodology" promoted by the Commission Staff.

There is a strong compulsion to come up with an answer first and then design a methodology that will reach that answer, but a fair resolution is never derived by begging the

question. The best answer comes from constructing a firm foundation based on logic and building upon it.

Before undertaking the review of any cost of service or rate design concept, it is wise to examine the governing statutory guidelines. Section 366.06(1), Florida Statutes, provides:

> In fixing fair, just, and reasonable rates for each customer class, the Commission shall, to the extent practicable, consider the cost of providing service to the class, as well as the rate history, value of service, and experience of the public utility; the consumption and load characteristics of the various classes of customers; and public acceptance of the rate structures.

In its cost of service and rate design, Gulf has used the compromise 12 CP and 1/13 AV methodology that has been in place for more than a decade. This approach clearly has a leg up on rate history, utility experience, public acceptance and value of service. The "near-peak" methodology gives consideration to all of these aspects as well as the consumption and load characteristics of the various classes of customers, as mandated by the statute. The proponent of the equivalent peaker methodology acknowledged that he gave no consideration to value of service,[9/] he had little concern about rate history,[10/] and he had no apparent concern for

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9/ Tr. 2124.

10/ Tr. 2125.

public acceptance.[11/] The Staff submitted no proponent to defend its refined equivalent peaker methodology. Consequently, the parties were unable to ascertain Staff's attitude about the statutory guidelines.

All witnesses agree on the basic steps in a cost of service study. The rate base is divided first into functions (generation, transmission, distribution and customer costs). The costs related to each of these functions is then either classified as a demand cost, an energy cost, or a customer cost. The costs are then allocated to the customer classes. The big disagreement in this case relates to the classification of the costs relating to the investment in production and transmission plant. A lesser skirmish relates to the classification of certain distribution costs.

The fixed costs relating to the generation and transmission system constitute $615 million, or 67% of Gulf's $924 million rate base.[12/] (See the appendix attached to this brief.)

If the reader hasn't dozed off by this time, you may recall from the introduction that to the extent that production and transmission costs can be classified as energy costs the inefficient low load factor customers are benefited because more of the plant is allocated to the customers who

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11/ Tr. 2129.

12/ Ex. 612, Pollock, Appendix B, page 5

use large quantities of electricity over the course of the test year and less of the plant is allocated to customer classes which require that a large capability be available to meet their sporadic demands during periods in which there are short spurts of consumption.

The Industrial Intervenors believe it is extremely important to remember that the cost analysts are trying to allocate the fixed costs related to a generating and transmission plant that is capable of producing an additional 7 billion kilowatt hours of electricity that will not be produced. Our consultant chose a peak responsibility methodology because the Gulf plant was constructed to reliably meet mercurial demands rather than a consistent nonvolatile demand. With Mr. Pollock's near-peak study, the extra cost of standing by to serve at times of peak demands is charged to those who caused the cost to be incurred.

The Industrial Intervenors' consultant examined the production and transmission plant that was actually constructed. Although this study uses a peak responsibility methodology, it does not rely only on the projected 1990 system annual peak. It examines a broad spectrum of Gulf's peak periods and the realization that Gulf has been and continues to be a predominantly summer-peaking utility.[13/] After examining historical patterns, Mr. Pollock identified 71

13/ Ex. 612, Schedule 6

points during the test year when demands on the system were within 5% of the annual peak demand.[14/]

Mr. Pollock's study identifies for each customer class an appropriately sized "slice of the system." While the amount of generating capacity assigned to each class is different, the generating mix within each allocated portion is assumed to be identical; each class is charged the same average cost per kilowatt of installed generating capacity. The details of the rationale underlying the Pollock study are set forth in his testimony and are amply punctuated with meaningful exhibits and appendices. The testimony will not be reviewed in detail here, except to emphasize that the facilities actually in the ground and the actual operating characteristics of Gulf and its parent Southern Company dictated the methodology chosen. These facilities were planned to meet the diversified consumption patterns of Gulf's customer base at the lowest cost.

The proponent of the equivalent peaker methodology contends that it is important to emulate in the cost of service study the factors that influence decisions in the utility's generation planning process. However, he testified on more than one occasion that he was not expert in nor qualified to testify about generation system planning;[15/] and

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[14/] Ex. 612, Schedule 8

[15/] Tr. 2121 and 3104

Gulf witness Howell, who is well versed in system planning, testified that Mr. Wright was fundamentally mistaken with respect to Gulf's planning process.[16/] Mr. Wright acknowledges that the utility is obligated to meet the peak demands on its system. However, he does so by reconstructing a hypothetical minimum generating system (analogous to the minimum distribution system concept which the Commission has rejected) rather than accepting the one that was actually built. This hypothetical system is composed of so-called "peaking units." These units are less expensive to construct than base load units. The OPC's consultant says in his cost of service study that the fixed costs relating to the production plant are classified as demand costs in an amount equivalent to the cost of constructing a phantom system composed of peaking units. The balance of the cost of bricks, mortar, labor and steel is classified as "energy" on the theory that the additional money is spent to build base load plants only to save fuel costs.

