AFFIDAVIT

OF

ROBERT E. BATHEN

RE:

FLORIDA POWER & LIGHT COMPANY
NUCLEAR UNITS

NRC DOCKET NO. P-636-A

and

NRC DOCKET NO. 50-389-A

BEFORE THE

NUCLEAR REGULATORY COMMISSION

of the

UNITED STATES

April 14, 1976

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OF
ROBERT E. BATHEN

My name is Robert E. Bathen, and my address is 1851 South Chickasaw Trail, Orlando, Florida. My qualifications are attached hereto as Exhibit A.

FACTORS AFFECTING WHOLESALE BULK POWER SUPPLY COSTS

The Florida Municipal Utilities Association on behalf of its member cities and the individual municipal intervenors represents all three types of municipal electric systems in the Florida wholesale bulk power supply market: (1) all requirements wholesale purchasers, (2) partial requirements purchasers that supplement their own generation through purchases, and (3) systems that have all self-owned generation.

Factors affecting bulk power supply costs are not the same for all three types of municipal utilities since they obtain their power in differing manners. For this reason it is important to focus first on the differences in the factors affecting current bulk power supply costs for the three types of municipal systems, second on differences in levels of fossil and nuclear fuel costs; third on other power supply costs of the three types of municipal systems--all requirements, partial requirements, and self-generating systems; and finally on the difficulties all three types of municipal systems, and the cooperative systems, in the State of Florida are having in developing reliable power supply alternatives and keeping costs competitive with those of the state's dominant investor-owned utility--Florida Power & Light Company.

Types of Municipal and
Cooperative Retail Systems

For the municipal utilities reported on in the FPC publication "Statistics of Publicly Owned Electric Systems in the United States, 1971," approximately 52% of the energy was generated by the municipals themselves and 48% was purchased. For cooperative systems, it is thought that the figure for purchased power would be much larger than for self-generation. In Florida, of the 34 municipal systems, 22 are generating systems and only twelve are purchasing systems, but all of the cooperatives with the exception of the Keys Co-op are purchasing systems, getting their requirements from either one of the three investor-owned utilities in the state or as supplemented with Southeastern Power Administration (SEPA) power from Jim Woodruff Dam. Throughout the United States and the Southeast, publicly and cooperatively owned systems rely on a variety of power supply arrangements, with the larger number being all requirements purchasers. Briefly, the three types of systems and the changing problems that affect their costs are:

1. All Requirements Wholesale Purchasers

The rates of these customers, except for purchases from publicly owned systems or federal projects, are generally regulated by the Federal Power Commission as wholesale sales for resale. This segment of the municipal and cooperative utility industry has probably experienced the largest cost increases in the period 1970 to date. It was in about 1970 that the first of the current unprecedented rate increases were filed at the Federal Power Commission for these all requirements customers. Rate increases

of 30%-100% have become commonplace. In Florida, Florida Power & Light Company (FP&L) filed for and was permitted by the Federal Power Commission to place into effect on September 1, 1973, subject to refund, rates which represented about a 25% increase to cooperatives and 40% to municipal wholesale customers under a resale rate schedule "SR" (FPC Docket E-8008). These rates were found to be excessive by the Administrative Law Judge on November 26, 1974, subject to final Commission decision. The Commission has not yet decided this case. Nonetheless, the Company has filed for increased rates (SR-1) which became effective April 1, 1976, subject to refund, which increase the demand charge from $2.65/kW/month to $3.78/kW/month, an increase of 42.6%, and increase the energy charge from 7.5 mills/kWh plus fuel adjustment which has ranged near 8.0 mills/kWh or 15.5 mills/kWh total, to a base energy rate of 19.0 mills/kWh plus a fuel adjustment charge currently estimated to be near zero. This represents an approximate overall increase to one municipal system of over 25% above the SR rate level. The SR-1 rate contains a 75% ratchet on annual peak demand for all requirements service and a 100% ratchet for partial requirements service.

Florida Power Corporation (Florida Power), pursuant to a settlement agreement in FPC Docket No. E-7679 approved August 30, 1974, filed wholesale all requirements and partial requirements rates plus a transmission service schedule (T-1) which, in accordance with a moratorium provision in the settlement agreement, remained in effect until December 31,

1975. Before the end of the moratorium, the Company filed for increased rates in Docket ER76-123 that would have increased costs to municipal and cooperative customers by $9.8 million or 15.8% overall on a 1975 test year. Following negotiations, agreement with the Company's wholesale customers was reached whereby, on the same test period, rates were increased by $5.1 million effective January 1, 1976. It is the intent of the parties that these rates would stay in effect until the start of commercial operation of the Crystal River Nuclear Unit #3 (CR-3) currently scheduled for November, 1976, at which time the rates would increase further pursuant to a new Company filing. Since several of Florida Power's present all requirements customers have become participants in CR-3, these will become partial requirements customers on the date of commercial operation of CR-3 and will also become users of the Company's T-1 rate schedule for wheeling power from CR-3 to their systems.

In addition to the extremely rapid increases and high costs of fuel, a second reason that cost increases have been felt by all requirements purchasers has been increases in the cost of money to the investor-owned utilities. In the aftermath of the passing of a dividend by Con Edison in early 1974, borrowings by investor-owned utilities have been at unprecedented interest rates and stocks have sold at less than book value, facts which are brought out strongly by the companies in their requests for higher revenues from their retail and wholesale customers. Long term debt issues at 9-1/2%-10% were commonplace for A rated utilities throughout the summer of 1974.

This higher cost of money results not only in requests for higher rates of return, but in impacts on the companies' interest during construction costs which, when coupled with current high rates of inflation, have been a principal factor in pushing up the cost of purchased power. All of these factors and others are discussed in a report published by the Federal Power Commission staff on September 10, 1974, entitled "A Study of the Electric Utility Industry." Some of the questions raised in that study included:

> "What specific measures can and should be taken to help the industry?" And
>
> "How should 'regulation' be modified to assist the industry to better serve the Nation?"

Some of the suggestions proposed by the FPC staff aimed at answering these questions include:

a) Allow Plant under Construction in the rate base.

b) Increase investment tax credit for utilities from 4% to 7% and remove the present 50% limitation on the application of such credits.

c) Use of future test periods.

d) Reduce regulatory lag.

e) Use attritional allowances.

f) Encourage a more widespread use of tax-exempt bonds for pollution control facilities.

g) Encourage more widespread use of fuel adjustment clauses and automatic adjustment of other costs and expenses.

h) Allow full normalization of tax allowances for cost of service purposes.

This report was released in the same hour that a similarly unprecedented meeting was held in the Federal Power Commission offices where high ranking federal officials called together the nation's state regulatory commissioners urging them to adopt suggestions similar to those listed above plus suggested rates of return of 15%, special other tax relief, and one day suspension of proposed rate increases.

There has, however, been another factor which I personally feel has been at work in the requested increases. It has been my observation that before about 1970, the prices charged to wholesale purchasing systems reflected competitive pricing philosophies. That is, the companies openly admitted that the rates charged to these wholesale customers were producing less than a full average return on investment devoted to service for the very good reason that if the rates were much higher, the municipal systems would build their own generation and the cooperative systems would obtain REA financing and build their own G&T systems. With the impetus given by the 1964 National Power Survey to increasing the size of units, extending high voltage transmission systems, increasing the number of interconnections and going to extra high voltage transmission , the prospects for development of alternatives were limited for these purchasing systems to some form of joint action programs where they too could build units up to the current level of technology, sizewise, and increasingly more important, could participate in or jointly construct and finance giant nuclear plants. Because of the long lead time on such large projects and because of activities by a number of the

larger companies to block joint action programs by the municipal and cooperative customers, the companies are in a position to abandon any pretense or form of competitive pricing and seek from the Federal Power Commission full average or above average cost of service rates. Where sufficient evidence has been developed demonstrating that this anticompetitive activity did raise barriers to entry, these and other anticompetitive issues are appropriately raised in Nuclear Regulatory Commission cases.

2. Partial Requirements Purchasers-Generators

Those systems which either supplement their purchases with their own generation or supplement their own generation with purchases to the extent such purchases are regulated by the Federal Power Commission, face the same prospects for the future as the all requirements customers discussed above. They also face the same types of increases on their own systems that wholly self-generating systems face which will be discussed later. Aside from those similarities, however, the partial requirements purchaser has some very real special problems that are peculiar to its type of system. New Smyrna Beach, for example, which had supplied all its own requirements for a number of years and because of the change in technology and other factors began to supplement that generation with purchases from the companies. The determination of cost of service for partial requirements sales is unique. It is recognized that partial requirements purchases could be for peaking capacity

and energy, for intermediate capacity and energy, or for base load capacity and energy and that the cost to provide these three types are not identical. The design of a single rate that would assure recovery of actual costs including a fair return is indeed one of the most complex rate design problems of our time. Some companies have proposed and have imposed separate rates for peaking, intermediate and base load service. There is nothing inherently wrong with this three-tier pricing so long as the rates do truly reflect the cost of service and the application of all three of the separate rate schedules as applied to the wholesale customers' total load curve will not result in costs higher than the overall cost to provide peaking, intermediate and base load service.

The partial requirements customer is necessarily interconnected with the wholesale supplier as, for that matter, is the all requirements customer. The partial requirements customer, however, because he has self-owned generation, is in need, and indeed deserves and should insist on, agreements relating to interchange of power with respect to his own generation. These agreements need to cover emergency, scheduled maintenance, and economy energy exchanges on bases similar to those of the interconnected self-generating systems. The 1974 settlement agreement in the Florida Power Corporation FPC Docket E-7679 assures to the twelve systems that presently purchase all of their requirements from Florida Power that they can indeed become partial requirements customers of that company with

full assurance that these needed interchange agreements will be effectuated upon their obtaining generating resources over which they have control. In addition, a most necessary additional utility service that is required by partial requirements customers and systems who supply all of their own requirements from their own generation is wheeling, or transmission service, over the companies' facilities with which they are interconnected on a reasonable, non-discriminatory and non-restrictive basis. This, too, is part of the 1974 Florida Power settlement agreement which was filed with the Federal Power Commission and approved by that body as part of the company's overall rate tariff, T-1.

2. Self-Owned Generating Systems

These systems really fall into two classes--isolated systems and those with interconnections. Fortunately the number of isolated systems has declined rapidly over the past five years and for all practical purposes are, or should be, limited to those utilities where their isolation is geographic in nature such as Key West or any other island system. The decision of the United States Supreme Court in the Gainesville case assured small municipally and cooperatively owned systems of a bill-of-rights with respect to interconnections which most systems that did not enjoy the benefits of interconnected operation prior to the Gainesville decision have insisted upon in their negotiations with the large investor owned utilities for interconnection and interchange agreements. While the Gainesville decision insured the right to become interconnected under

reasonable terms and conditions, it has taken other court decisions and invocation, or the possible invocation, of the nation's antitrust laws to secure the kind of coordination needed by small municipal systems.

Small municipally owned generating systems are in a double crunch. They are experiencing all of the factors of inflation that are imposed on large investor-owned utilities and in addition they need to catch up as quickly as possible in sharing the benefits of scale that are still quite evident in the electric utility industry. Because of inflation, the question has been asked recently whether the electric utility industry is still a "decreasing cost industry." The answer is that, absent inflation that exceeds the increased benefits of scale, the industry is of course still a decreasing cost industry in the classical sense. It is still true, for example, that even though the cost of building new generation may be two to three times what it was in the past decade, it is still far cheaper in dollars per kilowatt to build an 800 or 1,000 MW unit than it is to build an 80-100 MW unit. Further there is one technological barrier that the municipal and cooperative systems must pierce and can pierce only through some type of joint cooperative action either among themselves or in cooperation with the investor owned utilities. That is the barrier of participating in nuclear generation. Never has the necessity for such participation been more evident than it is at the present time, as I will discuss in more detail later on. Since modern light water reactors are being built only in the 800-1,300 mw range, all but a handfull of the large publicly owned or

cooperatively owned systems are precluded from 100% self-ownership. Fortunately, some of the large investor owned systems, having made concessions to participation in planned nuclear plants to municipally owned and cooperative systems, are now recognizing the assistance that these consumer owned systems can bring to the financing of this needed new generation.

CRYSTAL RIVER NUCLEAR
UNIT NO. 3 (CR-3)

The only example of joint participation in a nuclear plant by two or more utilities in the State of Florida is the Crystal River Nuclear Unit No. 3. On January 8, 1975, Florida Power Corporation invited all utilities in the State to a meeting where the Company offered for sale, on a joint ownership basis, portions of several of its generating units under construction or planned, listed as follows:

1. 10% of its 825 MW Crystal River Nuclear Plant, Unit No. 3, which was 90% complete;

2. 10% of its 515 MW Anclote Fossil Plant which was 35% complete;

3. 100% of its 300 MW DeBary Regenerative Combustion Turbine Plant of which three 51.9 MW units were scheduled for completion in December, 1975, and three in early 1976;

4. 40% of its planned 1300 MW 1980's Unit #1 to be located in Central Florida;

5. 40% of its planned 1300 MW 1980's Unit #2 at the same site.

On January 20, 1975, Florida Power mailed to all utilities that indicated an interest in the joint ownership projects offered a formal invitation to bid. (See Exhibit B). Attached to the bid forms for each unit or plant were Project Fact Sheets setting forth the Project Schedules including the % complete, ratings and operating factors, estimated project cost, cost of participation, fuel cost, operation and maintenance costs, and arrangements for delivery over its transmission system. 1/

Prior to and following submittal of bids to participate, R. W. Beck and Associates was employed by a number of the potential participants to assist in negotiations with Florida Power and analyses to assist those systems in evaluating the projects and submitting bids and subsequently leading to closing on CR-3. R. W. Beck and Associates' analysis which was supplied to the City of Ocala prior to bidding (included in Exhibit B) is typical of the analyses supplied to other cities. This analysis indicated savings of 45% to 58% over wholesale all requirements purchased power for the nuclear units offered, but negligible or no savings for the fossil units. Subsequently, Florida Power Corporation postponed indefinitely its plans for the 1980's units.

Negotiations with a number of potential participants proceeded on CR-3 leading to a closing on July 31, 1975.

1/ Contrast this positive, complete offer to allow access to nuclear units and participation in ownership to the letter sent to the cities by Tracy Danese of FP&L dated March 30, 1976, quoted in the Petition to Intervene. Also, note that the joint venture nuclear facility is suggested to be "somewhere in Central Florida." Florida Power's proposed 1980's nuclear units in which participation was offered to all utilities over 15 months ago, but in which FP&L apparently was not interested were to be located in Central Florida.

Ten municipal systems (Alachua, Bushnell, Leesburg and Ocala, now all requirements customers of Florida Power, plus the cities of Gainesville, Kissimmee, New Smyrna Beach, Orlando, Sebring and Tallahassee which generate all or a part of their requirements) plus Seminole Electric Cooperative, a generation and transmission cooperative of distribution cooperatives that presently purchase all of their requirements are all participants, sharing in a 10% undivided ownership interest as tenants in common in CR-3. Florida Power Corporation has retained the remaining 90% ownership interest. (See Exhibit B, "Crystal River No. 3 Nuclear Project Report" which describes the project and includes the complete Participation Agreement.)

FUEL COSTS AND AVAILABILITY

Fuel cost is both the largest single expense and, over the past several years, far and away the fastest rising cost of supplying electric energy. The following tabulation sets forth the relative percentage nationally of the three types of fossil fuel, coal, oil and gas, used for electric energy generation in the month of April, 1973, compared to April, 1974. It also sets forth the average price in cents per MMBtu, the increases over that twelve-month period, and the percent change.

	Fossil Fuels			
	Coal	Oil	Gas	Total
Month of April, 1974				
Percent of Total Btu	62.2	17.3	20.5	100.0
Average Price - ¢/MMBtu	64.0	187.2	43.6	81.1
Month of April, 1973				
Percent of Total Btu	58.5	19.2	22.3	100.0
Average Price - ¢/MMBtu	39.4	69.5	33.3	54.6
Change April, 1973-1974				
Percent Total Btu	+3.7	-1.9	-1.8	
Percent Change	+6.3	-9.9	-8.1	
Average Price - ¢/MMBtu	+24.6	+117.7	+10.3	+26.5
Percent Change	+62.4	+169.4	+30.9	+48.5

The above data was based upon the FPC quarterly report on fuel costs and quality.

As striking as the increases shown on the above tabulation are and their relative national importance, they by no means tell the full story. For example; national figures showing that coal prices have increased 24¢/MMBtu or 62% mean little to most Florida utilities that rely primarily on oil and to an ever lessening extent on gas for generation when the price of oil has risen to $1.87/MMBtu or 169% increase during the twelve months ended April, 1974. Nationally the $1.87 MMBtu or $11.49 per barrel is comparable

to recent prices paid in Florida and the rest of the Southeast for no sulphur guarantee Bunker C or No. 6 fuel oil.

One of the most significant factors in today's fuel cost picture for electric generation is the fact that gas, the cheapest and cleanest fuel, is becoming increasingly less available to generating systems. The Cities of Fort Pierce, Gainesville, Sebring, Homestead, Kissimmee, Lakeland, Vero Beach, Orlando, Tallahassee and Starke each own and operate electric systems in the State of Florida. Each of the cities' electric systems include generating facilities that utilize natural gas or oil for fuel. The sole supplier of natural gas to each of the cities is Florida Gas Transmission Company (FGT). The cities purchase natural gas for generation fuel from FGT under a preferred interruptible contract. Several of the cities also have other forms of natural gas contracts with FGT. In its most recent filing with the Federal Power Commission in Docket No. CP74-192, FGT lists 41 customers in the preferred interruptible class.[1/] Under FGT's present curtailment plan, the direct preferred interruptible (CPI) customer class has the lowest priority for gas available for sale; that is, the DPI class is curtailed or interrupted first when the gas availability is not sufficient to meet the higher priority requirements.

The Florida curtailment plan provides that direct sale interruptible customers, which include certain industrial customers and most of the municipal generating systems except Jacksonville and Key West, which have no gas, shall be interrupted prior to any of the resale interruptible customers or, of course, the firm customers.

1/ FGT shows no sales to two of the 41 customers after 1973.