During the course of the proceedings, considerable attention was paid to generation planning. The parties agreed that when a system is being constructed, the planners look at the number of hours a planned generating unit will be operated. A base load unit is expensive to construct but operates relatively inexpensively. A peaking unit is cheap to

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16/ Tr. 3532-34; 3536-38

construct but its fuel and operating costs are relatively exorbitant. The parties concluded that system planners in determining which type of generating plant to build may consider load duration. In doing so, the hourly demands throughout the year may be inputted into the economic analysis. This in and of itself does not define cost-causation. In reality, there is a crossover or break-even point. If the generating unit will be operated only in short spurts, the combined capital and operating costs dictate a peaking unit. If the unit will be operated for relatively longer periods, a base load unit is more appropriate. In this case, Gulf determined the break-even point to be 1,430 hours. When a generating unit will be called upon to operate more than 1,430 hours in a year, it is less expensive to build and operate a base load plant than a peaking plant. Therefore, only the first 1430 hours (or about 16% of the time) influence the decision as to the type of unit to be built. The OPC's consultant totally ignored this fact. The Commission Staff, in its refined equivalent peaker methodology, acknowledged the importance of the break-even point but still classified all production and transmission plant fixed costs, over and above the cost of peaking units, as "energy" costs. Staff then states that 1,430 of these "energy" hours should be allocated on the basis of demand. Unfortunately, instead of using peak demand periods, the refined equivalent peaker method looks at the 12 monthly

peaks. This is illogical because Gulf's peak demand in at least five of the months occur beyond the 1430 hours break-even point on the system load duration curve.[17/]

The Industrial Intervenors vigorously oppose both the equivalent peaker and the refined equivalent peaker methodologies not only because they utilize a 12 CP methodology, not only because they look at a fictitious system rather than the one that was planned or constructed, not only because the 1,362 megawatts of the fictional plant would have failed to meet Gulf's 1,743 megawatt peak demand, but principally because the studies are incomplete, the reasoning is faulty and the application is unfair. The studies ignore the very great significance of O&M cost.

There are two relevant costs which characterize the different types of production plant: the fixed costs, which are incurred just because the plant is there; and the operating costs, which are incurred when the utility manufactures electricity. Mr. Pollock assigned each class a uniform "slice of the system." The peaker versions argue that energy-intensive customers should be assigned a greater portion of the costs of expensive base load units, but fail to then recognize the trade-offs in operating expenses. When you buy a cheap plant, it costs more to operate to produce the electricity, principally because the fuel cost is greater. It

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17/ Schedule 1 to Ex. 612

only makes sense, then, to allocate the expensive O&M costs consistently with the plant capital costs allocations.

The principle is no different from a car rental company that adds to its fleet certain expensive, fuel-efficient cars. If it exacts a premium in the daily reservation charge to reflect the greater capital cost, it had better stand ready to offer lower-than-ordinary fuel and mileage charges to those customers who expect their greater distance to lower their overall bills. If some classes of customers are required to pay more capital costs because to do so enables Gulf to reduce fuel and other operating costs, the lower fuel and operating costs should be allocated the same way that capital costs (classified as "energy") are allocated. Higher fuel and operating costs should be classified as demand costs and allocated to the peak class demands. The failure of the peaker methods to follow through with the "logic" of the study is a serious shortcoming and a damaging indictment. Mr. Pollock demonstrated that the adjustments needed to recognize the trade-offs can be readily made within the cost study, without the necessity of tinkering with the way in which fuel costs are recovered from customers.

There is yet another flaw in the equivalent peaker methodology. It has to do with the reliability of peaking units. Mr. Pollock pointed out in his testimony[18/] that when

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18/ Ex. 612, Schedule 3

called upon to serve, peaking units were unable to meet the call 47% of the time. To cope with this fact, roughly twice as many peaking units should be used for the study setting up the hypothetical minimum generation system. This omission by the peaker alone reduces the amount of capacity allocated on the basis of demand by about half. The OPC consultant responded to this conclusion by saying that in determining reliability, he would not measure the forced outage rates of generating turbines by reference to the hours when they are called upon to serve, but would compare their forced outage hours to all hours of the year, whether the units are called upon to serve or not.19/ Thankfully, parachute packers are not this sanguine.