As a result, Florida municipal generating systems have been experiencing progressively steeper curtailments. Gas deliveries in MMBtu's to generating systems were 35,673,030 in 1973; 26, 281,703 in 1974; and 9,187,601 in 1975. This equates to a percentage reduction over 1973 deliveries of 26.3% in 1974 and 74.2% in 1975. Furthermore the Florida generating systems have been placed on notice that in 1976 they will receive virtually no gas. Therefore, these systems, plus Jacksonville and Key West, can look only to the extremely high cost oil as their primary source of fuel for next year. For simplicity, it is evident that at an average heat rate of 10,000 Btu per kilowatt-hour, $1.87/MMBtu oil costs produce fuel costs to the customer of about 18.7 mills/kWh or 1.87¢/kWh, a figure higher than most average residential rates were a few short years ago.

The relatively lower cost of coal included in the national averages is misleading with respect to certain geographic areas. Spot coal prices in the Southeast have risen to levels equal to that of oil, that is, about $1.80/MMBtu.

The use of electricity in Florida is unique because of Florida's climate. Exhibit C shows the heating and cooling degree days for eleven selected Florida cities; Los Angeles; Topeka, Kansas; and Syracuse, New York. The Florida cities range in location from the northernmost portion of the state to Key West. The other three cities were selected to provide a geographic cross-section of the United States. Los Angeles has a relatively temperate climate

with less than dramatic changes between summer and winter temperatures. Topeka, Kansas, located in the geographic center of the 48 contiguous states, experiences winter temperatures well below 0° F. and summer temperatures well above 100°F. Syracuse, New York, experiences long, severe winters, but the summer temperatures are moderate.

As Exhibit C shows, Floridians experience temperatures that require air conditioning for comfort to a far greater extent than do people living in Southern California or people living on the plains of the mid-west. However, even though in Florida the temperatures requiring heating for comfort range from a low of 64 degree day deficiencies (DDD) in Key West to a high of 1578 DDD in Pensacola, on colder days heating is very important and particularly so for the many elderly Florida residents. Therefore, Floridians need not only a reliable source of air cooling, but also a reliable heating source with low installation costs.

Resistance type electric heating equipment and combination electric heating and cooling systems (reverse cycle units), all available at relatively low initial installation costs, have provided Floridians with a low cost, reliable heating source to meet human comfort needs that are met in other states predominantly with natural gas and other direct consumption of fossil fuels.

Exhibit No. 3 shows how much more Floridians depend on electric heat in their homes compared with the rest of the United States. In Florida 32.3% of all homes utilize electric heat while nationally only 7.7% of the living units

utilize electric heat. The national figure includes high electric saturation areas such as Florida and the TVA and Bonneville hydroelectric power marketing areas. In an area such as Syracuse, New York, with 7000 DDD per year, a home owner is quite able to amortize higher initial equipment costs associated with direct consumption heating facilities with the fuel cost savings he can realize over the longer heating period.

Often considered a luxury in other areas of the country, air conditioning is of vital importance in Florida. Florida's growth has been dependent upon and is a direct result of the availability of air conditioning at a reasonable cost. Air conditioning is as much a necessity in the hot Florida summers as winter heating is in other parts of the country.

Residential air conditioning is almost totally electric. Indeed, many homes are economically heated and cooled with reverse cycle units. These are electrically operated heat exchangers (heat pumps) which rely on temperature differentials (inside air to outside air, or inside air to an outside water source such as a well) to raise or lower the inside air temperature.

While the cities originally signed interruptible contracts for gas supply, they did so based upon statements that gas would be generally available and, if curtailments were necessary, the cities would not be discriminated against in receiving their natural gas entitlements.

As a part of the Stipulation and Consent Decree before the United States District Court for the Southern District of Florida, in City of Fort Pierce, et al. v. Florida Gas Transmission Company, Case No. 71-1494-CIV-CA, (Stipulation) the Company:

(1) averred: "To the best of its knowledge, Florida Gas Transmission's present supplies, including Jay Field acquisitions, give it a deliverability through 1976 at a capacity factor in excess of 98%."

(2) Provided for an increase in the annual contract entitlement of Cities to the 1972 fuel requirements plus known changes up to 25%.

(3) Extended the term of Cities' contracts for direct preferred interruptible service to December 31, 1985, with automatic year to year extensions thereafter.

During the period the Company was expanding its pipeline system capacity to provide additional gas deliveries to Florida, the Cities were expanding their capabilities to use natural gas as a fuel for electric generation. Exhibit C shows the extent to which certain cities utilized natural gas for electric generation between 1967 and 1974. As the exhibit shows, the cities utilized gas as a fuel for the generation of over 90% of their kwh output in 1967. The cities utilized oil for the balance of their fuel requirements. The cities relied on natural gas for electric generation fuel to a much greater extent than other electric power producers in Florida and the United States. The percent of electric generation by various fuels in Florida and the United States is shown in Exhibit C.

This heavy reliance of the cities on natural gas for electric generation was due in part to the assurances of the Company as previously discussed. Moreover, the cities' reliance on natural gas was due to the limited availability of economically acceptable alternative fuel supplies in Florida. The three primary alternate sources of generation fuel available today are coal, oil and nuclear.

As indicated in Exhibit C, coal is the predominant electric generation fuel in the United States today. If the Federal Energy Administration's attempts to shift many of the nation's existing power plants from petroleum fuels to coal are successful, a still greater portion of electric generation will be with coal. However, the distance of coal resources from Florida and the lack of economically practical transportation have so far prevented coal from becoming a significant generating source for cities. All of the cities, except Fort Pierce on the Atlantic coast, are located inland where coal deliveries by water are impractical.

Moreover, the modest capacity of the cities' generation plants has precluded location away from their load centers near ports where coal deliveries by water would perhaps be practical. Until recent years the cities were electrically isolated such that generation had to be planned for relatively small units located at or near their load centers. Furthermore, in view of the increasing demands on available coal supplies, cities would have difficulty competing with larger utilities and other large users of coal for the available supplies.

While Florida Power Corporation and Florida Power & Light Company have built, or are building, nuclear generation, this type of fuel for generation has not been reasonably made available to the cities. To be economical, nuclear generators must be of large size--far larger than the combined loads of cities. Moreover, the investor-owned utilities in Florida in the past have refused to coordinate with municipally owned utilities and to

transmit power from other sources to the cities, or would coordinate only on a basis that penalized cities. As was evident in the most recent oil crisis, adequate and dependable oil supplies may be placed in jeopardy on short notice.

Exhibit C compares the cost to the cities of natural gas and oil per MMBtu burned. The costs are shown at six month intervals between January, 1973 and June, 1975. In that 2-1/2 year period, the cost of natural gas has increased 20% from $0.511 to $0.612. However, during the same period the cost of No. 6 oil has increased 230% to 270%, and the cost of No. 2 oil has increased 115% to 163%. The difference between the cost of natural gas and No. 6 oil per MMBtu burned by Fort Pierce was less than 1¢ in January, 1973 ($0.5192 - $0.5110 = $0.00082). However, by June, 1975, the difference had increased to nearly $1.31 ($1.921 - $0.61621 = $1.3089).

Since the cities' only alternate fuel for electric generation is oil, gas diverted from the cities for any purpose must be replaced with the higher cost oil. If it is conservatively assumed that the cities' generating facilities require 10,000 Btu of heat to generate one kWh of electricity (the actual conversion requirements of the cities' generating facilities are higher), then one MMBtu of heat would produce 10 kWh of electricity. Therefore, if in June, 1975, the City of Fort Pierce is required to replace one MMBtu of gas at $0.61/MMBtu with one MMBtu of No. 6 oil at $1.92/MMBtu, the fuel cost of each kWh generated with that one MMBtu of heat would increase by 1.31¢ or over 213%. Not only do the cities' residential customers receive these very dramatic increases in their electric bills, but the commercial, industrial and government customers also receive the same increase per kWh consumed.

Increased electric rates to commercial customers can be expected to be passed on directly in the purchase price of their goods and services. Predominantly the citizens (residential customers) of the community bear the full burden of the increased electric costs. Moreover, increased electric rates to other departments of cities require increased budget levels, again surely to be passed on to the citizens of the communities through higher tax rates and increased charges for services.

The most dramatic increases in electric rates to consumers since 1973 have been due to reduction in gas supply and replacement with high cost oil. In 1973 with gas costs at about $0.51/MMBtu, the fuel cost included in cities' rates was about .5¢/kWh or $5.00/1000 kWh. A 1973 electric bill for 1000 kWh of $20.00 would, therefore, have included about 25% for fuel costs. A similar bill for June, 1975, if a city were burning 100% No. 6 fuel oil, absent any increases in other costs and using fuel cost for No. 6 oil at $1.95/MMBtu, would be about $34.50, or which 57% would be for fuel. The increase to the ultimate consumer would be over 72%, of which $1.00 or 5%, would have been represented by the increase in gas costs from $.51 to $.61/MMBtu, assuming gas was 100% available, and the remaining 67% increase would be due to a substitution of No. 6 oil for gas at June, 1975, price levels.

Such high costs to consumers in cities that have not been afforded the opportunities to participate in large nuclear plants with their attendant low energy costs and other alternative power supply resources naturally lead to calls for sales of the systems to those large utilities that do have alternative

resources. A number of Florida cities are currently forced into considering the sale of their systems to Florida Power & Light, which has offered to purchase them or has indicated a willingness to do so, but has not evidenced a willingness to offer participation on any meaningful basis in its nuclear units and has resisted efforts to establish a state-wide integrated wholesale power pool.

The picture is indeed a dismal one. If the utility systems are to stay solvent, they must, of course, pass cost increases on to the ultimate consumer.

ADVANTAGES OF NUCLEAR

There is only one bright spot in the gloomy area of electric generation fuel costs, and that is nuclear energy which by comparison, including amortization of initial core costs, is currently about 25¢/MMBtu, or about 2.5 mills/kWh. This bright spot in the overall picture is, of course, dimmed by the rapidly increasing construction costs of nuclear power plants, the long lead time in planning and bringing them on the line, the increase in interest during construction associated with that long lead time, and the unprecedented high interest costs for short term construction funds; but nonetheless it is now clearly evident that nuclear power generation is the only opportunity in the period 1975-1985 to ameliorate the rapid increase in fuel costs and perhaps bring back down the retail prices of electricity. This opinion is, in fact, shared by many of the nation's largest utilities, including Florida Power &

Light, which have planned nuclear plants to come on the line in the period from now through the 1980's so as to provide all or most of their base load requirements.

Clearly FP&L is strongly committed to nuclear. According to the 1974 Moody's Public Utility Manual (Exhibit D), FP&L generated 4,431,556 MWH in 1973 from its Turkey Point Nuclear Unit 3 and Unit 4, both 760 MW, at an average fuel cost of 1.75 mills/kWh. It currently has under construction and planned for commercial operation its 890 MW St. Lucie Unit No. 1. St. Lucie Unit No. 2, also 890 MW, is scheduled for commercial operation in 1980. Its planned South Dade Nuclear Units are to be rated at 1140 MW each according to a September 3, 1975 prospectus. Therefore, with the completion of South Dade Unit No. 2 the Company will have installed nuclear capacity in excess of 5,500,000 kW.

By comparison, the municipal intervenors have only an ownership interest of about 62 MW in the 825 MW CR-3 nuclear unit, the only other nuclear unit planned or under construction in the State during the period through scheduled completion of South Dade No. 2. If municipal intervenors and cooperatives are not granted the relief requested in intervenors' petition, cities and cooperatives are precluded from having a mix of nuclear to fossil fueled generation of more than an infinitesimally small percentage of what FP&L will possess. FP&L is clearly planning for something on the order of 50% of its installed capacity and approximately 70% of its energy to come from nuclear by the late 1980's.

To test the effect on projected costs and possible future mixes of generation for planning purposes, I recently reviewed cost estimates for a two-unit nuclear plant and a two-unit fossil fuel plant, one unit being a 700 MW base load coal-fired plant and the other a 600 MW oil-fired cycling plant, that were prepared in 1972 for 1983 on-line dates. The rates of inflation and cost of money assuming municipal financing in 1972 appeared reasonable at that time. If we would increase the rates of inflation which were 6% for labor and 4% for material as of 1972 to 1974 rates that might be on the order of 12% for labor and 8% for material, the results in terms of increased fixed and variable costs of power at the bus bar are quite startling. Also, the results indicate an even stronger justification for the planning of nuclear plants in the future than one could have concluded from 1972 price levels.

Table I, which follows, sets forth the results of the 1972 estimate for 1983 on-line dates, and Table II sets forth the possible adjusted estimate at much higher levels of inflation.

The accompanying graph shows the plot of bus bar cost of power in mills/kWh versus plant factor for the nuclear and fossil plants under both of these estimates.

1972 ESTIMATES OF 1983 COSTS*
(Municipal Financing)

	Nuclear Plant (2-Units @900 MW)	Fossil Fueled Plant: Base Fossil (1-700 MW)	Fossil Fueled Plant: Cycling Fossil (1-600 MW)
Fixed Costs			
Amortization Period - Years	30	30	35
Capital Cost - $/kw	479	381	310
Fixed Charge Rate - %			
Cost of Money	6.00	6.00	6.00
Depreciation	1.26	1.26	.90
Interim Replacements	.27	.28	.28
Insurance	.70	.24	.24
Taxes	-	-	-
Total - % (Exclusive of Taxes)	8.23	7.78	7.42
Fixed Charges - $/kw	39.42	29.64	23.00
Fixed O&M - $/kw	3.21	2.36	2.36
Fixed A&G - $/kw	.49	.42	.38
Total Fixed Charges - $/kw	43.12	32.42	25.74
Total Fixed Charges at 80% Plant Factor - Mills/kwh	6.16	4.63	3.68
Variable Costs			
Fuel Costs			
- ¢/MMBtu	15.4	67.2	78.8
- Mills/kwh at Full Load	1.54	6.45	9.41
Variable O&M - Mills/kwh	.15	1.03	1.38
Total Variable Costs at Full Load - Mills/kwh	1.69	7.48	10.79
Total Cost of Power at 80% Plant Factor - Mills/kwh	7.85	12.11	14.47

* 1972 nuclear price levels and 1976 estimated fossil generation plant price levels and 1972 fuel cost levels escalated to 1983 using the following escalation factors:

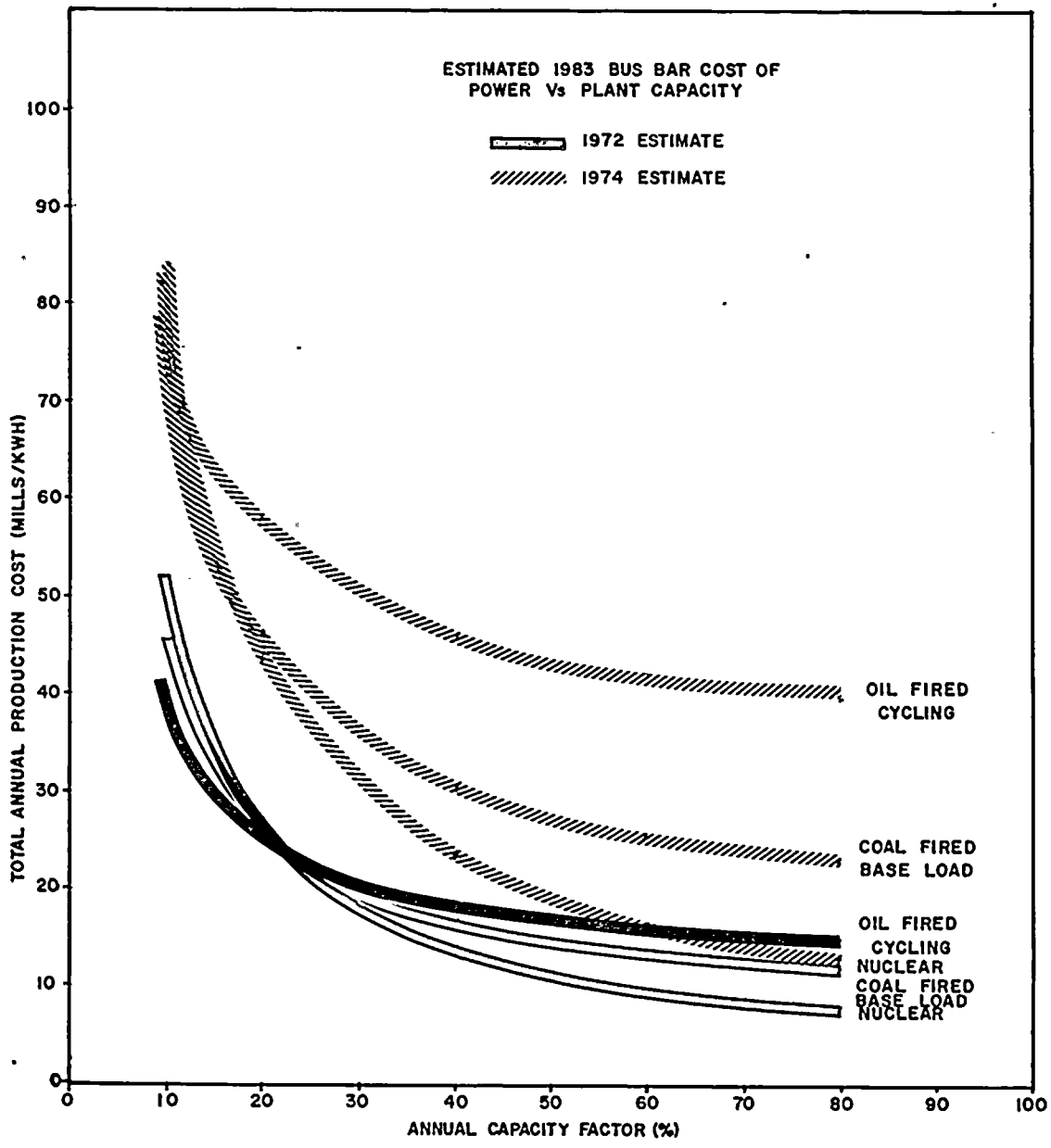
- Labor - 6%
- Material - 4%
- Nuclear Fuel - 1.5%
- Fossil Fuel - 3.0%

1974 ESTIMATES OF 1983 COSTS*
(Municipal Financing)

	Nuclear Plant (2-Units @900 MW)	Fossil Fueled Plant: Base Fossil (1-700 MW)	Fossil Fueled Plant: Cycling Fossil (1-600 MW)
Fixed Costs			
Amortization Period - Years	30	30	35
Capital Cost - $/kw	762	607	492
Fixed Charge Rate - %			
Cost of Money	7.00	7.00	7.00
Depreciation	1.06	1.06	.72
Interim Replacements	.27	.28	.28
Insurance	.20	.15	.15
Taxes	-	-	-
Total - % (Exclusive of Taxes)	8.53	8.49	8.15
Fixed Charges - $/kw	65.00	51.53	40.10
Fixed O&M - $/kw	5.10	3.75	3.75
Fixed A&G - $/kw	.78	.67	.60
Total Fixed Charges - $/kw	70.88	55.95	44.45
Total Fixed Charges at 80% Plant Factor - Mills/kwh	10.12	7.99	6.35
Variable Costs			
Fuel Costs			
- ¢/MMBtu	27.0	136.0	259.0
- Mills/kwh at Full Load	2.70	13.05	30.93
Variable O&M - Mills/kwh	.24	1.64	2.19
Total Variable Costs at Full Load - Mills/kwh	2.94	14.69	33.12
Total Cost of Power at 80% Plant Factor - Mills/kwh	13.06	22.68	39.47

* 1972 nuclear price levels and 1976 estimated fossil generation plant price levels and 1974 fuel cost levels escalated to 1983 using the following escalation factors:

- Labor - 12%
- Material - 8%
- Nuclear Fuel - 3.0%
- Fossil Fuel - 3.0%


ESTIMATED 1983 BUS BAR COST OF
POWER Vs PLANT CAPACITY
1972 ESTIMATE
1974 ESTIMATE
TOTAL ANNUAL PRODUCTION COST (MILLS/KWH)
ANNUAL CAPACITY FACTOR (%)
0
10
20
30
40
50
60
70
80
90
100
OIL FIRED
CYCLING
COAL FIRED
BASE LOAD
OIL FIRED
CYCLING
NUCLEAR
COAL FIRED
BASE LOAD
NUCLEAR

Note that the 1972 estimate of 1983 installed costs per kW versus the 1974 estimate indicates that the installed costs would be approximately 60% higher under current rates of inflation than they were projected to be under the rates of inflation assumed under the wage and price control guidelines that were in effect in 1972. Specifically, the estimated installed cost per kilowatt of nuclear in 1983 would go from $479 to $762; the installed cost of base load fossil in the 1972 estimate would go from $481/kW to over $600/kW in the 1974 estimate for a coal-fired unit and from $310 to $492 for an oil-fired cycling unit. From recent independent estimates for nuclear and base load coal-fired units planned for 1983 completion, we see indications that the higher cost estimates do not seem to be out of line with costs that utilities were projecting in 1974. Reflecting the higher cost of money, the total fixed charges in dollar per kilowatt in the 1974 estimates are 65%-70% higher than in the 1972 estimates. One of the biggest jumps in fuel costs is associated with the cycling plant which is assumed to burn heavy oil and which reflects the current high level of fuel costs plus 3% escalation to 1983. In 1983, at 1974 price levels, escalated 3% per year, the fuel costs alone would be 31 mills/kWh for an oil-fired plant.

The purpose of calculating fixed charges and variable costs is to be able to plot alternative types of generation at various plant factors for the different types of generating capacity as a tool in planning a sound generation program. These are shown graphically on the accompanying chart. Note from the tables and the chart the differences between the 1972 and 1974

estimates. At full load heat rates and annual capacity factors of 80%, the overall bus bar cost of nuclear power has gone from slightly less than 8 mills/kWh to about 13 mills/kWh; the coal-fired base load unit cost has gone from 12 mills/kWh to 23 mills/kWh; and the oil-fired cycling unit cost has gone from about 14.5 mills/kWh to 39.5 mills/kWh. The significant increase in the spread of cost between nuclear, coal-fired base load, and oil-fired cycling units based upon present fuel costs and high inflation factors is an important consideration in future power supply planning. Where nuclear power can be made available, neither the coal-fired nor the oil-fired unit should be considered for base load service, or for that matter, even for intermediate service; and the nuclear power would move even further up on the load duration curve. Note that even on the basis of the 1972 estimate nuclear was lower in cost than coal-fired base load units at an annual plant capacity factor of about 25%. Based upon the 1974 higher projected estimates, this cross-over point occurs below 20%. Even more significant is that oil-fired units, where there is a choice, would have to be relegated to a very low annual plant capacity factor on the order of 10%-15% if nuclear is available.

One of the most compelling conclusions that comes out of an analysis of future projected costs based upon today's level of fossil fuel versus nuclear costs and today's inflation rates relates to the future competitive position of a system that has predominantly nuclear generation to meet its base load requirements versus a system that must rely predominantly on fossil fuel units to provide base load service. Table II and the graph representing 1974

estimated power costs, under the conditions described, show clearly what that competitive position would be at the bus bar where the bulk of the total utility costs will be incurred. How could a system in 1983 relying primarily on oil-fired units with bus bar costs of about 40 mills/kWh for its most efficient units compete with a utility having predominantly nuclear generation for base load service putting power on the bus at approximately 13 mills/kWh? The heat rate for the oil-fired units assumed is 9,700 Btu/kWh for a high-temperature, high-pressure unit. There are not many municipally planned oil-fired units that I know of that will be able to achieve that kind of heat rate or the installed cost per kilowatt of a 600 MW unit in that period out to 1983. The point is that for small, less efficient oil-fired units, the bus bar cost of power is going to be even greater.

FP&L'S DOMINANCE IN THE WHOLESALE BULK POWER SUPPLY MARKET IN FLORIDA AND ANTI-COMPETITIVE ACTIVITIES

FP&L delivers bulk power throughout its service area for transmission to successively lower voltages by which delivery is made to load centers of ultimate customers or to delivery points of wholesale for resale customers. The 240 kV and 500 kV transmission lines in the Company's power system and the 115 kV and 138 kV transmission lines, which perform a system function as opposed to a subtransmission function, comprise what are commonly called "bulk power transmission," whereas the lines which move power from the bulk power system to local retail distribution load

centers or wholesale for resale delivery points, being certain 138 kV, 115 kV and 69 kV class facilities, are commonly called "subtransmission lines;" and the 13 kV and lower voltage lines which move power from the subtransmission network to the ultimate customer are "distribution lines." With respect to bulk power transmission, FP&L virtually dominates the ownership of such facilities within its service area. The only exceptions are a limited amount of 115 kV and 230 kV transmission facilities owned by the Cities of Jacksonville and Orlando in order to integrate the output of their generation into those essentially local load centers and a segment of 138 kV transmission operated at 69 kV owned by the Florida Keys Cooperative in order to take service at wholesale from FP&L and a 69 kV line between the Vero Beach and Fort Pierce municipal systems.

According to a company prospectus dated September 3, 1975, FP&L owned installed generating capacity of over 9,000,000 kilowatts and had under construction or planned through South Dade Unit No. 1 an additional 6,300,000 kW, all scheduled to be in service by 1983 and, with the completion of South Dade Unit No. 2, would aggregate over 16,000,000 kW of which over 5,200,000 kW would be nuclear.

Exhibit E is a set of tables and maps excerpted from an April, 1975, report by the Florida Energy Data Center entitled Statistics of the Florida Electric Utility Industry, 1960-1974.

Table C2 of this exhibit shows that as of December, 1974, FP&L's installed capacity of 9537 MW was over 2.5 times greater than the next larger utility in the state, Florida Power, and about the same percentage greater

than all of the municipal and cooperative generation in the state. FP&L's installed capacity was about 45% of the total installed capacity in the state.

The maps C7-X and C7-XX of this exhibit show the relative service areas of the privately owned and publicly owned systems respectively.

Table S-3 of the exhibit shows that in sales to ultimate customers FP&L is also the dominant electric utility in the Florida retail market.

In the Florida retail market, in addition to competition for new customers, FP&L, to my knowledge and belief, has a long history through the present time of attempting or offering to purchase the entire electric systems owned by municipalities, thereby reducing competition in both the Florida wholesale bulk power supply market and retail market. The documents included in Exhibits F, G, H, and I are illustrative of the type of activities in which FP&L has engaged regarding efforts to purchase and restrict the power supply alternatives of small systems.

Further, to my knowledge and belief, FP&L's long term efforts to avoid FPC jurisdiction and its resistance to participating in a fully integrated power pool in Florida have severely limited coordinated planning and operation between utilities in the state, especially smaller utilities, and has restricted power supply alternatives that could have and should have been available to such systems. The documents included in Exhibit J dating from February 27, 1974, through March 16, 1976, reveal the recognition by other utilities, the state legislature, and the Florida Public Service Commission of the need and economic desirability of such fully integrated "one system" approach to

coordinated planning and operation of electric generation and transmission in Florida. FP&L's unwillingness to cooperate fully in such efforts as evidenced in the Exhibit J documents and in Mr. Harry C. Luff's affidavit has severely restricted the power supply alternatives of the intervenors and others.

The importance of the availability of alternatives provided by a fully integrated power pool to small systems is illustrated by the current situation in Vero Beach, Florida, a municipally owned generation and distribution system, electrically interconnected with FP&L. All of the Vero Beach generation is fossil-fueled. The city's gas supply for generation is currently completely curtailed, and the city has no prospects for future, low cost gas supply. At current high costs of fuel oil, the city's generating costs at the bus bar are reportedly 27 mills/kWh, which cost is reflected in fuel adjustment charges included in customers' bills. Faced with retail rates, including fuel costs, well above those currently charged by FP&L, many citizens have called for sale of the system to FP&L. The City Commission authorized the City Manager and a City Commissioner to negotiate with FP&L regarding the sale of the system, which negotiations have been taking place. The city has authorized a national accounting firm to analyze the company's offer to purchase the system. The City Manager, a knowledgeable former utility executive, has publicly stated that he sees no alternative to the proposed sale.

From a power supply and economic standpoint, it is clear that if the following alternatives were available to Vero Beach, its power supply costs could be substantially reduced. The amount of such cost reductions would have

to be the subject of competent engineering and economic analyses:

1. Purchase of a portion of its requirements from FP&L at average cost wholesale bulk power rates approved by the Federal Power Commission;

2. Market of city's surplus capacity thus created, or otherwise available, to all the members of an integrated Florida power pool at compensatory rates which should be attractive to other systems;

3. Direct access to ownership interest in FP&L's planned and existing nuclear units and those under construction;

4. Operation of all of its power supply resources, including installed generating capacity retained for its own use in a completely integrated single system Florida electric power pool where all units in the state are subject to central economic dispatch and the savings shared by all utilities;

5. Unrestricted access to FP&L's transmission system under reasonable terms and conditions and fair compensation for use to facilitate power sales and purchases with other Florida utilities and make desirable power exchanges, including economy exchanges, short term firm power exchanges, etc.

Regarding access to transmission service, one of the most serious restrictions on the alternatives available to intervenors is the unwillingness of FP&L to commit to provide general transmission service and the lack of a fair method of computing and compensating for transmission service where more than one investor-owned utility is involved. For example, New Smyrna Beach is faced with the prospect of paying a double wheeling charge to have its participant's share of CR-3 delivered over the electrically integrated systems of Florida Power and FP&L. One solution to this problem, adopted in other states, is where all utilities utilizing the transmission system make an equalized investment in transmission facilities in proportion to the use

made thereof. Such approach would appear to have merit in Florida, subject to engineering and economic analyses.

Robert E. Bathen

Robert E. Bathen

STATE OF FLORIDA)
)
COUNTY OF ORANGE)

On this the fourteenth day of April, 1976, before me, Emily B. Faulhaber, the undersigned officer, personally appeared Robert E. Bathen, known to me to be the person whose name is subscribed to the above instrument and acknowledged that he executed the same for the purpose therein contained.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal.

Emily B. Faulhaber

Notary Public, State of [illegible]
My Commission Expires [illegible]
Bonded by [illegible]

LIST OF EXHIBITS

EXHIBIT A - Qualifications of Robert E. Bathen

EXHIBIT B - Florida Power Corporation's Offers for Joint Participation

EXHIBIT C - Tables Illustrating Fossil Fuel Costs in Florida (12 pages)

EXHIBIT D - Moody's Public Utility Manual, 1974 Report on Florida Power & Light Company

EXHIBIT E - Tables and Maps Excerpted from Statistics of the Florida Electric Utility Industry, 1960-1974 by the Florida Energy Data Center

EXHIBIT F - Discovery Documents from "Gainesville vs Florida Power Corporation and Florida Power & Light Company." CA68-305-CIV. J. (20 pages)

EXHIBIT G - Correspondence Florida Power & Light Company and New Smyrna Beach, and Newspaper Articles

EXHIBIT H - Correspondence from FP&L to Smith and Gillespie re Proposed Parallel Interconnection of New Smyrna Beach and FP&L

EXHIBIT I - Correspondence between FP&L and New Smyrna Beach re Lease or Purchase of New Smyrna Beach Electric System by Company (5 pages)

EXHIBIT J - Documents Relating to Fully Integrated Florida Electric Power Pool

EXHIBIT A

QUALIFICATIONS OF

ROBERT E. BATHEN

QUALIFICATIONS OF
ROBERT E. BATHEN

My name is Robert E. Bathen, and my residence address is 1851 S. Chickasaw Trail, Orlando, Florida. I am a Partner, Supervising Executive Engineer, and Manager of the Southeast Regional Office of the firm of R. W. Beck and Associates, Engineers and Consultants. I have been continuously associated either as an employee or as a partner with this firm for more than 18 years.

R. W. Beck and Associates is a firm of Engineers and Consultants performing general engineering and consulting services, primarily in the utility field, for clients throughout the United States including Alaska and Hawaii. This work includes long range utility expansion planning, feasibility and financing studies for individual power projects; periodic analyses of the operations of utility systems, participation in utility rate matters relating both to costs of service of utility clients for determining revenue levels and participation in regulatory matters before state and federal commissions and courts. The firm's general offices are in Seattle, Washington; and we have other regional offices in Denver; Orlando; Boston; Phoenix; Columbus, Nebraska; and Indianapolis, Indiana. The firm presently has over 330 personnel including partners and employees.

I have a Bachelor's Degree in engineering from Cleveland State University and, in addition, concluded two semesters of college level education at Omaha University and Creighton University in the field of business administration.

I am a registered professional engineer in Ohio and in eight other states and have been working in the electric utility field since 1948. During my employment with R. W. Beck and Associates, I have prepared or have had direct supervisory responsibility for the preparation of rate studies, valuations, analyses of operations and financial feasibility studies for clients throughout the United States.

I joined R. W. Beck and Associates in August, 1957, and from 1957 until 1959 I was employed in the Columbus, Nebraska, office of the firm where I performed design work on steam power plant construction and feasibility studies on multi-purpose water resource developments.

From 1959 to 1962 I was employed in the Seattle office of R. W. Beck and Associates where I served as client engineer to two of the State's county-wide public utility districts during that time I also participated in feasibility studies on two large dams on the Columbia River.

From 1962 until 1965 I was head of the Consulting Services Department of the firm's Denver, Colorado, office and became a partner in 1964. During this three-year period I was responsible for all long range planning studies, analyses of operations, feasibility studies, whole sale and retail rate studies, power supply planning, and pooling studies conducted by this major office of the firm.

From 1965 to date I have been Manager of R. W. Beck and Associates' Southeast Regional Office in Orlando, Florida. In that capacity I have been responsible for the preparation of periodic analyses of electric system operations and power supply planning and pooling studies, including planning the financing and construction of generation and transmission facilities to supply all or portions of the wholesale power requirements of municipal systems as an alternative to continued purchase of total requirements from integrated electric utility companies that presently serve the total or the preponderance of their requirements.

The following list summarizes my experience and participation before regulatory commissions and courts as an expert witness.

In the District Court, First Judicial District, County of Laramie, State of Wyoming, December, 1963-January, 1964, I presented an analysis of the applicability of the stock and bond method and the capitalized earnings method of valuation in arriving at elements of value in determining a valuation of the Chicago, Burlington and Quincy Railroad, Plaintiff, for the Board of Equalization of the State of Wyoming, Defendant.

Before the City Council, City of Abilene, Texas, in February, 1965, acting under the laws of the State of Texas whereby cities are empowered to regulate rates for utility services to the city, on behalf of the City of Abilene, I presented reports with respect to the rates, rate of return, and fair value of the properties of the Lone Star Gas Company, the West Texas Utilities Company, and the Southwestern Bell Telephone Company, all of whom provide service within the City of Abilene.

Before the Florida Public Service Commission, Docket 7766-TP, February - October, 1965, on behalf of Pinellas County, Florida, Intervenor, in a rate investigation of General Telephone Company of Florida, I presented testimony with respect to rates, rate base and rate of return on telephone utility properties.

Before the Florida Public Service Commission, Docket 7767-EU, March - November, 1965, on behalf of Pinellas County, Florida, Intervenor, in a rate investigation of Florida Power Corporation, I presented testimony with rexpect to rates, rate base and rate of return on electrical utility properties.

Before the Federal Power Commission, Docket E-7264, in a complaint filed January, 1966, against the wholesale municipal rate of Florida Power Corporation to twelve cities in which settlement was reached in 1967 without hearings, I performed technical aspects of settlement negotiations and settlement rate design.

Before the Federal Power Commission, Docket E-7388, Massachusetts Municipals vs. New England Power Company, a wholesale rate case, I testified regarding obsolescence and inefficiency. Settlement was reached before the Commission reached a decision.

Before the New York Public Service Commission, Case No. 25342, a rate case involving Commonwealth Edison, I testified regarding obsolescence and inefficiency of the Company on behalf of the New York Housing Authority.

Before the Railroad Commission of Texas, Gas Utility Docket 445, in 1970, I presented testimony regarding appeal of Southern Union Gas Company on behalf of the City of Austin, Texas, regarding rate base, operating expenses, taxes and rate of return.