Gulf uses a 12 CP and 1/13 AV cost methodology which was utilized by the Commission in the late 1970's. Prior to that time, Gulf had used a peak responsibility method. The Industrial Intervenors believe the 12 CP and 1/13 AV methodology was selected not only because it was the PSC's standard methodology in the last decade, but also because it is a compromise solution. The approach, indeed, is something of a middle ground between the radical equivalent peaker methodologies and the peak responsibility concept, but it has

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19/ In essence, Mr. Wright's use in rebuttal of "equivalent availability" imputes to peakers 100% reliability during the 8560 hours (98%) of the year when they are not called upon to operate! Mr. Pollock's forced outage rate accurately measures the reliability of peakers as they are actually used on the system.

little more than its compromise value to recommend it. Gulf did not build its system to only meet the peak demands in December, February, March, November or April. If it had done so, it would have been adequate to meet its obligation to serve in the balmy halcyon days of spring and fall, but it would have failed to meet its obligation in the winter and summer periods when the customers either turn up the heat or turn on the air conditioning.

Gulf chose to meet its obligation to serve as it rationally should. It chose to meet the system peak demand as well as its average demand with generating units that would provide the overall least system cost. Because of the mercurial demand of its customers, the production and transmission system selected is not utilized to its maximum efficiency. Even though the production plant is not efficiently utilized, the mortgage and taxes must continue to be paid. Logic says that the mercurial customers should pay for the portion of the plant that is standing in wait to serve them rather than requiring the customers who are always there to pay for that portion of the plant which these customers will never use, which was not designed to serve them and for which they should have no cost responsibility.

You will recall that the OPC's consultant ignored value of service[20/] in his analysis, but maybe this is what value of

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20/ Tr. 2114

service is all about. If a customer class is required to pay for a portion of a plant that it does not need and cannot use, it may find it more economical to build its own electric plant. This is where the wisdom and judgment of rate design comes into play. Rate history, ignored by the OPC consultant, is important if there is to be fairness in rates. Industrial customers who have made multi-million dollar investments in manufacturing plant based on stable electric rates should not be subjected to avant-garde theories which may cause disruption, rate volatility and may result in the remaining electric customers paying more for service than they would under fair cost allocation procedures. Artificially imposing the flawed theories and the associated costs on those customers would not be in the long term public interest.

In summary, the cost of service methodology prepared by the Industrial Intervenors looks at the facts as they are and the logic of the generation planning scheme as it is actually applied to select the method for determining how to allocate the cost of electric service. The "near-peak" method meets the statutory guidelines and is theoretically sound. The other costing methodologies presented in this case, when corrected by adding the missing parts and supplying "fuel symmetry", come out substantially the same way as the "near-peak" methodology.21/

21/ Ex. 612, Schedule 12

Over the years in water and sewer rate cases, the Commission has recognized the problems confronting a capital intensive industry. It has moved charges away from consumption toward base charges designed to recover fixed costs. This lets winter visitors pay a fair share of the cost. The rationale adopted in water and sewer cases is equally applicable to the capital intensive electric industry.

Issue 116: As to the cost of service methodology to use for allocating the distribution system, once again it must be recognized that the system is put in place to provide standby service, its cost does not vary with the amount of electricity consumed, and therefore it should be classified to reflect the relevant costs causation factors, mortgage and depreciation, and tax payments. The fixed costs are customer costs or demand related costs.

Duke Power conducted a survey of 87 utility companies to determine the methodology for allocating distribution costs. Based upon what these utilities had done, a logical approach was developed to govern the allocation of these costs. The approach is contained in Schedule 10 to Ex. 612 and is recommended to the Commission. If only a small portion of the fixed costs associated with distribution, such as, service drops are classified as a customer-related cost then larger demand-metered customers will be required to subsidize smaller customers.

Issue 117: The next issue deals with bad debts. Which good customers should pick up the debts of those who fail to pay? The PSC Staff and OPC conclude that all good customers should pick up the tab of all bad customers in proportion to their contribution to system revenue. Gulf, the Industrial Intervenors and the Florida Retail Federation say that each customer class should pick up the debts of the defaulting customers in their own class. Bad debts are a cost of doing business, just like any other cost of doing business, but some classes of customers meet this obligation by bearing the cost of posting security deposits or other mechanisms to protect the utility against their default. Consequently, the customers pay extra to guarantee their bills and the utility bears little or no risk. Most of the defaults occur in the residential class. Residential customers are required to put up a security deposit for a period of time (upon which they are paid interest) and then they are relieved of this cost. It seems, therefore, that with respect to defaults in the residential class, the remaining residential customers should pick up this expense rather than the commercial, industrial or governmental entities whose credit is backed up by the full faith and credit of the government, a longterm nonterminating security agreement or other satisfactory guarantee to protect the utility against their default. Requiring these classes of customers to pick up residential defaults will place a double cost burden upon them.

Issue 118: The classification of fuel stock should be broken between demand and energy, rather than classified all to energy. Gulf is a coal burning utility. There is base coal that over the years has been compacted into the ground and will never be used. It is in a real sense a sunk investment. There is also base coal and fuel standing by to serve when called upon. There is other fuel which is continually used and replaced on a recurring basis, month in and month out. The base fuel supplies should be allocated to demand the recurring fuel inventory should be allocated to energy.