Before the Federal Power Commission, Docket E-7557, June, 1971, regarding the application by Duke Power Company for an increase in rates to wholesale customers, I presented testimony on behalf of municipalities and REA cooperatives as intervenors regarding anticompetitive implications of Company practices and cost of service to wholesale customers. The Commission decision was appealed by the intervenors, and settlement has been reached.

Before the Federal Power Commission, Docket E-7564, October and December, 1971, regarding application by Carolina Power & Light Company for an increase in rates to wholesale customers, I presented testimony on behalf of municipalities and REA cooperatives as intervenors regarding anticompetitive implications of Company practices and cost of service to wholesale customers. Case was settled before Commission decision, and FPC approved the settlement.

Before the Federal Power Commission, Docket E-7720, March 30, 1972, ElectriCities of North Carolina vs. Duke Power Company, I presented testimony for the intervenors in connection with Duke's fossil fuel adjustment clause involving implications of anticompetitive activities of the Company and cost of service. Settlement has been reached.

Before the Federal Power Commission, Docket E-7679, Twelve City Public Power Committee vs. Florida Power Corporation, June, 1972-1974, I presented testimony for the intervenors in the Company wholesale

rate increase filing. This testimony involved anticompetitive activities of the Company and cost of service. Settlement was reached, and the agreement was approved by the Commission in August, 1974. I was responsible for technical aspects of the settlement negotiations including development of transmission service rate tariff and partial requirements tariff.

Before the Federal Power Commission, Docket E-7918, April, 1973, Carolina Power & Light Company's proposed wholesale rate increase, I testified in support of the settlement agreement reached by CP&L and its municipal customers. The settlement agreement was approved by the Commission.

Before the Federal Power Commission, Docket E-7994, January, 1973, I presented testimony on behalf of ElectriCities of North Carolina regarding Duke Power Company's filing for wholesale rate increase involving implications of anticompetitive activities of the Company and cost of service. Settlement has been reached.

Before the Federal Power Commission, Docket No. R-479, July 30, 1973, I filed a statement regarding the proposed rule making re: fuel adjustment clauses in wholesale rate cases.

Before the Federal Power Commission, Docket E-8008, in December, 1973, I presented testimony on behalf of the Utilities Commission, City of New Smyrna Beach, Florida, and appeared in hearings in connection with Florida Power & Light Company's application for wholesale rate increase involving implications of anticompetitive activities of the Company and its unwillingness to enter into an interconnection agreement with the intervenor.

Before the Federal Power Commission, Docket E-8026, May, 1973, I presented testimony in support of the settlement agreement between municipal customers and Virginia Electric & Power Company which had been approved by the Federal Power Commission on April 6, 1973.

U. S. Virgin Islands Public Services Commission, Docket No. 106, in May, 1974, testimony was prepared and filed with the Commission and presented at public hearings on proposed changes in the fuel adjustment clause of the Virgin Islands Water and Power Authority. In September, 1975, I participated in public hearings in the Virgin Islands, and in October, 1975, presented further testimony in this Docket in support of the proposed rate increase and rate structure of the Authority.

Before the Federal Power Commission, Docket RP 74-50-1 et al, April, 1974, I presented testimony on behalf of the Municipal Electric Intervenors (the Cities) regarding the requested special exemptions requested by

industrial applicants from the approved Florida Gas Transmission curtailment plan and the potential effect of granting such requested special exemptions on the Cities.

Before the Federal Power Commission, Docket E-8881, August, 1974, I presented testimony on behalf of Municipal and Electric Membership Corporation Intervenors regarding Carolina Power & Light Company's proposed change in fuel adjustment clause.

Before the Federal Power Commission, Docket RP 74-50-5, January, 1975, I presented testimony on behalf of Municipal Electric Intervenors (the Cities) regarding the effect on the Cities of requested special exemptions by Florida Hydrocarbons and Florida Gas Transmission Company from the approved Florida Gas Transmission curtailment plan.

Before the Federal Power Commission, Docket E-8851, February 24, 1975, I presented testimony on behalf of the Municipal Utility Association of Alabama regarding Alabama Power Company's proposed wholesale rate increase.

Before the Federal Power Commission, Docket E-8884, March, 1975, I presented testimony on behalf of Municipal and Electric Membership Corporation Intervenors regarding Carolina Power & Light Company's proposed wholesale rate increase.

Before the Federal Power Commission, Docket CP74-192, June 16, 1975, I presented testimony on behalf of Municipal Electric Intervenors (the Cities) regarding Florida Gas Transmission Company's proposed pipeline abandonment.

I have participated in seminars and prepared papers for presentation to industry groups regarding various aspects of utility operation enumerated as follows:

Benefits of Power Pooling before the Seventh Annual Conference of the Florida Municipal Utilities Association, Lake Worth, Florida, April 1-3, 1964;

The Case for a Florida Municipal Power Pool before the Ninth Annual Conference, Florida Municipal Utilities Association, Jacksonville, Florida, March 23-15, 1966;

Florida Municipal Power Pool - A Must for Yankee-Dixie before the Second Annual Meeting, Yankee-Dixie Power Association, Washington, D.C., June 2-3, 1966;

Engineering Aspects of Rate Regulation before the American Public Power Association Legal Seminar on Wholesale Rates and the Federal Power Commission, Atlanta, Georgia, November 14-15, 1966;

A New Water Resource Plan for the Great Plains presented at the Annual Meeting of Mid-West Electric Consumers Association, Omaha, Nebraska, December 8, 1967;

The Name of the Game (regarding Rates, Power Supply and Sales Promotion and their Combined Effect on Low Cost Electric Service) before the Third Annual Power Sales Public Relations Workshop, Florida Municipal Utilities Association, Daytona Beach, Florida, October 1-3, 1969;

The Twelve City Story - A Report on Joint Action to Date by Twelve Florida Cities before the American Public Power Association Legal Seminar, Phoenix, Arizona, October 26, 1970.

In April, 1970, I addressed the Tri-State (Ohio, Indiana, Michigan) Municipal Utility Association on the EPIC Project in North Carolina; and I addressed the Annual Conference of Municipal Electric Utilities of Wisconsin in Oshkosh, Wisconsin, June, 1970, on the same subject.

In September, 1973, I addressed the Environmental Workshop of the American Public Power Association on "Municipal Electric Rates and the Environment."

I presented a paper entitled "Factors Affecting Electric Rates" before the Utility Education Seminar of the American Public Power Association, September 19-20, 1974.

In October, 1974, I presented a paper entitled "Electric Rate Policies" before the American Public Power Association Advanced Management Seminar, Washington, D. C.

EXHIBIT B

Florida Power Corporation's Offers for Joint Participation

Florida Power
CORPORATION

January 20, 1975

SUBJECT: Invitation to Bid

On January 8, 1975, Florida Power Corporation hosted a meeting in St. Petersburg, during which the Company offered for sale, on a joint-ownership basis, portions of several of its generating units currently under construction or planned. At that meeting it was announced an Invitation Letter would be sent to all interested parties setting forth in some detail the guidelines for expressing an interest in any or all of the offered projects. Accordingly, this letter will provide information which we feel will be necessary for your evaluation of project offerings and permit you to furnish us with an expression of interest commitment, if you so desire.

We have offered five specific projects for your consideration. These are:

1. Crystal River Nuclear Plant Unit #3.
2. Anclote Fossil Plant Unit #2.
3. DeBary Regenerative Combustion Turbine Plant.
4. 1980's Nuclear Plant Unit #1.
5. 1980's Nuclear Plant Unit #2.

Each project is individually described in detail on the enclosed Project Data Sheets. These data are intended as a common denominator for all interested parties and sum up the information given verbally and in print at the January 8th meeting. In addition, an Expression of Interest Form is provided for each project individually as a means of indicating your intent to participate with us on any or all of these projects.

COMMENTS APPLICABLE TO ALL PROJECTS

. At the meeting on January 8th, several potentially interested parties inquired as to whether it would be possible to make conditional proposals. After due consideration, it has been decided that it would be impractical to accept conditioned proposals. For this reason, we wish to make it absolutely clear that all expressions of interest are to be

made on a non-conditional basis. Expressions of interest which are deemed to be conditional shall be rejected. Further, as is indicated on the Expression of Interest Form, all proposals must be expressed in a percent of the project offered. You will further note that the Expression of Interest Form requires the entity making the proposal to designate the minimum percent they will be willing to accept. This indication is necessary to expedite the allocation procedure, realizing there are some entities who would not wish to participate in joint ownership below a given percentage level of ownership. We ask all interested parties to keep in mind that Florida Power Corporation has expressly reserved the right to reject all expressions of interest. With regard to risk, we would once more reiterate that each co-tenant in any or all of the offered projects must accept his proportionate share of risk which accompanies the design, construction, licensing and operation of electric generation facilities.

COMMENTS SPECIFIC TO INDIVIDUAL PROJECTS

1. Crystal River Nuclear Plant is located in west central Citrus County. 10% of the estimated 825 mw net generation capacity of Unit 3 is offered.

2. The Anclote Fossil Plant is located in southwest Pasco County. 10% of the estimated 515 mw net generation capacity of Unit 2 is offered.

3. DeBary Regenerative Combustion Turbine Plant is located in southwest Volusia County on the St. John's River. 100% of the estimated 300 mw net generation capacity is offered.

   As disclosed at the meeting on January 8th, Florida Power Corporation is not desirous of participating in this project on a joint-ownership basis. For this reason, the Company has offered 100% of this project for sale, excluding land. (Adequate lease arrangements will be provided regarding land rights.) Interested participants in this project may offer to purchase between 0% and 100%, with the understanding that if Florida Power does not receive offers totalling 100%, all offers will be rejected. Conversely, if the offers exceed 100%, the allocation formula as hereinafter set forth will be applied and the project will be sold in total to those parties who have expressed an interest in participating in this project. It should be emphasized again, however, that Florida Power will not be a joint owner in this particular project. If the successful participants desire Florida Power to complete the construction of this project, or to operate it, the Company is willing to enter into negotiations for this purpose.

4. 1980's Nuclear Unit #1. The location for this plant has not been determined. An east Orange County site is presently the preferred location, and a Suwannee River site is a secondary location. 40% of

the estimated 1300 mw net generation capacity is offered.

5. 1980's Unit #2. This unit will be located at the same site as Unit #1 above. 40% of the estimated 1300 mw net generation capacity is also being offered.

ALLOCATION FORMULA

As was announced at the January 8th meeting, in the event any one project is oversubscribed, the following allocation formula will be applied.

The maximum percentages set forth in the Expression of Interest Forms received by the Company will first be totalled. This total will become a denominator of a ratio for which the numerator will be the offered percentage participation. Each individual expression of interest will then be multiplied by the ratio thus produced, and a resulting percentage allocation will be obtained. This result will be compared with the individually-specified minimum percentage and all offerings which fall below the stated minimum will be eliminated and a new allocation calculation made.

For example:

Anclote Unit #2

16 Expressions of Interest for 10%
8 " " " " 5%

Total - 200%

Amount offered - 10%

$$\frac{10\%}{200\%} = \frac{1}{20}$$

$$10\% \times \frac{1}{20} = 1/2\% \text{ ownership in project.}$$

$$5\% \times \frac{1}{20} = 1/4\% \text{ ownership in project.}$$

CONTRACT DOCUMENTS

Drafts of the contract documents which will surround each project are in the process of being prepared. When these documents are complete they will be mailed immediately to each recipient of this Invitation Letter.

These documents will explain the basis of legal participation of the joint owners, in addition to setting forth terms under which the Company would act as Operating Agent.

These documents will be furnished in advance of March 17, 1975.

PERTINENT DATES

March 17, 1975 - date by which Florida Power is to receive Expression of Interest Forms from interested parties. Following receipt and evaluation of these forms for all projects, Florida Power will notify each interested party as to the outcome of their Expression of Interest. This will be accomplished as rapidly as possible after March 17th.

July 15, 1975 - All participating parties will sign formal contracts, and participation money due from joint participants shall be payable at that time. (See Project Data Sheet for cost basis.)

RESOLUTION OF SUPPORT FROM GOVERNING BOARD

Each Expression of Interest Form shall be accompanied by a Resolution from the entity expressing an interest in participation. This Resolution shall state:

1. That the person signing the Expression of Interest Form on behalf of the said entity is duly authorized to so sign.

2. That the Expression of Interest is being made in good faith, with full intent of complying with the commitment.

3. That the entity expressing the interest of joint participation has the financial capability to pay the amounts which will become due through participation in the project.

INQUIRIES

Questions relating to this Invitation should be directed to:

Mr. D. E. Knauss
P. O. Box 14042
St. Petersburg, Florida 33733

Phone: (813) 866-4160

We were pleased with the initial interest evidenced by the attendance and participation in the January 8th meeting. We are hopeful that our proposed concept will evolve ultimately to fruition, whereby the benefits available to all participants through joint ownership can become a reality.

We recognize that there are many problems and challenges ahead of all of us in the next several months, but are confident that with proper attitudes and cooperation we can accomplish our joint goals.

Very truly yours,

M. F. Hebb, Jr.
Vice President

PROJECT FACT SHEETS

Project:

Crystal River Nuclear Plant Unit 3

THE INFORMATION CONTAINED HEREIN IS THE MOST ACCURATE AVAILABLE TO FLORIDA POWER CORPORATION ON JANUARY 20, 1975. IT IS INTENDED THIS DATA BE USED AS A GUIDE FOR EVALUATION OF THE OFFERING. HOWEVER, UNDER NO CIRCUMSTANCES SHALL THIS INFORMATION BE CONSIDERED FINAL OR BINDING.

Florida Power
CORPORATION

January 20, 1975

PROJECT: CRYSTAL RIVER NUCLEAR PLANT UNIT 3

Participation Available (Total)	10%

PROJECT SCHEDULE

1.	Current construction status (% work in place)	95%

The construction status represents the percentage of plant material and equipment in place and does not represent a percentage of the estimated total project cost.

2. Current construction activity

The construction work force at Crystal River #3 is reduced in scale to about one-fourth of full construction capability. The principle activity is testing which is proceeding at near full pace. Limited construction activity is underway in the nuclear steam supply systems and critical electrical systems.

3.	Estimated months of full force construction to complete	12 to 13 months
4.	Estimated date of resumed full force construction (with participation)	Sept. 1975
5.	Estimated fuel loading date	May 1976
6.	Expected in-service date (commercial operation)	Sept. 1976

RATING AND OPERATING FACTORS

1.	Expected maximum net generating capability (MW)	825 MW
2.	Expected range of annual availability including scheduled and forced outages	71% to 83%

3. Operating load factor:

This unit is expected to operate at maximum capability unless reductions are forced by operating or licensing constraints and such reduction shall be shared proportionately by all participants.

PROJECT COST

1. Actual cumulative expenditures excluding first core through December 31, 1974 — $ 297 million

   This is the approximate cost charged to this project work order as of December 31, 1974, including allowance for funds used during construction, but excluding land and fuel. There are other site facilities, such as intake and discharge canals, roads and railroads, and land, which are shared by Crystal River Unit 3 with other units on the site. The cost of these site facilities is not included in participating ownership, and therefore charges for these facilities will have to be covered by negotiated agreements.

2. Estimated cumulative expenditures through June 30, 1975 — $ 350 million

   This number is the expected cumulative cost of continued construction at the present reduced level and includes allowance for funds used during construction. This number also includes the cost of the first nuclear fuel core.

3. Cost basis for participating ownership at 110% of cumulative cost through June 30, 1975 — $ 385 million

   a. Estimated base cost of available participation — $ 38.5 million

4. Estimated additional cash expenditures (excluding cost of capital) to complete project — $ 45 million

   This is an estimate of the actual expenditures required after June 30, 1975 to complete the project and excludes allowance for funds used during construction. This estimated additional cost does not include items such as cooling towers, which may be required by future licensing restrictions but which are not presently anticipated.

   a. Additional Cost of available participation — $ 4.5 million

5. Nuclear Reload Fuel Cost (reload batch)

   The building of any reload fuel batch for a nuclear power plant is comprised of several steps commonly referred to as the nuclear fuel supply chain which includes uranium supply, conversion, enrichment, fabrication and reprocessing.

   Florida Power Corporation currently holds long term contractual commitments for all of the above nuclear fuel supply steps to fulfill the projected requirements of Crystal River Unit #3 at least through 1983.

   The estimated annual reload batch cost, in terms of 1975 dollars, averages about $11 million. Since all the nuclear fuel contracts are subject to escalation by recognized industry indices and since the U. S. Government can cause fuel cost variance as a result of the issuance of regulations, this reload fuel cost estimate must be qualified on the basis of the facts known to date.

OPERATION, MAINTENANCE & SERVICE FEES

1. Estimated fuel cost range

   While the fuel is bought and paid for in reload batches, Florida Power Corporation expects the fuel cost to average 2 to 3 mills per kwh.

2. Estimated operation and maintenance expenses other than fuel

   The operating and maintenance cost other than fuel is estimated to be in the range of 0.5 to 1.0 mills/kwh.

3. Operating service fee

   In addition to the direct operating and maintenance charges associated with this unit, there are numerous management and administrative overheads associated with the planning, administration, and management relating to the operation of this unit. Agreement on operation service fees will be subject to future negotiation.

4. Fee for supportive station facilities

   As indicated in the description of project cost, there are numerous station facilities which are not included in the project cost and therefore not covered by the ownership agreement. Future negotiations will be required to agree on a fee to cover the capital cost of supportive facilities.

DELIVERY OF PARTICIPATION POWER

Florida Power Corporation offers "come and get it" delivery and makes no offer to negotiate with other parties for delivery of power, acquired through this proposal, beyond its system. For its transmission system, service is available as follows:

1. Transmission Service Resale Rate Schedule T-1, on file with the Federal Power Commission, for delivery of participating shares. Copies are available upon request.

2. Partial Requirements Service Resale Rate Schedule RS-2A, on file with the Federal Power Commission, for capacity and energy in excess of participating share. Copies available upon request.

OPERATING RESERVE REQUIREMENTS

Each participant shall be required to provide the generating capacity to support its participating share as is required by good operating practice in the State of Florida.

PROJECT FACT SHEETS

Project:

Anclote Fossil Plant Unit 2

THE INFORMATION CONTAINED HEREIN IS THE MOST ACCURATE AVAILABLE TO FLORIDA POWER CORPORATION ON JANUARY 20, 1975. IT IS INTENDED THIS DATA BE USED AS A GUIDE FOR EVALUATION OF THE OFFERING. HOWEVER, UNDER NO CIRCUMSTANCES SHALL THIS INFORMATION BE CONSIDERED FINAL OR BINDING.

Florida Power
CORPORATION

January 20, 1975

PROJECT: Anclote Unit 2

Participation Available (Total) 10%

PROJECT SCHEDULE

1. Current construction status (% work in place) 35%

   The construction status represents the percentage of plant material and equipment in place and does not represent a percentage of the estimated total project cost.

2. Current construction activity.

   Current construction activity at Anclote Unit #2 is limited to the minimum labor forces and material expenses to maintain and protect material and equipment which have been laid up pending future resumption of full force construction activity.

3. Estimated months of full force construction effort to complete the project. 18 to 20 months

4. Estimated date of resumed full force construction (with participation) Jan. 1976

5. Expected in-service date (commercial operation) July, 1977

RATING AND OPERATING FACTORS

1. Expected maximum net generating capability (MW) 515 MW

2. Expected range of annual availability including scheduled and forced outages. 81% to 89%

3. Operating load factor:

   The operating load pattern for this unit shall be subject to an Operating Agreement by all participants. Any capacity restrictions resulting from operating or licensing constraints shall be shared by all participating owners.

PROJECT COST

1. Actual cumulative expenditures through December 31, 1974 — $ 47.5 million

   This is the approximate cost charged to this project work order as of December 31, 1974 including allowance for funds used during construction. Since this unit shares a number of facilities provided at the Anclote Plant Site, final negotiations will be required to establish agreement on charges, fees, or lease arrangement to cover the cost of these facilities. This includes such items as land, administration building, machine shop, fuel storage and handling facilities, water storage and handling facilities, turbine room crane, control room, chimney, and spare parts. This list is not all inclusive but represents the type of plant investment shared by Anclote Unit #2 but not included in the sale price.

2. Estimated cumulative expenditures through June 30, 1975 — $ 51 million

   This number represents the accumulation of additional project costs to cover the maintenance and security of plant materials and equipment, the cost of committed schedule payments on equipment and materials and the accumulation of allowance for funds used for construction through June 30, 1975.

3. Cost basis for participating ownership at 110% of cumulative cost through June 30, 1975 — $ 56.1 million

   a. Estimated base cost of available participation — $ 5.61 million

4. Estimated additional cash expenditures (excluding cost of capital) to complete project — $ 32 million

   This is an estimate of the actual construction expenditures, excluding allowance for funds used during construction, to complete the project. It does not include the contingencies for additional environmental protection equipment such as cooling towers and precipitators which are not presently anticipated for this project.

   a. Additional Cost of available participation — $ 3.2 million

OPERATION & MAINTENANCE & SERVICE

1. Estimated fuel cost range

   Florida Power's existing fuel contracts expire the end of 1977, which means that the projected fuel cost for Anclote #2 is dependent on future oil contracts. On the basis of an estimated $15.00 per barrel for low sulfur residual fuel oil, this equates to a generation fuel cost of 23 mills per kwh. Any anticipated variances from this estimated fuel cost, resulting from either taxes or allocation credit would alter this generation cost proportionately.

2. Estimated operation and maintenance expenses other than fuel

   The operating and maintenance cost other than fuel is estimated to be in the range of .8 to 1.0 mills/kwh.

3. Operating service fee

   In addition to the direct operating and maintenance charges associated with this unit, there are numerous management and administrative overheads associated with the planning, administration, and management relating to the operation of this unit. Agreement on operating service fees will be subject to future negotiation.

4. Fee for supportive station facilities

   As indicated in the description of project cost, there are numerous station facilities which are not included in the project cost and therefore not covered by the ownership agreement. Future negotiations will be required to agree on a fee to cover the capital cost of supportive station facilities.

5. Fee for fuel inventory and pipeline delivery from Plant Bartow Oil Terminal facilities

   Future negotiations will be required to agree on a fee to cover the capital cost of these supportive facilities.

DELIVERY OF PARTICIPATION POWER

Florida Power Corporation offers "come and get it" delivery and makes no offer to negotiate with other parties for delivery of power, acquired through this proposal, beyond its system. For its transmission system, service is available as follows:

1. Transmission Service Resale Rate Schedule T-1, on file with the Federal Power Commission, for delivery of participating shares. Copies are available upon request.

2. Partial Requirements Service Resale Rate Schedule RS-2A, on file with the Federal Power Commission, for capacity and energy in excess of participating share. Copies available upon request.

OPERATING RESERVE REQUIREMENTS

Each participant shall be required to provide the generating capacity to support its participating share as is required by good operating practice in the State of Florida.

PROJECT FACT SHEETS

Project:

DeBary Regenerative Combustion Turbine Plant

THE INFORMATION CONTAINED HEREIN IS THE MOST ACCURATE AVAILABLE TO FLORIDA POWER CORPORATION ON JANUARY 20, 1975. IT IS INTENDED THIS DATA BE USED AS A GUIDE FOR EVALUATION OF THE OFFERING. HOWEVER, UNDER NO CIRCUMSTANCES SHALL THIS INFORMATION BE CONSIDERED FINAL OR BINDING.

Florida Power
CORPORATION

January 20, 1975

PROJECT: DeBary Regenerative Combustion Turbine Plant

Participation Available (Total) 100%

PROJECT STATUS & SCHEDULE

This project, consisting of six 51.9 MW regenerative combustion turbine generating units, is presently being constructed under a lease agreement wherein the leasor will finance the construction of the project through completion, assume title and own the units upon completion, and lease the units to Florida Power for a period of 25 years.

Florida Power is interested in selling all or none of this project.

The estimated in service date (commercial operation) for the first three units is December 1975, followed by the remaining three units in the first quarter of 1976.

RATING AND OPERATING FACTORS

1. Expected maximum net generating capability (MW) per unit 51.9 MW

   Six unit plant 311 MW

2. Expected annual availability including scheduled and forced outages 68% to 85%

3. Operating load factor:

   The operating load pattern for this plant shall be subject to an operating agreement by all participants. Any capacity restrictions resulting from operating or licensing constraints shall be shared by all participating owners.

PROJECT COST

1. Actual cumulative expenditures through December 31, 1974 — 1.7 million

   This cost includes allowance for funds used during construction, but excludes land.

2. Estimated cumulative expenditures through June 30, 1975 — 39.1 million

   This represents the accumulation of costs through June 30, 1975 including allowance for funds used during construction, to continue construction activity in accordance with our current lease agreement and in-service schedule.

3. Cost basis for total ownership at 100% of cumulative cost through June 30, 1975 — 39.1 million

4. Estimated additional cash expenditures (excluding cost of capital) to complete project — 6.8 million

OPERATION & MAINTENANCE

1. Estimated fuel cost range

   We presently have no fuel contracts for these units. On the basis of $16. per barrel fuel oil price, we would expect an average of 28 mills/kwh fuel cost.

2. Estimated operation and maintenance expenses other than fuel

   The operation and maintenance cost on a mills/kwh basis will vary widely on these units according to their use. As Florida Power Corporation has intended to use these units, we are expecting a range of from 2.5 to 4.5 mills/kwh.

3. Operating service fee

   In the event Florida Power operates these units for the purchaser, in addition to the direct operating and maintenance charges associated with these units, there are numerous management and administrative overheads to be considered. Agreement on operating service fees will be subject to future negotiation.

4. Fee for supportive site facilities

   Future negotiations will be required to agree on a fee to cover the capital cost of supportive land and facilities not included in the ownership agreement.

DELIVERY OF PARTICIPATION POWER

Florida Power Corporation offers "come and get it" delivery and makes no offer to negotiate with other parties for delivery of power, acquired through this proposal, beyond its system. For its transmission system, service is available as follows:

1. Transmission Service Resale Rate Schedule T-1, on file with the Federal Power Commission, for delivery of participating shares. Copies are available upon request.

2. Partial Requirements Service Resale Rate Schedule RS-2A, on file with the Federal Power Commission, for capacity and energy in excess of participating share. Copies available upon request.

OPERATING RESERVE REQUIREMENTS

Each participant shall be required to provide the generating capacity to support its participating share as is required by good operating practice in the State of Florida.

PROJECT FACT SHEETS

Project:

1980's Nuclear Units 1 and 2

THE INFORMATION CONTAINED HEREIN IS THE MOST ACCURATE AVAILABLE TO FLORIDA POWER CORPORATION ON JANUARY 20, 1975. IT IS INTENDED THIS DATA BE USED AS A GUIDE FOR EVALUATION OF THE OFFERING. HOWEVER, UNDER NO CIRCUMSTANCES SHALL THIS INFORMATION BE CONSIDERED FINAL OR BINDING.

Florida Power
CORPORATION

January 20, 1975

PROJECT: 1980's Nuclear Units 1 and 2

Participation Available (Total) 40% of Each Unit

PROJECT DESCRIPTION

1. Nuclear Steam Supply System (NSSS)

   a. Pressurized Water Reactor
      Combustion Engineering's Standard Systems 80

   b. Base Design Capability
      Reactor Thermal Power Rating - 3817 MW_t
      Expected Electrical Output - 1316 MW_e

   c. Ultimate Capability (Subject to AEC licensing and design provision)
      Reactor Thermal Power Rating - 4100 MW_t
      Expected Electrical Output - 1366 MW_e

   d. Capable of using any combination of uranium or plutonium fuel

   e. Able to use CE's generic Preliminary Safety Analysis Report for plant licensing

2. Replication Concept

   a. Within practical limits, this concept duplicates a unit that has been or is in the process of being licensed by the AEC

   b. The AEC encourages the Replication Concept

   c. Savings available through replication include:
      - licensing schedule (time and cost savings)
      - engineering cost savings
      - construction cost savings

   d. Florida Power is actively pursuing the Replication Concept

1980's Nuclear Units 1 and 2 (continued)

SITING

1. East of Orlando site in Orange County is prime selection.
2. Alternate site is on Suwannee River in Levy County.
3. Comprehensive site evaluation activities started in 1972, and covered over 200 site locations
4. Site procurement is presently pending.

SCHEDULE

1.	Complete PSAR and Environmental Report	July 1977
2.	Submit construction permit application to AEC	Aug 1977
3.	Submit site certification application to State of Fla.	Aug 1977
4.	Receive Construction Permit	Oct 1978
5.	Load Fuel (Unit 1)	Mar 1984
6.	Commercial Operation (Unit 1)	Sep 1984
7.	Load Fuel (Unit 2)	Mar 1987
8.	Commercial Operation (Unit 2)	Sep 1987

PROJECT STATUS

1. Have contract with Combustion Engineering for Nuclear Steam Supply System (standard systems 80)
2. Have contract with AEC for 30-year fuel enrichment on first unit
3. In final stages of fuel contract with CE covering uranium supply and fabrication of the initial core plus ten reloads on each unit
4. Pursuing an agreement with City of Orlando and Orange County officials on the use of sewage effluent for plant make up water.
5. Pursuing the replication concept
6. Have collected two seasons of biological data from east of Orlando site (summer and fall) on one season from the Suwannee River site (summer).
7. Have established meteorological data collection stations and are taking data at both east of Orlando and Suwannee River sites.

PROJECT COST

1. Actual expenditures through December 31, 1974

   Unit 1 - $2.6 million Unit 2 - $0.2 million

   These costs primarily include engineering, siting, licensing, and environmental research activities related to the 1980's nuclear project, and include the allowance for funds used during construction charges.

2. Estimated cumulative expenditures through June 30, 1975

   Unit 1 - $4.2 million Unit 2 - $0.4 million

   This represents the accumulation of additional limited engineering, environmental and licensing activity, and also includes a $1.4 million nuclear fuel enrichment pre-payment to the AEC.

3. Cost basis for participating ownership at 110% of cumulative costs through June 30, 1975

   Unit 1 - $4.62 million Unit 2 - $0.44 million

   a. Estimated base cost of available participation

      Unit - 1 $1.848 million Unit 2 - $0.176 million

4. Estimated additional cash expenditures to complete project See Table I

   Table I is an estimate of Project costs and cash flow by each year from 1974 through the completion of the project. The table includes in a separate column the estimated allowance for funds used during construction based on Florida Power's AFC charge rate of 10.5%. These cost estimates reflect an average annual inflation rate of 7 1/3% in construction costs over the duration of the project.

   a. Additional cost of available participation

      The 40% available participation would require 40% of the estimated direct costs from June 30, 1975 through the completion of the project as shown on Table I.

   b. Terms of payment

      Future payments for major components will be required in advance of vendor billing and will be based on an annual forecast schedule updated as required. Other ongoing expenditures will be billed on actual costs.

   c. Construction Management Fee

      Future negotiations will develop and define the costs of project management for these units.

PROJECT COST (continued)

5. Nuclear Reload Fuel Cost (reload batch)

The building of any reload fuel batch for a nuclear power plant is comprised of several steps commonly referred to as the nuclear fuel supply chain which includes uranium supply, conversion, enrichment, fabrication and reprocessing.

Florida Power Corporation currently is completing long term contracts for the most cricital of the above nuclear fuel supply steps to fulfill the projected requirements of the 1980's nuclear project Unit #1 at least through 1995, and all but enrichment on Unit 2 through the year 1998.

The estimated annual reload batch cost, in terms of 1975 dollars, averages about $20 million. Since all the nuclear fuel contracts are subject to escalation by recognized government indices and since the U. S. Government can cause fuel cost variance as a result of the issuance of regulations, this reload fuel cost estimate must be qualified on the basis of the facts known to date.

OPERATION, MAINTENANCE & SERVICE FEES

1. Estimated fuel cost range

While the fuel is bought and paid for in reload batchs, Florida Power Corporation expects the fuel cost to average in the range of 2½ to 3½ mills/kwh.

2. Estimated operation and maintenance expenses other than fuel

The operating and maintenance cost other than fuel is estimated to be in the range of 0.5 to 1.0 mills/kwh, based on 1975 dollars. Inflation in labor and material at 6% a year will result in an estimated range of .9 to 1.8 mills/kwh in 1985.

3. Operating service fee

In addition to the direct operating and maintenance charges associated with this unit, there are numerous management and administrative overheads associated with the planning, administration, and management relating to the operation of this unit. Agreement on operation service fees will be subject to future negotiation.

4. Fee for supportive station facilities

Future negotiations will be required to agree on a fee to cover the capital cost of supportive facilities not included in the ownership agreement.

TABLE I
1980's NUCLEAR PROJECT
PROJECT COST & CASH FLOW - INCLUDING FIRST CORE
(In Million Dollars)

	UNIT 1			UNIT 2		
YEAR	Direct Costs	AFC	Total Costs	Direct Costs	AFC	Total Costs
1974	2.5	.1	2.6	.2	0	.2
1975	2.5	.5	3.0	.4	.1	.5
1976	6.0	.8	6.8	.1	.1	.2
1977	9.7	1.7	11.4	1.7	.2	1.9
1978	16.3	3.0	19.3	1.5	.3	1.8
1979	98.2	9.0	107.2	6.4	.7	7.1
1980	206.6	34.5	241.1	9.9	1.6	11.5
1981	263.4	49.7	313.1	15.2	2.9	18.1
1982	196.8	73.9	270.7	102.7	9.1	111.8
1983	101.1	89.5	190.6	247.4	27.5	274.9
1984	15.9	71.7	87.6	293.9	37.0	330.9
1985				252.3	84.6	336.9
1986				117.6	104.0	221.6
1987				17.1	83.3	100.4
Total Costs	919.0	334.4	1253.4	1066.4	351.4	1417.8
$/kw	$700/kw	$250/kw	$950/kw	$810/kw	$270/kw	$1080/kw

NOTE: This estimate of project cost and cash flow reflects an assumed 7 1/3% composite annual escalation rate in the cost of construction material, equipment and labor.

Allowance for funds used during construction (AFC) was based on a 10½% AFC rate.

$/kw costs based on 1316 MW_e

DELIVERY OF PARTICIPATION POWER

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2. Partial Requirements Service Resale Rate Schedule RS-2A, on file with the Federal Power Commission, for capacity and energy in excess of participating share. Copies available upon request.

OPERATING RESERVE REQUIREMENTS

Each participant shall be required to provide the generating capacity to support its participating share as is required by good operating practice in the State of Florida.

R. W. BECK AND ASSOCIATES

ANALYTICAL AND CONSULTING ENGINEERS

PLANNING
DESIGN
RATES
ANALYSES
EVALUATIONS
MANAGEMENT

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COLUMBUS, NEBRASKA
WELLESLEY, MASSACHUSETTS
INDIANAPOLIS, INDIANA

FILE NO. FF-5101-EP2-MA

March 10, 1975

Honorable Mayor and
Members of City Council
City of Ocala
Ocala, Florida 32670

Gentlemen:

Subject: Participation in Florida Power Corporation's Crystal River #3 and 1980's Nuclear Units

Pursuant to your request we are enclosing our analysis and recommendations with respect to participation by the City in the Crystal River #3 unit and the 1980's nuclear units presently under construction or planned by Florida Power Corporation.

Crystal River Unit #3 is an 825 mw unit presently scheduled for commercial operation September, 1976. The 1980's nuclear projects consist of two 1316 mw units, the first of which will be placed into commercial operation in September, 1984, and the second in September, 1987. As a result of the meeting on January 8, 1975 in St. Petersburg, Florida Power Corporation has offered a 10% ownership share in the Crystal River Unit #3 and a 40% ownership share in each of the 1980's units to all of the electric systems in the State of Florida, public and private.

We have prepared an analysis of the value to the City of participation in a joint ownership arrangement with each of the nuclear units. A comparison was made between the alternative of purchasing the total power requirements via the full requirements rate and the alternative of purchasing requirements with the difference composed of the nuclear units in which the City participates. The cost associated with participation includes not only the partial requirements rates but wheeling rates, losses and additional

reserve requirements. In its invitation to bid, Florida Power Corporation set forth certain criteria which each of the potential bidders is required to follow. Of particular interest are the following:

1. Allocation Formula

In the event that any one project is oversubscribed by the combined bidders, the total number of megawatts bid will be divided into the amount offered, and that ratio would be applied to the bid to determine the actual amount to be received from any such project.