Issue 120: The methodology Gulf used to calculate the projected 1990 coincident peak demands by class required the use of 1987 historical information as a starting point. The projection involves multiplying the class historical coincident peak by the ratio of the class projected kWh consumption to its historical kWh consumption. Gulf witness Kilgore explained that he subtracted from the historical and projected kWh figures for classes LP and PX the incremental SE sales--that is, the amount of energy that would not have been bought under other rate schedules if SE had not been available. However, this subtraction was necessary to provide the consistency that is an implicit assumption in the methodology. Mr. Kilgore testified that the precentage of 1990 SE sales deemed to be incremental constitute a far greater percentage of the total than was true for the

historical figure; yet, a condition of the SE schedule is that it not contribute to the coincident peak. SE energy is sold only on an as-available basis. Mr. Kilgore confirmed that Gulf administers its tariff to insure that SE does not influence the peak. That testimony is not challenged or refuted anywhere in the record. Had the incremental SE energy been included, the ratio would have artificially inflated the projected coincident peak demands of the two classes even though the limitation of the SE offering would have precluded that from happening.

B. RATE DESIGN PRINCIPLES

121. ISSUE: IF A REVENUE INCREASE IS GRANTED, HOW SHOULD IT BE ALLOCATED AMONG CUSTOMER CLASSES?

137. ISSUE: ORDER NO. 17568, DOCKET NO. 850102-EI APPROVED THE EXPERIMENTAL SUPPLEMENTAL ENERGY (SE) (OPTIONAL) RIDER AS A PERMANENT RATE SCHEDULE ON THE CONDITION THAT IT BECOME A SEPARATE RATE CLASS IN THE COMPANY'S NEXT RATE CASE. HAS GULF COMPLIED WITH ORDER NO. 17568, AND SHOULD THE SE BE A SEPARATE RATE CLASS?

138. ISSUE: HOW SHOULD RATES FOR THE SEPARATE SUPPLEMENTAL ENERGY RATE OPTIONAL RIDER SCHEDULE BE DESIGNED?

141. ISSUE: WHAT IS THE APPROPRIATE METHOD FOR CALCULATING THE MINIMUM BILL DEMAND CHARGE FOR THE PX RATE CLASS?

142. ISSUE: WHAT IS THE APPROPRIATE METHOD FOR CALCULATING THE MINIMUM BILL DEMAND CHARGE FOR PXT RATE CLASSES?

In summary, the Industrial Intervenors answer the above questions in the following manner.

(121) Agree with Staff. (Pollock)

(137) There should not be a separate class for SE customers. Supplemental Energy is provided to customers only on an as-available basis, and only on the condition that SE customers pay Gulf for any additional investment to accommodate that service. Therefore, there is no logical reason to establish a separate class for SE customers because there are no costs caused by that usage. Further, the establishment of a separate class could create potential instability, due to the small size of the SE "class" and the resulting small size of the class of remaining PXT customers.

(138) The rates applicable to SE customers should be identical to the corresponding rate applicable to non-SE customers within the same rate class. To do otherwise could cause instability because of the small size of the SE and non-SE subclasses. (Pollock)

(141) Consistent with the applicable paragraph, rate PX/PXT customers should be subject to a minimum annual billing demand charge. (Pollock)

(142) While we generally agree with the Staff's method, the load factor should be based on maximum on-peak demand to encourage customers to use more power during the off-peak periods. (Pollock)

ARGUMENT

In summary, the Industrial Intervenors recommend that rate design follow the near-peak cost of service methodology, but in recognition of rate history and customer acceptability, any authorized base rate increase should be limited on the upside to 1.5 times the retail system average percentage increase in base revenue. As to the method for calculating the minimum charge for the PX and PXT classes, there should be a minimum annual billing demand charge. These are high load factor customers. If the minimum demand charge is based exclusively upon the on-peak demand, it will encourage further improvement in the customer's load factor. These high load factor customers may be encouraged to adjust their load

characteristics in a fashion that will not only maintain their own high load factor but will shift their maximum demand to off periods and thereby further improve the system load factor.

Issue 121: Although other factors may be considered, such as gradualism, rate continuity, ease of administration, customer acceptance and simplicity, all parties appear to agree that primary emphasis should be placed on the cost of providing service to determine the revenue requirements from each class and from each customer within a class. The basic reasons for adhering to the cost of service principle throughout the rate spread and rate design phases, as articulated by Mr. Pollock, are equity, engineering efficiency (cost-minimization), stability and conservation.

Mr. Pollock's recommendation for moving the classes closer to parity should be followed. The recommendation is based upon the near-peak cost of service study. It is reinforced by the rates of return indicated by his corrected, refined equivalent peaker analysis as well.