2. Expression of Interest

All bidders must submit an Expression of Interest by March 17, 1975, which would include the amount of megawatts in percent of total unit size for each project and the minimum amount of megawatts in percent of total unit size.

The bid form (attached) provides, among other things, that "No Expression of Interest shall be binding until enabling legislation favorable to joint ownership is enacted by the Florida Legislature as permitted by Section 10d of Article VII of the Constitution of the State of Florida."

Each Expression of Interest to be submitted by March 17, 1975, is to be accompanied by a resolution of the governing body. A draft of a recommended form of the resolution was distributed at the meeting of the Twelve Cities Group on March 7, 1975, and is available from Mr. Charles Shreve of Ocala.

3. Contract Negotiations

Subsequent to March 17 and prior to July 15, 1975, the Company expects to negotiate and finalize participation and operation agreements with all the prospective participants.

4. Closing and Contract Execution

The Company's present schedule is that on July 15, 1975, all participating parties would sign formal contracts, and participation money from the respective participants would be due at that time. (At a meeting

with the Company on February 21, 1975, the Company indicated that it would attempt to arrange, if possible and if required, for a sixty to ninety day bridging period to the time when payment of funds is required.)

Recommended Criteria for Determining the Amount of the Bid on Each Project

The criterion applied to Crystal River #3 participation was based upon a bid equivalent to 100% of the City's 1977 peak load up to 82.5 mw. In the case of the City, the bid can be justified on the basis of obtaining sufficient amounts of nuclear capacity to satisfy the City's short and long term bulk power supply requirements and the ability of the City to sell any surplus capacity on a year-to-year basis to other utilities in the State. From a practical standpoint, it is our judgment that the Crystal River #3 participation will be overbid by some 870%-1000%. Based upon the Company's allocation formula, if a bid equivalent to 100% of the City's 1977 peak load were submitted, the City could expect to receive approximately 9.9% of that bid.

The criteria applied to participation in the 1984 and 1987 units were to bid an amount equal to 50% of the 1987 projected peak demand reduced by the amount of capacity expected from Crystal River #3 with that value divided equally between the two units. Again, however, from a practical standpoint and based upon our determination that the 1980's units will also be overbid by some 450% to 460%, we would expect the City to receive approximately 22% of its bid for each of the 1980's nuclear units. If, however, the City were fortunate enough to receive the entire amount of its bid, it could utilize that full amount by those dates in serving its own customers.

Analysis

Participation in the Crystal River #3 unit and the 1980's units can be justified if the nuclear participation costs plus partial requirements alternative costs are lower than the full requirements alternative costs.

Based on the information provided by Florida Power Corporation on the three nuclear units' direct cost, a bond cost was developed for each unit. The "Bond Cost Development" calculations for each unit are attached. The initial bond reserve fund; working capital; fiscal, legal and administrative

expenses; and bond discount totaled 13.56% of the total bond costs and were added to the total construction cost which included interest during construction at 7%. Assumptions for overhead and maintenance costs, interim replacements, operating contingencies, and reserves were made based on best currently available data. This information was used to develop the annual fixed charge rate and can be identified by the unit name and the title "Fixed Charge Rate and Pertinent Data" which is attached for each unit.

A computer program was developed to simulate the full requirements rate on a monthly basis and to tabulate the costs on an annual basis. This program also simulated the participation in Florida Power's nuclear units with supplemental nuclear power and partial requirements. The cost differential and percent savings between these two alternatives were calculated for each year from 1976 through 1990 and are attached. Also attached is an analysis of the savings that would result from participation in either the Crystal River #3 unit, the Anclote #2 unit, the 1984 nuclear unit, or the 1987 nuclear unit in lieu of the Florida Power Corporation purchased power cost delivered at 115 kv.

Summary

The Fixed Charge Rate and Pertinent Data sheets contain the amount of capacity the City might reasonably expect to receive from each nuclear unit as well as the total bond cost for the amounts expected and the total down payment due July 15, 1975. In addition, the annual savings are calculated and printed on the attached computer printout. Also attached is an "Expression of Interest" form for the City indicating the amount in percent of the recommended bid for the Crystal River #3 and each of the 1980's units. The recommended minimum amount to be bid is also indicated, which is zero. It should be noted that:

1. Crystal River #3 is 95% complete which eliminates many risks and unknowns in construction costs associated with large nuclear units.

2. The 1980's units are in the early stages of development and all risks associated with them will be shared by all the participants.

3. Each kilowatt-hour of energy the City obtains from these nuclear generating units is estimated to cost from 40% to 59% less than your alternative cost of purchase power from Florida Power Corporation, as shown on the attached table entitled "Twelve Cities Estimated Savings Due to 1.0 MW Participation in Crystal River #3, 1984 Nuclear Unit, 1987 Nuclear Unit and Anclote #2."

4. It would be impossible for the City to secure an amount of low cost nuclear capacity and energy in the amount the City is expected to receive except through the participation plan offered by Florida Power Corporation or through some joint cooperative effort with other electric systems having sufficient load to justify building a large nuclear unit.

Conclusions and Recommendations

Based upon the results of the studies and analyses set forth in this report:

1. It is our opinion that substantial power savings can be achieved by the City through participation on a joint ownership basis in the Crystal River #3 and the 1980's nuclear units presently under construction or planned by Florida Power Corporation.

2. It is recommended that the City submit bids to Florida Power Corporation for the Crystal River #3 and the 1980's units on the "Expression of Interest" forms supplied by the Company and attached to this report in the amount indicated.

3. It is recommended that the City not participate and, hence, not submit a bid on the DeBary combustion turbine units.

4. At the meeting of March 7, 1975, the membership of the Twelve Cities Group decided to recommend against participation and submittal of bids on the Anclote #2 unit.

Respectfully submitted,

R W Beck and Associates

FLORIDA MUNICIPAL ASSOCIATION
CITY OF OCALA
ANNUAL COST OF POWER FOR THE BASE CASE
(BOND) INTEREST RATE AT 7.0%)

	1976	1977	1978	1979	1980	1981	1982
SYSTEM LOAD							
-MW	105.322	115.854	127.439	140.183	152.800	166.552	131.541
-MWH	473121.2	520433.3	572476.6	629724.3	686399.4	748175.4	815511.2
FLORIDA REQUIREMENTS PURCHASE							
-MW	105.322	115.854	127.439	140.183	152.800	166.552	181.541
-MWH	473121.2	520433.3	572476.6	629724.3	686399.4	748175.4	815511.2
-MWH/MW	374.3	374.3	374.3	374.3	374.3	374.3	374.3
TOTAL COST OF PURCHASE-$(000)	13910.2	15983.4	18623.6	22267.9	25877.9	29964.9	34586.5
TOTAL ANNUAL COST OF POWER							
-$(000)	13910.2	15983.4	18623.6	22267.9	25877.9	29964.9	34586.5
-MILLS/KWH	29.40	30.71	32.53	35.36	37.70	40.05	42.41

1983	1984	1985	1986	1987	1988	1989	1990
197.880	215.689	232.945	251.580	271.706	293.443	316.918	342.272
888907.2	968903.8	1046421.5	1130135.3	1220546.1	1318190.0	1423644.9	1537536.5
197.880	215.689	232.945	251.580	271.706	293.443	316.918	342.272
888907.2	968903.8	1046421.5	1130135.3	1220546.1	1318190.0	1423644.9	1537536.5
374.3	374.3	374.3	374.3	374.3	374.3	374.3	374.3
39807.0	45697.7	44114.9	50362.5	57342.4	59860.5	66703.7	74279.3
39807.0	45697.7	44114.9	50362.5	57342.4	59860.5	66703.7	74279.3
44.73	47.16	42.16	44.56	46.98	45.41	46.85	48.31

FLORIDA MUNICIPAL ASSOCIATION
CITY OF OCALA
ANNUAL COST OF POWER FOR ALTERNATIVE 1
(BOND INTEREST RATE AT 7.0%)

	1976	1977	1978	1979	1980	1981	1982
SYSTEM LOAD							
-MW	105.322	115.854	127.439	140.183	152.800	166.552	181.541
-MWH	473121.2	520433.3	572476.6	629724.3	686399.4	748175.4	815511.2
NUCLEAR PARTICIPATION							
-MW	-	8.188	8.188	8.188	8.188	8.188	8.188
-MWH	-	57381.5	57381.5	57381.5	57381.5	57381.5	57381.5
FIXED COSTS							
-$/KW	-	72.11	72.11	72.11	72.11	72.11	72.11
-$(000)	-	590.4	590.4	590.4	590.4	590.4	590.4
VARIABLE COSTS							
-MILLS/KWH	2.50	2.57	2.65	2.73	2.81	2.89	2.98
-$(000)	-	147.5	152.1	156.7	161.2	165.8	171.0
WHEELING							
-$/KW	5.29	5.61	5.95	6.31	6.69	7.09	7.52
-$(000)	-	45.9	48.7	51.7	54.8	58.1	61.6
TOTAL COST OF NUCLEAR-$(000)	-	783.8	791.2	798.8	806.4	814.3	823.0
FLORIDA REQUIREMENTS PURCHASE							
-MW	105.322	109.140	120.725	133.469	146.086	159.838	174.827
-MWH	473121.2	465920.9	517964.2	575211.9	631887.0	693663.0	760998.8
-MWH/MW	374.3	355.8	357.5	359.1	360.5	361.6	362.7
TOTAL COST OF PURCHASE-$(000)	13910.2	14860.2	17417.8	20924.9	24424.9	28401.8	32913.4
TOTAL ANNUAL COST OF POWER							
-$(000)	13910.2	15644.0	18209.0	21723.7	25231.3	29216.1	33736.4
-MILLS/KWH	29.40	30.06	31.81	34.50	36.76	39.05	41.37
POWER COST SAVINGS							
TOTAL ANNUAL COST OF POWER FOR THE BASE CASE							
-$(000)	13910.2	15983.4	18623.6	22267.9	25877.9	29964.9	34586.5
-MILLS/KWH	29.40	30.71	32.53	35.36	37.70	40.05	42.41
ANNUAL SAVINGS							
-$(000)	-	339.4	414.6	544.2	646.6	748.8	850.1
-MILLS/KWH	-	.65	.72	.86	.91	1.00	1.04
-% SAVINGS	-	2.1	2.2	2.4	2.5	2.5	2.5

1983	1984	1985	1986	1987	1988	1989	1990	1978-90 TOTALS
197.880	215.439	232.945	251.580	271.706	293.443	316.918	342.272	-
886907.2	968903.3	1046421.5	1130135.3	1220546.1	1318190.0	1423644.9	1537536.5	13980131.8
8.183	8.183	22.190	22.190	22.190	36.582	36.582	36.582	36.582
57381.5	57381.5	155507.5	155507.5	155507.5	256366.7	256366.7	256366.7	-
72.11	72.11	91.20	91.20	91.20	102.39	102.39	102.39	-
590.4	590.4	2023.7	2023.7	2023.7	3745.6	3745.6	3745.6	-
3.07	3.16	3.25	3.35	3.45	3.55	3.66	3.77	-
176.2	181.3	505.4	521.0	536.5	910.1	938.3	966.5	-
7.97	8.45	8.96	9.50	10.07	10.67	11.31	11.99	-
65.3	69.2	198.8	210.8	223.5	390.3	413.7	438.6	-
831.9	840.9	2727.9	2755.5	2783.7	5046.0	5097.6	5150.7	-
191.166	208.975	214.749	233.384	253.510	263.446	286.921	312.275	-
834394.8	914396.4	893689.4	982403.2	1072814.0	1074641.6	1180096.5	1293988.1	-
363.7	364.6	348.7	350.8	352.7	339.9	342.7	345.3	-
38023.8	43804.3	39778.5	45727.5	52408.6	52208.4	58802.3	66128.5	-
38855.7	44645.2	42506.4	48433.0	55192.3	57254.4	63899.9	71279.2	579786.8
43.71	46.08	40.62	42.90	45.22	43.43	44.88	46.36	.04
39807.0	45697.7	44114.9	50362.5	57342.4	59860.5	66703.7	74279.3	599382.4
44.73	47.16	42.16	44.56	46.98	45.41	46.85	48.31	.04
951.3	1052.5	1608.5	1879.5	2150.1	2606.1	2803.8	3000.1	19595.6
1.07	1.08	1.54	1.66	1.76	1.98	1.97	1.95	-
2.4	2.3	3.6	3.7	3.7	4.4	4.2	4.0	3.3

TWELVE CITIES
ESTIMATED SAVINGS DUE TO 1.0 MW PARTICIPATION IN CRYSTAL RIVER #3, 1984 NUCLEAR UNIT, 1987 NUCLEAR UNIT AND ANCLOTE #2

		1977		1985		1988		1990	
	MW	1.0		1.0		1.0		1.0	
	MWH	7008		7008		7008		7008	
		Units	$	Units	$	Units	$	Units	$
I. Florida Power Purchased Power Cost @ Wholesale Rate - 115 KV Delivery									
Demand Cost	- $/KW/YR	51.27		61.22		66.90		70.97	
	- $		51.27		61.22		66.90		70.97
Energy Cost	- Mills/KWH	20.61		29.37		31.43		33.48	
	- $		144.43		205.82		220.26		234.63
Total Cost	- $		195.70		267.04		287.16		305.60
	- Mills/KWH	27.93		38.10		40.97		43.60	
II. Crystal River #3 Cost Delivered @ 115 KV									
Fixed Cost	- $/KW/YR	72.11		72.11		72.11		72.11	
	- $		72.11		72.11		72.11		72.11
Variable Cost	- Mills/KWH	2.50		3.17		3.46		3.67	
	- $		17.52		22.21		24.25		25.72
Wheeling	- $		5.67		9.04		10.77		12.10
Reserves	- $		6.66		7.96		8.70		9.23
Losses	- $		3.44		4.17		4.56		4.83
Total Cost	- $		105.40		115.49		120.39		123.99
	- Mills/KWH	15.04		16.48		17.18		17.69	
Savings	- $/KW		90.30		151.55		166.77		181.61
	- Mills/KWH	12.99		21.62		23.79		25.90	
	- %	46.1%		56.8%		58.0%		59.4%	
III. 1984 Nuclear Unit Cost Delivered @ 115 KV									
Fixed Cost	- $/KW/YR			104.84		104.84		104.84	
	- $				104.84		104.84		104.84
Variable Cost	- Mills/KWH			3.17		3.46		3.67	
	- $				22.21		24.25		25.72
Wheeling	- $				5.67		5.67		5.67
Reserves	- $				7.96		8.70		9.23
Losses	- $				4.17		4.56		4.83
Total Cost	- $				144.85		148.02		150.29
	- Mills/KWH			20.67		21.12		21.82	
Savings	- $/KW				122.12		139.14		156.72
	- Mills/KWH			17.43		19.85		21.78	
	- %			45.7%		48.5%		49.95%	
IV. 1987 Nuclear Unit Cost Delivered @ 115 KV									
Fixed Cost	- $/KW/YR					121.53		121.53	
	- $						121.53		121.53
Variable Cost	- Mills/KWH					3.46		3.67	
	- $						24.25		24.25
Wheeling	- $						10.77		12.10
Reserves	- $						8.70		9.23
Losses	- $						4.56		4.83
Total Cost	- $						169.81		171.94
	- Mills/KWH					24.23		24.53	
Savings	- $/KW						117.35		133.66
	- Mills/KWH					16.74		19.07	
	- %					40.9%		43.7%	
V. Anclote - Fossil Unit Delivered @ 115 KV									
Fixed Cost	- $/KW/YR	28.34		28.34		28.34		28.34	
	- $		28.34		28.34		28.34		28.34
Variable Cost	- Mills/KWH	20.04		28.64		30.64		32.64	
	- $		140.44		200.71		214.73		228.74
Wheeling	- $		5.67		9.04		10.77		12.10
Reserves	- $		6.66		7.96		8.70		9.23
Losses	- $		9.58		13.10		14.09		4.83
Total Cost	- $		190.69		259.15		276.63		283.24
	- Mills/KWH	27.21		36.98		39.47		40.42	
Savings	- $/KW		5.01		7.89		10.53		22.36
	- Mills/KWH	.72		1.12		1.50		3.18	
	- %	2.6%		3.0%		3.7%		7.3%	

ASSUMED BIDDING ON CRYSTAL RIVER #3 825 MW

SYSTEM	BID MW	BID %	EXPECTED MW
Co-ops	82.500	10.000	8.188
O.U.C.	82.500	10.000	8.188
Gainesville	82.500	10.000	8.188
Tampa/Lakeland	82.500	10.000	8.188
Starke	8.700	1.054	.863
Tallahassee	82.500	10.000	8.188
Sebring	27.400	3.321	2.719
Subtotal	448.600	54.375	44.522
Twelve Cities			
Alachua	5.305	0.643	.527
Bartow	36.920	4.475	3.664
Bushnell	2.373	0.288	.236
Chattahoochee	5.064	0.614	.503
Fort Meade	6.823	0.827	.677
Lake Helen	2.612	0.317	.259
Leesburg	50.159	6.080	4.978
Mount Dora	13.612	1.650	1.351
Newberry	2.36	0.286	.234
Ocala	82.500	10.000	8.188
Quincy	22.624	2.742	2.245
Williston	3.214	0.389	.319
Subtotal	233.566	28.311	23.181
Homestead	51.100	6.194	5.071
Kissimmee	48.500	5.879	4.813
St. Cloud	15.200	1.842	1.509
New Smyrna Beach	34.300	4.157	3.404
Subtotal	149.100	18.072	14.780
TOTAL	831.266	100.758	82.500

Each bidder would expect to receive $\frac{82.5}{831.266}$ = 9.9% of Bid Amount.

ASSUMED BIDDING ON 1984 NUCLEAR UNIT 1316 MW

SYSTEM	BID MW	BID %	EXPECTED MW
Co-ops	526.40	40.000	115.473
Tampa	526.40	40.000	115.473
Lakeland	250.00	18.997	54.841
O.U.C.	526.40	40.000	115.473
Gainesville	130.00	9.878	28.517
Tallahassee	200.00	15.197	43.872
Sebring	16.00	1.216	3.510
Starke	4.00	0.304	0.877
Homestead	25.00	1.900	5.484
Kissimmee	25.00	1.900	5.484
St. Cloud	7.50	0.599	1.645
New Smyrna Beach	18.00	1.368	3.948
Subtotal	2254.70	171.359	494.597
Twelve Cities			
Alachua	2.85	0.216	0.625
Bartow	19.81	1.505	4.345
Bushnell	1.27	0.096	0.279
Chattahoochee	2.72	0.207	0.597
Fort Meade	3.66	0.278	0.803
Lake Helen	1.40	0.106	0.307
Leesburg	26.98	2.050	5.918
Mount Dora	7.31	0.555	1.603
Newberry	1.27	0.096	0.279
Ocala	63.83	4.850	14.002
Quincy	12.14	0.922	2.663
Williston	1.73	1.314	0.379
Subtotal	144.97	12.195	31.800
TOTAL	2399.67	183.554	526.400

Each bidder would expect to receive approximately 22% of Bid Amount.

ASSUMED BIDDING
ON
1987 NUCLEAR UNIT
1316 MW

SYSTEM	BID MW	BID %	EXPECTED MW
Co-ops	526.40	40.000	118.688
Tampa	526.40	40.000	118.688
Lakeland	250.00	18.997	56.368
O. U. C.	526.40	40.000	118.688
Gainesville	65.00	4.939	14.655
Tallahassee	200.00	15.197	45.094
Sebring	16.00	1.216	3.607
Starke	4.00	0.304	0.902
Homestead	25.00	1.900	5.637
Kissimmee	25.00	1.900	5.637
St. Cloud	7.50	0.699	1.691
New Smyrna Beach	18.00	1.368	4.058
Subtotal	2189.70	166.520	493.713
Twelve Cities			
Alachua	2.85	0.216	0.643
Bartow	19.81	1.505	4.466
Bushnell	1.27	0.096	0.286
Chattahoochee	2.72	0.207	0.613
Fort Meade	3.66	0.278	0.825
Lake Helen	1.40	0.106	0.316
Leesburg	26.98	2.050	6.083
Mount Dora	7.31	0.555	1.648
Newberry	1.27	0.096	0.286
Ocala	63.83	4.850	14.392
Quincy	12.14	0.922	2.737
Williston	1.73	1.314	0.390
Subtotal	144.97	12.195	32.685
TOTAL	2334.67	178.715	526.400

Each bidder would expect to receive approximately 22.0% of Bid Amount.

CRYSTAL RIVER UNIT #3

82.5 MW Offered

BOND COST DEVELOPMENT

Construction Cost

Initial Cost	$38.50 Million
IDC on $38.5 Million @ 7%	3.37 Million
Additional Cost	4.50 Million
IDC on $4.5 Million @ 7%	0.16 Million
	$46.53 Million or $564/KW

Bond Cost

Bond Reserve Fund	8.06% of Total Bond Cost
Renewal and Replacement Fund	0.50% of Total Bond Cost
Legal, Fiscal, Administrative, Feasibility, etc.	3.00% of Total Bond Cost
Contingency	2.00% of Total Bond Cost
	13.56%

Total Bond Cost

$652/KW

1984 NUCLEAR UNIT

526.4 MW Offered

BOND COST DEVELOPMENT

Construction Cost

Total Direct Cost	$366.8 Million
Total IDC Cost	54.8 Million
	$421.6 Million or $801/KW

Bond Cost

Bond Reserve Rund	8.06% of Total Bond Cost
Renewal and Replacement Fund	0.50% of Total Bond Cost
Legal, Fiscal, Administrative, Feasibility, etc.	3.00% of Total Bond Cost
Contingency	2.00% of Total Bond Cost
	13.56%

Total Bond Cost $926/KW

1987 NUCLEAR UNIT

526.4 MW Offered

BOND COST DEVELOPMENT

Construction Cost

Total Direct Cost	$426.5 Million
Total IDC Cost	64.1 Million
	$490.6 Million or $932/KW

Bond Cost

Bond Cost Reserve Fund	8.06% of Total Bond Cost
Renewal and Replacement Fund	0.50% of Total Bond Cost
Legal, Fiscal, Administrative, Feasibility, etc.	3.00% of Total Bond Cost
Contingency	2.00% of Total Bond Cost
	13.56%

Total Bond Cost

$1,078/KW

CITY OF OCALA
PROPOSED CRYSTAL RIVER #3 PARTICIPATION
FIXED CHARGE RATE AND PERTINENT DATA

Bond Cost	-	$652/KW
Based on Assumed Bidding, the City Could Expect to Receive	-	8188 KW
Total Bond Cost Would Be Approximately	-	$5,338,576
Down Payment Due July 15, 1975	-	$3,821,067

Levelized Fixed Charge		$/KW/YR
Debt Service @ 7% - 30 years = .0806 x $652	=	$52.55
Operating and Maintenance	=	5.59
Administrative and General @ 30% O&M	=	1.68
Insurance @ 0.5% x $652	=	3.26
Interim Replacements and Operating Contingencies @ 1.4% x $652	=	9.13
Total Annual Fixed Charge		$72.11/KW/YR.

CITY OF OCALA
PROPOSED 1984 NUCLEAR UNIT PARTICIPATION
FIXED CHARGE RATE AND PERTINENT DATA

Bond Cost	-	$926/KW
Based on Assumed Bidding, the City Could Expect to Receive	-	14,002 KW
Total Bond Cost	-	$12,965,852
Down Payment Due July 15, 1975	-	$49,156

Levelized Fixed Charge		$/KW/YR
Debt Service @ 7% - 30 Years = .0806 x $926	=	$74.63
Operating and Maintenance	=	9.71
Administrative and General @ 30% O&M	=	2.91
Insurance @ 0.5% x $926	=	4.63
Interim Replacements and Operating Contingencies @ 1.4% x $926	=	12.96
Total Annual Fixed Charges		$104.84/KW/YR.

CITY OF OCALA
PROPOSED 1987 NUCLEAR UNIT PARTICIPATION
FIXED CHARGE RATE AND PERTINENT DATA

Bond Cost	-	$1,078/KW
Based on Assumed Bidding, the City Could Expect to Receive	-	14,392 KW
Total Bond Cost	-	$15,514,576
Down Payment Due July 15, 1975	-	$4,812

Levelized Fixed Charge		$/KW/YR
Debt Service @ 7% - 30 Years	=	$ 86.89
Operating and Maintenance	=	10.89
Administrative and General @ 30% of O&M	=	3.27
Insurance @ 0.5% x $1,078	=	5.39
Interim Replacements and Operating Contingencies @ 1.4% x $1,078	=	15.09
Total Annual Fixed Charge		$121.53/KW/YR.

JOINT OWNERSHIP
EXPRESSION OF INTEREST

TO: FLORIDA POWER COPORATION
P. O. Box 14042
St. Petersburg, Florida 33733
Attn: Mr. M: F. Hebb, Vice President

FROM:

SUBJECT: Crystal River Nuclear Plant (Unit #3)

In response to the Invitation to Bid letter from Florida Power Corporation, dated January 20, 1975, CITY OF OCALA (Name of Entity) hereby, in good faith, expresses an interest in participating in the subject project in the amount of 10.000 (0 to 10%) per cent. In the event the project is oversubscribed and it becomes necessary to apply the allocation formula set forth in the Invitation, the minimum percentage we will accept is 0.0 (0 to 10%) per cent.

Attached hereto is a resolution of our governing body authorizing this Expression of Interest.

This Expression of Interest is made with the clear understanding of the following:

1. Florida Power Corporation reserves the right to reject all bids.
2. This Expression of Interest is non-conditional. Those which are conditioned shall be rejected.
3. Expression of Interest shall be submitted on this form and both maximum and minimum percentages must be stated.
4. Expression of Interest must be received by Florida Power Corporation at it's General Headquarters in St. Petersburg prior to 5:00 p.m., Monday, March 17, 1975.
5. This Expression of Interest is based on the information contained in the Invitation, together with the data sheet for this Project prepared by Florida Power Corporation and attached to the Invitation.
6. No Expression of Interest shall be binding until enabling legislation favorable to joint ownership is enacted by the Florida Legislature as permitted by Section 10d of Article VII of the Constitution of the State of Florida.
7. Florida Power Corporation shall complete construction and act as Operating Agent for this Project.

_____
(Name of Entity)

By: _____
(Authorized Representative and Title)

JOINT OWNERSHIP
EXPRESSION OF INTEREST

TO: FLORIDA POWER CORPORATION
P. O. Box 14042
St. Petersburg, Florida 33733
Attn: Mr. M. F. Hebb, Vice President

FROM:

SUBJECT: 1980's Nuclear Project (Unit #1)

In response to the Invitation to Bid letter from Florida Power Corporation, dated January 20, 1975, CITY OF OCALA (Name of Entity) _____ hereby, in good faith, expresses an interest in participating in the subject project in the amount of 4.850 (0 to 40%) per cent. In the event the project is oversubscribed and it becomes necessary to apply the allocation formula set forth in the Invitation, the minimum percentage we will accept is 0.0 (0 to 40%) per cent.

Attached hereto is a resolution of our governing body authorizing this Expression of Interest.

This Expression of Interest is made with the clear understanding of the following:

1. Florida Power Corporation reserves the right to reject all bids.
2. This Expression of Interest is non-conditional. Those which are conditioned shall be rejected.
3. Expression of Interest shall be submitted on this form and both maximum and minimum percentages must be stated.
4. Expression of Interest must be received by Florida Power Corporation at it's General Headquarters in St. Petersburg prior to 5:00 p.m., Monday, March 17, 1975.
5. This Expression of Interest is based on the information contained in the Invitation, together with the data sheet for this Project prepared by Florida Power Corporation and attached to the Invitation.
6. No Expression of Interest shall be binding until enabling legislation favorable to joint ownership is enacted by the Florida Legislature as permitted by Section 10d of Article VII of the Constitution of the State of Florida.
7. Florida Power Corporation shall construct and act as Operating Agent for this Project.

_____
(Name of Entity)

By: _____

JOINT OWNERSHIP
EXPRESSION OF INTEREST

TO: FLORIDA POWER CORPORATION
P. O. Box 14042
St. Petersburg, Florida 33733
Attn: Mr. M. F. Hebb, Vice President

FROM:

SUBJECT: 1980's Nuclear Project (Unit #2)

In response to the Invitation to Bid letter from Florida Power Corporation, dated January 20, 1975, CITY OF OCALA (Name of Entity) _____ hereby, in good faith, expresses an interest in participating in the subject project in the amount of 4.850 (0 to 40%) per cent. In the event the project is oversubscribed and it becomes necessary to apply the allocation formula set forth in the Invitation, the minimum percentage we will accept is 0.0 (0 to 40%) per cent. Attached hereto is a resolution of our governing body authorizing this Expression of Interest.

This Expression of Interest is made with the clear understanding of the following:

1. Florida Power Corporation reserves the right to reject all bids.
2. This Expression of Interest is non-conditional. Those which are conditioned shall be rejected.
3. Expression of Interest shall be submitted on this form and both maximum and minimum percentages must be stated.
4. Expression of Interest must be received by Florida Power Corporation at it's General Headquarters in St. Petersburg prior to 5:00 p.m., Monday, March 17, 1975.
5. This Expression of Interest is based on the information contained in the Invitation, together with the data sheet for this Project prepared by Florida Power Corporation and attached to the Invitation.
6. No Expression of Interest shall be binding until enabling legislation favorable to joint ownership is enacted by the Florida Legislature as permitted by Section 10d of Article VII of the Constitution of the State of Florida.
7. Florida Power Corporation shall construct and act as Operating Agent for this Project.

_____
(Name of Entity)

EXHIBIT C

Tables Illustrating Fossil Fuel Costs

In Florida

(12 Pages)

SELECTED
FLORIDA CITIES
GENERAL DATA

Line No.	Cities	Estimated Population of Service Area	Installed Nameplate Capacity KW	1974 Net Generation KWH	1974 Sales KWH	Average Number of Customers Residential	Average Number of Customers Total	Average Number of Customers Percentage
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
1	Fort Pierce	48,773	67,500	265,354,000	259,878,109	13,935	16,337	85.3
2	Gainesville	113,672	224,762	611,811,100	567,025,754	28,700	32,064	89.5
3	Homestead	35,000	36,095	111,347,204	142,513,369	8,144	9,127	89.2
4	Kissimmee	N.A.	30,270	101,958,400	142,402,822	8,580	10,022	85.6
5	Lakeland	133,600	263,250	892,058,480	848,096,928	41,109	49,394	83.2
6	Sebring	15,000	25,381	55,614,196	69,075,208	4,443	5,855	75.6
7	Starke	4,848	10,790	29,768,450	26,803,062	1,523	1,973	77.2
8	Total Seven Cities	350,893	658,048	2,067,911,930	2,055,795,252	106,434	124,772	85.3

Source: Lines 1 through 8, Column (c): Statistics of Florida Electric Utility Industry 1966-1974, Table C-7.
Lines 1 through 8, Columns (b) and (d): Cities.
Lines 1 through 5, 7, Column (e)-(g): Cities.
Lines 6 and 8, Column (e)-(g): Operating Reports.

HEATING AND COOLING DEGREE DAYS
SELECTED CITIES IN FLORIDA AND THE UNITED STATES

Line No.	Cities (a)	Yearly Normal 1941-1970 Heating Degree Days (b)	Yearly Normal 1941-1970 Cooling Degree Days (c)
1	Tallahassee	1,563	2,563
2	Pensacola	1,578	2,695
3	Jacksonville	1,327	2,596
4	Gainesville	1,081	NA
5	Orlando	704	3,447
6	Daytona Beach	897	2,919
7	Tampa	718	3,366
8	Lakeland	678	3,298
9	Fort Myers	457	3,711
10	Miami	206	4,038
11	Key West	64	4,888
12	Los Angeles, California	2,000	1,000
13	Topeka, Kansas	5,000	1,500
14	Syracuse, New York	7,000	500

Source: Statistics of the Florida Electric Utility Industry 1960 through 1974.
U. S. Weather Bureau.

RESIDENTIAL SPACE HEATING FUELS

Line No.	Residential Heating Fuel (a)	Florida Housing Units (b)	Florida % (c)	New York Housing Units (d)	New York % (e)	California Housing Units (f)	California % (g)	United States Housing Units (h)	United States % (i)
1	Utility Gas	351,778	15.4	2,237,007	37.8	5,640,839	86.0	35,013,745	55.2
2	Electricity	738,548	32.3	104,091	1.8	565,956	8.6	4,876,038	7.7
3	Fuel, Oil, Kerosene, etc.	667,754	29.2	3,357,171	56.8	44,464	0.7	16,473,470	26.0
4	Coal or Coke	481	0.0	82,327	1.4	1,149	0.0	1,820,952	2.9
5	Wood	23,699	1.1	6,326	0.1	43,709	0.7	793,908	1.2
6	Bottled, Tank or L.P. Gas	404,151	17.7	67,355	1.1	204,297	3.1	3,806,948	6.0
7	Other Fuel	2,909	0.1	56,306	0.9	14,190	0.2	266,286	0.4
8	None	95,466	4.2	3,270	0.1	49,257	0.7	395,294	0.6
9	Total Occupied Housing Units	2,284,786		5,913,853		6,563,861		63,446,641	

* Data taken from 1970 Detailed Housing Characteristics, U. S. Bureau of the Census.

Schedule P

FLORIDA CITIES

HISTORIC GENERATION BY NATURAL GAS AND OIL

Line No.	Description	Calendar Year 1967	1968	1969	1970	1971	1972	1973	1974
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
	CITY OF FORT PIERCE								
1	Net Generation (KWH) (000)	134,525	153,999	172,027	187,819	209,873	241,708	267,286	265,354
2	% Gas	90.59	74.85	62.38	59.98	66.97	47.83	46.76	40.09
3	% Oil	9.41	25.15	37.62	40.02	33.03	52.17	53.24	59.91
	CITY OF GAINESVILLE								
4	Net Generation (KWH) (000)	257,231	320,396	359,059	405,667	448,786	504,078	648,479	611,811
5	% Gas	99.20	92.49	87.36	93.74	96.63	77.86	71.26	48.47
6	% Oil	0.80	7.51	12.64	6.26	3.37	22.14	28.74	51.53
	CITY OF HOMESTEAD								
7	Net Generation (KWH) (000)	63,916	72,691	75,424	75,234	86,623	100,732	120,496	111,347
8	% Gas	92.86	85.76	83.77	88.09	89.78	69.64	51.13	51.31
9	% Oil	7.14	14.24	16.23	11.91	10.22	30.36	48.87	48.69
	CITY OF KISSIMMEE								
10	Net Generation (KWH) (000)	44,920	52,587	62,114	72,305	85,043	115,068	87,799	101,958
11	% Gas	NA	NA	NA	NA	NA	43.07	72.48	51.21
12	% Oil	NA	NA	NA	NA	NA	56.93	27.52	48.79
	CITY OF LAKELAND								
13	Net Generation (KWH) (000)	458,758	511,885	571,627	635,232	775,656	900,485	945,743	892,058
14	% Gas	98.01	89.42	52.90	72.07	25.54	29.64	28.54	41.55
15	% Oil	1.99	10.58	47.10	27.93	74.46	70.36	71.46	58.45
	CITY OF SEBRING								
16	Net Generation (KWH) (000)	34,230	40,549	46,730	53,254	57,070	64,257	60,452	55,614
17	% Gas	81.46	81.85	79.97	82.39	82.39	62.98	59.35	41.40
18	% Oil	18.54	18.15	20.03	17.61	17.61	37.02	40.65	58.60
	CITY OF STARKE								
19	Net Generation (KWH) (000)	17,322	19,833	21,240	23,309	24,176	26,110	28,895	29,768
20	% Gas	91.21	89.28	87.49	87.46	91.50	77.43	69.74	42.91
21	% Oil	8.79	10.72	12.51	12.54	8.50	22.57	30.26	57.09
	CITY OF TALLAHASSEE								
22	Net Generation (KWH) (000)	NA	492,176	559,191	655,858	745,928	820,652	915,851	881,899
23	% Gas	93.02	82.02	80.49	85.09	89.55	78.25	69.55	47.81
24	% Oil	6.98	17.98	19.51	14.91	10.45	21.75	30.45	52.19

COMPARATIVE USAGE IN FLORIDA AND UNITED STATES
OF FUELS FOR ELECTRIC GENERATION
IN 1974

Line No.	Description	Natural Gas %	Other Fuels					
			#6 Oil %	#2 Diesel Fuel %	Coal %	Nuclear %	Hydro %	Other
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
	FLORIDA CITIES							
1	Fort Pierce	40.09	57.32	.61	-	-	-	-
2	Gainesville	48.47	51.30	.09	-	-	-	-
3	Homestead	51.31	-	46.77	-	-	-	-
4	Kissimmee	51.21	-	47.27	-	-	-	-
5	Lakeland	41.55	57.70	.52	-	-	-	-
6	Sebring	41.40	38.65	20.00	-	-	-	-
7	Starke	42.91	-	58.53	-	-	-	-
8	Total Seven Cities	44.98	48.46	6.56	-	-	-	-
9	Other	15.99	82.92	1.09	-	-	-	-
10	Total Municipals	21.03	76.93	2.04	-	-	-	-
	COMPANIES							
11	Florida Power	12.68	82.34	4.98	-	-	-	-
12	Florida Power & Light	26.21	49.77	1.91	-	22.11	-	-
13	Tampa Electric	-	7.07	.15	92.78	-	-	-
14	Other	8.02	2.30	.90	88.78	-	-	-
15	Total Investor Owned	18.01	45.52	2.18	21.94	12.35	-	-
	OTHER							
16	Florida Keys	-	68.51	31.49	-	-	-	-
17	Jim Woodruff Dam	-	-	-	-	-	100.00	-
18	Total Other	-	12.60	5.79	-	-	81.61	-
19	Total State of Florida	18.40	50.32	2.17	18.42	10.37	.32	-
20	Total United States	17.20	16.02	16.02	44.50	6.02	16.13	.13

Source:
Pages 2 and 3 of this exhibit.