Issues 137 and 138: It should be recognized that these are intra-class rate design issues. First, should a six customer class (i.e. Rate PXT) be broken into 2 classes (i.e. Rate PXT and PXT/SE) or should differences within the class be addressed and appropriate steps be taken within the tariff applicable to that class to properly allocate costs? The company proposes to retain the present PXT class. The Staff,

on the other hand, is proposing to place SE customers in a separate class, because these customers are allegedly being subsidized by non-SE customers. The source of the subsidy can be traced to the existing PXT rate design, under which incremental SE demands are forgiven, and the fact that at least two PXT/SE customers are served from dedicated substations. In at least one case the capacity of the dedicated substation exceeds by 7.5 MW the customer's billing demand. The fact that some PXT customers also taking SE are served from dedicated substations is not a legitimate reason to treat them as a separate cost of service class.

Old timers will remember the time when utilities had 40 and 50 different rate classifications. The Commission has tried long and hard to narrow down rate classes to eliminate artificial customer categories such as chicken farmers, miners, and so forth. Segregating the SE customers into a separate category, when their use characteristics are not altogether different from those of an existing class, is a step back down the trail that the utilities have previously been directed not to traverse.

In those circumstances where local facilities are supplied to meet customers's off-peak demands to purchase supplemental energy, Gulf's contract with that customer provides a method for recovering the costs of any additional transformer capacity required. Staff suggests that a better approach would be to collect these and all local distribution

costs through the maximum demand charge in the tariff. To make it work, SE demands would have to be included in determining the maximum demand charge, and, to avoid double counting, Gulf would have to eliminate the additional local facilities charge, which is being imposed as part of the customer's service agreement. The Industrial Intervenors have concluded that the amount of money involved is relatively small. All parties agree that one customer should not subsidize another. The only question is how to design rates to prevent a subsidy. It would appear simpler to have a uniform tariff that is identical between SE customers and non-SE customers in the same rate class and to recover for the extra local facility charges through a contract, as Gulf has done. Presumably, Gulf is competent to evaluate whether or not it is recovering the additional costs associated with providing SE service through this contract. As long as it is not passing those costs to other customers systemwide or within the class, there would be no discrimination. This approach simplifies the tariff and makes it uniform. The Industrial Intervenors, however, will not suffer serious heartburn if the Staff approach is adopted.

Issues 141 and 142: Gulf proposes to reduce the PX and PXT non-fuel energy charges. These lower energy charges are still greater than the cost determined by Gulf's revised class cost of service study, but the proposal recognizes gradualism and should be adopted.

Gulf is also proposing to change the minimum monthly bill. As modified in deposition and in various answers to interrogatories, the change would require each PX and PXT customer to maintain a 75% annual load factor based on the highest demand occurring at any time during the past 12 months.

The Industrial Intervenors do not take issue with Gulf's proposal, except that minimum annual billing demands should be measured during the on-peak periods rather than using the maximum demand whenever it occurs, as Gulf is proposing. The Industrial Intervenors' recommended approach would encourage additional off-peak use and further improve the system load factor.

PART II.

STANDBY RATE AND SUPPLEMENTAL ENERGY

COST OF SERVICE PRINCIPLES AND RATE DESIGN CONSIDERATIONS

135a. ISSUE: HOW SHOULD THE DAILY STANDBY SERVICE DEMAND BE DETERMINED?

136. ISSUE: THE PRESENT STANDBY RATES ARE BASED ON SYSTEM AND CLASS UNIT COSTS FROM DOCKET NO. 840086-EI. SHOULD THE STANDBY RATE SCHEDULES (SS AND ISS) CHARGES BE ADJUSTED TO REFLECT UNIT COSTS FROM THE APPROVED COST OF SERVICE STUDY (A COMPLIANCE RERUN) IN THIS DOCKET AND THE 1990 I I C CAPACITY CHARGE RATES AND DESIGNED IN THE MANNER SPECIFIED BY THE COMMISSION IN ORDER NO. 17159?

152. ISSUE: SHOULD SCHEDULED MAINTENANCE OUTAGES OF A SELF-GENERATING CUSTOMER THAT ARE FULLY COORDINATED IN ADVANCE WITH GULF POWER BE SUBJECT TO THE RATCHET PROVISION OF THE SS RATE?

153. ISSUE: SHOULD THE ASSUMED 10% FORCED OUTAGE FACTOR FOR SELF-GENERATING CUSTOMERS THAT IS BUILT INTO THE SS RATE DESIGN BE CONTINUED?

158. ISSUE: SHOULD THE SE RATE BE MODIFIED TO ALLOW ADDITIONAL OPPORTUNITY SALES TO SELF-GENERATING CUSTOMERS WHO HAVE GENERATING CAPACITY WHICH IS AVAILABLE BUT LESS ECONOMIC?

(135a) The Industrial Intervenors contend that logic dictates measuring the daily standby service demand by determining the difference between the maximum demand during an outage and the maximum demand during a non-outage period for the current billing month.

(136) The Industrial Intervenors contend that the Commission should use the available class cost of study developed by Gulf for its Rate SS customers rather than the

2.36

hypothetical method chosen by the Commission in a 1987 generic docket. This would result in assigning little or no increase to the Rate SS class because, under either Gulf's or the Industrial Intervenors' cost of service studies, as this class is providing a substantially above-average rate of return.

(152) There is no reason to apply the ratchet feature if a coordination avoids incurring additional capacity related costs on Gulf.

(153) The 10% forced outage factor built into Gulf's current SS rate should be discontinued because better information is now available.

(158) The SE rate is designed to encourage opportunity sales of electric power when capacity is available. SS customers should be allowed to employ the same principles available to the companies participating in Florida's energy grid so that power could always be produced from the most efficient generating unit.

ARGUMENT

This is the first utility rate case in which the Commission will directly address costing and pricing issues relating to cogeneration customers based upon actual rather than hypothetical information.

The Industrial Intervenors sponsored the testimony of Tom Kisla, of Stone Container Corporation ("Stone"). Stone is not in business to sell electricity to the utility. Stone has

been engaged in cogeneration for some forty years. Stone has a substantial steam requirement, but if necessary it can produce electricity in excess of its ability to use the waste heat. When Stone is running its condensing turbines only to produce electricity, it is less efficient because waste heat is dissipated uselessly into the environment. When Stone's manufacturing processes can use the thermal value of the electric turbine's waste heat in its other processes, it can burn fuel far more efficiently than Gulf.

Several years ago, Stone Container considered becoming totally self-sufficient with respect to its electrical demand, but determined not to do so when it was offered electricity from Gulf at a rate which covered Gulf's fuel costs and provided a contribution to its fixed costs. The price offered by Gulf was less than it would cost Stone to produce the electricity when there was no need for the additional thermal energy.

Stone can shed load quickly to avoid using electricity when necessary.

What is the significance of these facts, and how do they relate to Gulf's cost of service methodology and the tariffs proposed in this rate case?

1. If supplemental power is over priced to this customer, its contribution to fixed costs and an improvement in load factor will be lost.

2. If Stone must drop load to keep from registering a higher standby demand, even during Gulf's off-peak or supplemental energy rider periods, Gulf and its other customers will lose beneficial revenue.

3. If Stone can maintain its generating units at a time convenient to Gulf without triggering a new standby demand, Gulf and its other customers will gain beneficial revenues because Stone will not shut down its whole plant while it rehabilitates generators.

4. If it is more costly for Stone to operate its condensing turbines than to purchase from Gulf, economic efficiency dictates that everyone would benefit if Stone could use SE to economically displace the condensing turbines. Under this circumstance, this use of SE should not trigger a new standby demand reservation fee.

In summary, Stone is a pure cogenerator and therefore an excellent case study. Stone has electrical demand that exceeds its steam requirements. It is a good candidate for supplemental service as well as standby service. If the pricing is correct, Gulf can continue to keep this customer without placing any burden on Gulf's generating ability at time of system peak and sell electricity at a profit when low cost capacity is readily available. This will improve system load factor and derive a significant contribution to the utility's fixed costs. The Industrial Intervenors have addressed the cost causation and rate design issues with these goals in mind.

Issue 135a: Common sense dictates that a properly designed tariff should not charge a customer for more capacity than the customer is capable of taking. The record demonstrates that an anomalous interplay between the standard rates and existing Rate SS causes precisely this absurd result.

The "Daily Standby Service (kW)" under proposed Rate SS is the difference between (1) Maximum totalized customer generation output occurring in any interval between the end of the prior outage and the beginning of the current outage and (2) the customer's daily generation output (kW) occurring during the on-peak period of the current outage. The customer also is credited for any load reduction directly resulting from the current generation outage.

The problems with this approach are: (1) it is overly complicated and requires collecting substantial amounts of generation and load data; (2) it overcharges a Self-Generating Customer (SGC) whose generation requirements vary seasonally; and (3) it discriminates against an SGC by ignoring the diversity of the SGC's Supplementary demand. Because of the latter problem, the total Supplementary and Standby billing demands can, and in fact do, exceed the monthly maximum integrated demand actually imposed by the customer.

This problem is demonstrated in Schedule 6 attached to Mr. Haskins' rebuttal testimony, and it was discussed during his cross-examination. Specifically, an SGC is assumed to

experience an outage of a 19 MW turbine (one of three--not four as Gulf incorrectly stated--generators owned by this customer). At the time the outage occurred, the customer was purchasing only 10 MW of Supplementary power. Due to diversity, this customer's Supplementary purchases regularly peak at 15 MW. The outage causes this customer's maximum monthly purchase demand to increase to 27.5 MW before load reduction. According to Gulf, the customer required 17.5 MW of Standby power. But, wait a minute, the customer was already billed for 15 MW of Supplementary power. Gulf, therefore, would charge the 27.5 MW customer for 32.5 MW of capacity (15 MW Supplementary and 17.5 MW Standby). The final irony is that this customer's physical intertie is only rated at 30 MW! No wonder this customer has had significant problems interpreting the Standby tariff.

From Gulf's perspective, it did not have to plan to serve a 32.5 MW load; the customer cannot physically pull more than 30 MW (the limits of the intertie). Further, the Supplementary portion of this obligation is only 15 MW. Why then, unlike other non-SGC's, is this customer not entitled to benefit from the diversity of his Supplementary demand (i.e. the fact that the customer was only purchasing 10 MW of his 15 MW Supplementary Contract demand prior to the outage)? The answer is that the Daily Standby Service kW is being improperly measured. If Gulf must plan to serve a 15 MW Supplementary demand, then the customer's Standby power

requirements only relate to the demands imposed in excess of 15 MW.

A simpler and more equitable approach to measure Daily Standby Service kW was suggested by Messrs. Kisla and Pollock. Specifically, the Daily Standby demand is that portion of the customer's purchase requirements in excess of its Supplementary demand. Thus, the Standby demand is the difference between an SGC's maximum daily on-peak demand during an outage period and the maximum Supplementary demand (i.e. during a non-outage period) in the billing period. This definition more closely reflects the actual demand which Gulf must plan to serve, and, contrary to Mr. Haskins' unsupported assertions, it provides a more administratively feasible (and much simpler) means of determining Daily Standby demand.

Issue 136: Order No. 17159 required each utility to treat standby customers "as a separate class and be assigned costs consistent with the appropriate data in the new cost-of-service study." Gulf has complied with the requirement by showing Rate SS as a separate cost of service class. Gulf's study reveals that Rate SS is providing a relative rate of return (RROR) of 153 (cost = 100) at present rates. According to Mr. Pollock, this translates into a subsidy of $162,000 which the Rate SS class is providing to other classes. Normally, under these circumstances, this class would be assigned either a below-average increase, no increase or even a decrease so that the RROR would move closer to parity

(i.e. 100). Gulf, however, is proposing a 17.1% increase for Rate SS. The significance of Gulf's proposal is revealed by the fact that the system average base rate increase would be only 10.5%. In other words, the proposed Rate SS increase would be 163% of the system average!

Ignoring the cost of service study results for the moment, Gulf's proposal would violate this Commission's long-standing practice of limiting rate increases to not exceed 150% (or 1.5 times) the system average increase. This policy, however is usually applied only when a class is providing a return which is substantially below parity. This is not the case for Rate SS, as demonstrated above.

Gulf explains that it is merely following the procedures that were outlined in the Commission's Generic Investigation of Standby Rates, Docket No. 850673-EU. Careful reading of the Order clearly refutes Gulf's interpretation. The procedures which Gulf followed were specified by the Commission as a means of implementing Standby rates in the absence of a class cost of service study treating standby customers as a separate class. Quoting Order No. 17159:

> Until those cases are filed and processed, and until the data necessary for new cost-of-service studies is collected the cost study approved by the Commission in each utility's lasts [sic] rate case should be the foundation for the cost components that will be used to develop rates for backup and maintenance service.

Id. at p. 12. The Order goes on to define the procedures to be applied to the last approved cost of service study. Gulf used these very same procedures in this case despite the fact that it has collected data on its Standby customers and has developed a separate cost of service for the Rate SS class which shows that this class is subsidizing other ratepayers.

Gulf's proposed increase and design of Rate SS should be rejected because it would unduly discriminate against SGCs. Cost of service ratemaking should apply to all classes irrespective of their characteristics or whether customers own and operate generation. Given that the Rate SS class RROR is so high, it would be appropriate to assign no increase to this class, as Mr. Pollock has recommended.

Issue 152: A Cogenerator's generating facilities must be maintained in the same manner that electric utilities' generators are maintained. If scheduled maintenance outages are treated in the same manner that forced outages are treated, it constitutes a barrier to cogeneration because the cogenerator will be either required to shut down the rest of its plant while the turbine is being rehabilitated or will be required to register a new standby demand charge. Gulf will lose revenue if the rest of the plant is shut down. Other customers will lose the benefit of having someone else share their fixed cost burden. Once again, the utility is cutting off its nose to spite its face. Even the Public Counsel concurred with the Industrial Intervenors on this rate design

issue. He recognizes that it is not a matter of Gulf potentially getting more revenue from the cogenerator by applying the standby ratchet during periods of controlled maintenance. Gulf will receive less and all parties will be detrimentally affected.

Issue 158: Mr. Kisla explained in copious detail how the utility and the customer will benefit from allowing the customer to purchase SE power so that the least expensive generating units will be employed to produce electricity. This approach is similar to the approach used by the utility companies on the brokerage system dealing with one another. It benefits everyone.

The principal difference between the parties and their responses to Issue 158 appears to be one of style rather than substance. Gulf says its cogenerators' requests can be accommodated under the existing language. The other parties seem to be in doubt. To clarify the doubt, the tariff should be amended.

If it is necessary to install additional facilities to enable the customer to receive the benefit of SE power, obviously the cost of these facilities must be recovered. OPC suggests that they be recovered through a local facilities charge directed to the customer. If this approach is to be taken, it is imperative to ensure that these facilities are segregated from the other distribution facilities allocated to the customer along with his share of distribution costs in the class cost of service study.

CONCLUSION

The subject of cost of service and rate design for customer classes is not a tempest in a teapot. If the utility operated efficiently and all customer classes had similar load characteristics, there would be no problem. A simple kilowatt hour charge would be appropriate. Since the birth of the electricity utility industry its unique characteristics have been recognized in pricing service to customers with different load characteristics. The "near-peak" study advocated by Mr. Pollock is tailored to the characteristics of Gulf's system; appropriately recognizes the role of system reliability at times of peak demand in cost causation; and appropriately assigns to each customer class a uniform slice of the system's generation mix, thereby avoiding the distortions of the peaker's incomplete logic.

Rates should be designed following the cost of service principle set out in the "near-peak" methodology.

Cogenerators are presently on the scene and more will be forthcoming in the near future. Rates need to be structured to encourage conservation, to encourage prospective cogenerators from leaving a utility system if their nondiscriminatory rates can be structured to keep a customer that is profitable to the utility and beneficial to its other customers.

Once cogeneration has taken place, rates should still be structured to continue to sell electricity to the cogenerator when it is profitable.

In allocating utility costs, it is the demand on the utility that counts, not the customer's internal operations.

Hopefully, the simple explanations outlined herein make some sense to those who are charged with the awesome responsibility of approving the charges that can be imposed by a company that holds the lives and jobs of a half million citizens in its grasp.

John W. McWhirter, Jr.
Fla. Bar No. 53905
Lawson, McWhirter, Grandoff
& Reeves
201 East Kennedy Boulevard
Suite 800
Post Office Box 3350
Tampa, FL 33601
813/224-0866

Joseph A. McGlothlin, Jr.
Fla. Bar No. 163771
Lawson, McWhirter, Grandoff
& Reeves
522 East Park Avenue
Suite 200
Tallahassee, Florida 32301
904/222-2525

Attorneys for the Industrial
Intervenors

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that true and correct copies of the Post-Hearing Brief of Industrial Intervenors have been furnished by U.S. Mail to the following parties of record, this 9th day of July, 1990.

G. Edison Holland Jr., Esquire
Jeffrey A. Stone, Esquire
Beggs and Lane
Post Office Box 12950
Pensacola, FL 32576

Gary A. Enders, Major USAF
HQ USAF/ULT
Stop 21
Tyndall AFB, FL 32403-6001]

Robert Vandiver
Marsha Rule
Division of Legal Services
Florida Public Service Comm.
101 East Gaines Street
Tallahassee, FL 32301

Jack Shreve, Esquire
Stephen C. Burgess, Esquire
Office of the Public Counsel
111 W. Madison St., Rm. 812
Tallahassee, FL 32399-1400

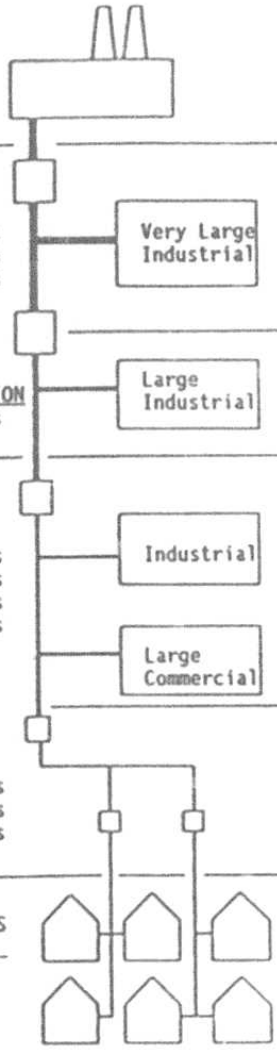
Ronald C. LaFace, Esquire
William L. Hyde, Esquire
Roberts, Baggett, et al.
Post Office Drawer 1838
Tallahassee, FL 32302

Cindy Miller
Division of Appeals
Florida Public Service Comm.
101 East Gaines Street
Tallahassee, FL 32301

Joseph A. McGlothlin

THE PRODUCTION AND DELIVERY OF ELECTRICITY

INVESTMENT	EXPENSE	FUNCTION
$531,156	FUEL & PURCHASED POWER: $168,333 OTHER: 103,219	GENERATION
83,472	12,480	TRANSMISSION 765,000 Volts 345,000 Volts 138,000 Volts Very Large Industrial SUBTRANSMISSION 69,000 Volts Large Industrial
225,120	27,265	PRIMARY DISTRIBUTION 46,000 Volts 34,500 Volts 13,200 Volts 4,160 Volts Industrial Large Commercial SECONDARY DISTRIBUTION 480 Volts 240 Volts 120 Volts
83,811	36,897	SERVICE DROPS AND METERS CUSTOMER ACCOUNTS
923,559	348,194	TOTAL



APPENDIX