ELECTRICAL GENERATION AND FUEL CONSUMPTION - 1974
FLORIDA ELECTRIC UTILITY INDUSTRY

(Generation is in Megawatt-Hours consumption is as indicated)

Line No.	Description (a)	Net Generation (b)	Net Generation Hydro (c)	Net Generation Coal (d)	Net Generation Natural Gas (e)	Net Generation Heavy Oil (f)	Net Generation Light Oil (g)	Net Generation Nuclear (h)
1	Florida Power & Light	35,622,866	-	-	9,336,756	17,727,557	681,227	7,877,326
2	Florida Power Corporation	12,787,075	-	-	1,622,014	10,528,461	636,600	-
3	Florida Public Utilities	691	652	-	-	-	39	-
4	Gulf Power Co.	6,487,667	-	5,802,677	495,302	149,878	39,810	
5	Reedy Creek	47,301	-	-	28,857	-	18,684	-
6	Tampa Electric	8,827,987	-	8,190,301	-	624,446	13,240	-
7	Subtotal of Florida Power & Light, Florida Power Corporation, and Tampa Electric	57,237,928	-	8,190,301	10,958,770	28,880,464	1,331,067	7,877,326
8	Total Investor Owned	63,773,587	652	13,992,978	11,482,929	29,030,342	1,389,600	7,877,326
9	Ft. Pierce	265,512	-	-	111,713	152,183	1,617	-
10	Gainesville/Alachua	611,812	-	-	297,425	313,882	505	-
11	Homestead	111,342	-	-	59,263	-	52,079	-
12	Jacksonville	4,958,412	-	-	-	4,890,899	67,807	-
13	Key West	355,875	-	-	-	349,009	6,866	-
14	Kissimmee	101,959	-	-	53,760*	-	48,199*	-
15	Lakeland	892,059	-	-	372,687	514,736	4,636	-
16	Lake Worth	225,475	-	-	221,633	1,008	2,939	-
17	New Smyrna Beach	50,246	-	-	39,802	-	10,445	-
18	Orlando	3,048,218	-	-	721,459	2,326,638	121	-
19	St. Cloud	63,411	-	-	55,964	-	7,447*	-
20	Sebring	56,088	-	-	23,194	21,676	11,216	-
21	Starke	29,774	-	-	12,347	-	17,427*	-
22	Tallahassee	881,898	-	-	431,576	443,673	6,646	-
23	Vero Beach	247,929	-	-	102,389	145,348	192	-
24	Wauchula	5,527	-	-	-	-	5,527	-
25	Subtotal-Seven Florida Cities	2,068,546	-	-	930,389	1,002,477	135,679	-
26	Total Municipals	11,905,537	-	-	2,503,212	9,159,052	243,669	-
27	Florida Keys	55,895	-	-	-	38,291	17,604	-
28	Jim Woodruff Dam	247,978	247,978	-	-	-	-	-
29	Total Other	303,873	247,978	-	-	38,291	17,604	-
30	State Total	75,982,997	248,630	13,992,978	13,986,141	38,227,685	1,650,873	7,877,326

Source: Statistics of the Florida Electric Utility Industry 1960 through 1974, Florida Energy Data Center, April, 1975.

* Computed Figure.

NET GENERATION BY FUEL
U. S. ELECTRIC UTILITY INDUSTRY
(Millions of Kilowatt Hours)

Line No.	Year (a)	Coal (b)	Fuel Oil (c)	Gas (d)	Nuclear (e)	Hydro (f)	Other* (g)	Total (h)
1	1960	403,067	46,105	157,970	518	145,516	2,198	755,374
2	1961	421,871	47,120	169,286	1,692	151,850	2,454	794,273
3	1962	450,249	46,983	184,301	2,270	168,283	2,687	854,773
4	1963	493,927	52,001	201,602	3,212	165,755	296	916,793
5	1964	526,230	56,954	220,038	3,343	177,073	352	983,990
6	1965	570,926	64,801	221,559	3,657	193,851	458	1,055,252
7	1966	613,475	78,926	251,151	5,520	194,756	522	1,144,350
8	1967	630,483	89,271	264,806	7,655	221,518	632	1,214,365
9	1968	684,905	104,276	304,433	12,528	222,491	809	1,329,442
10	1969	706,001	137,847	333,279	13,928	250,193	934	1,442,182
11	1970	706,102	182,488	372,884	21,797	247,456	882	1,531,609
12	1971	714,756	218,162	375,939	37,899	266,320	860	1,613,936
13	1972	770,617	272,482	375,682	54,031	272,734	1,777	1,747,323
14	1973	845,986	310,657	336,001	83,292	271,053	2,271	1,849,260
15	1974	828,437	298,222	320,199	112,023	300,335	2,454	1,861,670
16	1974 Percent of Total	44.50%	16.02%	17.20%	6.02%	16.13%	0.13%	100.00%

* Includes generation by geothermal, wood and waste.

Source: Statistics of the Florida Electric Utility Industry 1960 through 1974, Florida Energy Data Center, April, 1975.

HISTORICAL FUEL COSTS PER MILLION BTU BURNED * (CENTS/MILLION BTU'S)

Line No.	Year	Coal		Oil		Natural Gas	
		Florida	United States	Florida	United States	Florida	United States
	(a)	(b)	(c)	(e)	(f)	(g)	(h)
1	1960	30.1	26.0	35.4	34.5	34.0	23.8
2	1961	30.4	25.8	34.9	35.5	35.3	25.1
3	1962	29.8	25.9	34.3	34.5	34.6	26.4
4	1963	29.6	25.0	34.2	33.5	33.7	25.9
5	1964	29.4	24.6	33.6	32.6	33.2	25.3
6	1965	27.4	24.4	33.5	33.1	33.4	25.0
7	1966	26.5	24.7	33.3	32.4	32.6	25.0
8	1967	26.7	25.2	32.3	32.2	32.5	24.7
9	1968	26.9	25.5	31.7	32.8	32.9	25.1
10	1969	29.0	26.6	30.1	31.9	33.0	25.4
11	1970	30.6	31.1	30.6	36.6	35.5	27.0
12	1971	33.6	36.0	38.8	51.5	39.7	28.8
13	1972	42.3	38.2	47.0	58.8	39.1	30.3
14	1973	49.8	41.4	60.8	75.9	43.8	34.1
15	1974	73.8	71.0	179.9	192.2	58.6	48.1

Source: 1960 - 1973 National Coal Association
1974 - Federal Power Commission
(Note: 1974 is Fuel Delivered)

* Conventional Steam Plants only, not Nuclear.

GAS DELIVERY SHORTFALLS
EXPERIENCED BY CITIES RELATIVE TO THE ESTIMATED QUANTITIES
CONTAINED IN THE AUGUST 31, 1972 STIPULATION
(MMBTU)

Line No.	Cities	1973			1974			First Six Months of 1975		
		Estimated In Stipulation	Actual Deliveries	Difference	Estimated In Stipulation	Actual Deliveries	Difference	One-Half of Quantity Estimated In Stipulation	Actual Deliveries	Difference
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
1	Fort Pierce	2,320,000	1,789,045	530,955	2,084,000	1,473,208	610,792	919,500	308,771	610,729
2	Gainesville	5,839,000	5,626,930	212,070	5,247,000	3,446,370	1,800,630	2,314,000	761,842	1,552,158
3	Homestead	1,578,000	749,778	828,222	1,418,000	675,320	742,680	625,500	186,868	438,632
4	Kissimmee	1,616,000	651,547	964,453	1,452,000	557,153	894,847	640,500	185,366	455,134
5	Lakeland	6,343,000	3,174,720	3,168,280	5,699,000	4,267,000	1,432,000	2,514,000	962,527	1,551,473
6	Sebring	645,000	526,819	118,181	580,000	339,268	240,732	255,500	102,242	153,258
7	Starke	278,000	247,690	30,310	250,000	144,962	105,038	110,500	42,825	67,675
8	Total Seven Cities	18,619,000	12,766,529	5,852,471	16,730,000	10,903,281	5,826,719	7,379,500	2,550,441	4,829,059
9	Total Direct Preferred Interruptible Class	71,868,667	64,107,694	7,760,973	64,572,434	52,362,290	12,210,144	28,481,100	15,318,656	13,162,444

Source:
Columns (b), (c), (h): Stipulation, page 2 and Attachment A
Columns (e), (f), (i): Florida Gas Transmission's Monthly "Gas Balance Report".
Columns (d), (g), (j): Columns (b), (e), (h) - columns (c), (f), (i)

SUMMARY OF CITIES' COSTS, PER MMBTU BURNED, FOR NATURAL GAS AND OIL

Line No.	City (a)	January 1973 (b)	June 1973 (c)	January 1974 (d)	June 1974 (e)	January 1975 (f)	June 1975 (g)
	FORT PIERCE						
1	Natural Gas	$ 0.5110	$ 0.5383	$ 0.5413	$ 0.5718	$ 0.5845	$ 0.6121
2	No. 6 Oil	0.5192	0.5427	0.9429	1.7023	1.8294	1.9210
3	No. 2 Oil	0.8625	0.8626	1.1782	1.1786	1.7967	2.1181
	GAINESVILLE						
4	Natural Gas*	$ 0.4682	$ 0.5089	$ 0.5075	$ 0.5426	$ 0.5558	$ 0.5834
5	No. 6 Oil	0.5473	0.5648	1.0071	1.5169	1.7999	1.8069
6	No. 2 Oil	0.8477	0.8749	1.2254	1.3512	1.6177	1.8220
	HOMESTEAD						
7	Natural Gas	$ 0.5110	$ 0.5383	$ 0.5415	$ 0.5718	$ 0.5845	$ 0.6121
8	No. 2 Oil	0.7928	1.1330	1.0652	2.1040	2.0888	2.0888
	KISSIMMEE						
9	Natural Gas	$ 0.5110	$ 0.5383	$ 0.5413	$ 0.5718	$ 0.5845	$ 0.6121
10	No. 2 Oil	1.0040	1.3843	1.8198	2.0249	2.1450	2.2658
	LAKELAND						
11	Natural Gas	$ 0.5110	$ 0.5383	$ 0.5413	$ 0.5718	$ 0.5845	$ 0.6121
12	No. 6 Oil	0.5337	0.5344	0.7042	1.6851	1.8993	1.8743
13	No. 2 Oil	0.8022	0.8043	0.9781	1.4483	2.0836	2.0853
	SEBRING						
14	Natural Gas	$ 0.5110	$ 0.5383	$ 0.5413	$ 0.5718	$ 0.5845	$ 0.6121
15	No. 6 Oil	0.5733	0.5968	-	1.7968	1.8715	1.9668
16	No. 2 Oil	0.8078	0.9586	1.3871	2.0106	2.0807	2.0906
	STARKE						
17	Natural Gas	$ 0.5110	$ 0.5383	$ 0.5413	$ 0.5718	$ 0.5845	$ 0.6121
18	No. 2 Oil	0.7731	0.9145	1.3283	1.9834	2.0041	2.0041

* The Stipulation provided the "present contract" rate for the first 80,000 therms per day to Gainesville.

Source: Natural Gas: Analysis of bills rendered by Florida Gas Transmission and data provided by Cities.

No. 6 and No. 2 Oil: Data provided by each City for the thirty-month period January, 1973 to June, 1975.

SUMMARY OF THE WEIGHTED AVERAGE
ANNUAL COST PER MMBTU BURNED BY EACH CITY
FOR THE YEARS 1973, 1974 AND THE FIRST SIX MONTHS OF 1975

Line No.		1973			1974			First Six Months of 1975		
		Gas	No. 2 Oil	No. 6 Oil	Gas	No. 2 Oil	No. 6 Oil	Gas	No. 2 Oil	No. 6 Oil
	FORT PIERCE									
1	Total Cost - $	952,263	12,511	1,172,550	834,816	26,855	3,561,113	185,405	47,114	2,585,744
2	Total MMBtu Burned	1,789,045.5	13,302.0	2,023,766.8	1,473,208.4	17,747.5	2,184,266.2	308,771.4	23,593.6	1,379,996.0
3	Weighted Average Cost per MMBtu - $	0.5323	0.9405	0.5794	0.5667	1.5132	1.6303	0.6005	1.9969	1.8737
	GAINESVILLE									
4	Total Cost - $	2,823,033	7,052	1,363,035	1,870,034	31,350	5,680,767	435,398	83,532	5,159,693
5	Total MMBtu Burned	5,626,930.4	7,754.0	2,274,956.0	3,446,370.2	19,528.0	3,636,152.0	761,842.4	48,569.0	2,876,124.0
6	Weighted Average Cost per MMBtu - $	0.5017	0.9094	0.5991	0.5426	1.6054	1.5623	0.5715	1.7199	1.7940
	HOMESTEAD									
7	Total Cost - $	397,750	794,040	Not	385,300	1,297,561	Not	112,807	1,047,000	Not
8	Total MMBtu Burned	749,777.7	716,501.0	Applicable	675,320.3	658,112.5	Applicable	186,867.8	501,242.9	Applicable
9	Weighted Average Cost per MMBtu - $	0.5305	1.1082		0.5705	1.9716		0.6037	2.0888	
	KISSIMMEE									
10	Total Cost - $	346,887	374,480	Not	316,559	1,079,500	Not	111,667	817,438	Not
11	Total MMBtu Burned	651,546.9	297,813.1	Applicable	557,153.0	518,027.8	Applicable	185,366.3	378,690.7	Applicable
12	Weighted Average Cost per MMBtu - $	0.5324	1.2574		0.5682	2.0839		0.6024	2.1586	
	LAKELAND									
13	Total Cost - $	1,692,511	133,713	4,196,336	2,419,912	131,683	9,093,401	577,043	234,703	7,880,868
14	Total MMBtu Burned	3,174,719.7	158,269.0	7,739,338.0	4,266,999.7	75,096.0	5,924,262.0	962,526.8	114,023.0	4,142,982.0
15	Weighted Average Cost per MMBtu - $	0.5331	0.8448	0.5422	0.5671	1.7535	1.5349	0.5995	2.0584	1.9022
	SEBRING									
16	Total Cost - $	280,957	68,675	171,422	191,836	234,223	540,776	61,577	63,723	324,739
17	Total MMBtu Burned	526,818.9	72,905.0	251,801.1	339,268.1	123,854.6	309,794.6	102,247.1	30,939.7	169,248.0
18	Weighted Average Cost per MMBtu - $	0.5333	0.9420	0.6808	0.5654	1.8911	1.7456	0.6022	2.0596	1.9187
	STARKE									
19	Total Cost - $	132,208	98,937	Not	82,352	367,039	Not	25,875	259,092	Not
20	Total MMBtu Burned	247,690.3	109,540.3	Applicable	144,961.6	198,948.1	Applicable	42,824.6	129,278.5	Applicable
21	Weighted Average Cost per MMBtu - $	0.5337	0.9035		0.5681	1.8449		0.6042	2.0041	
	TOTAL CITIES									
22	Total Cost - $	6,625,609	1,489,408	6,903,343	6,100,809	3,168,211	18,876,057	1,509,772	2,552,602	15,951,044
23	Total MMBtu Burned	12,766,529.4	1,376,084.4	12,289,861.9	10,903,281.3	1,611,314.5	12,054,474.8	2,550,446.4	1,226,337.4	8,568,350.0
24	Weighted Average per MMBtu - $	0.5190	1.0824	0.5617	0.5595	1.9662	1.5659	0.5920	2.0815	0.1857

INCREASED FUEL COSTS ASSOCIATED WITH
GAS DELIVERY SHORTFALLS RELATIVE TO
FORECASTED QUANTITIES CONTAINED IN THE AUGUST 31, 1972 STIPULATION

Line No.	Cities	1973 Gas Delivery Shortfall (MMBtu)	1973 Increased Fuel Cost ($)	1974 Gas Delivery Shortfall (MMBtu)	1974 Increased Fuel Cost ($)	First Six Months of 1975 Gas Delivery Shortfall (MMBtu)	First Six Months of 1975 Increased Fuel Cost ($)	Total Increased Fuel Cost ($)
	(a)	(b)	(c)	(d)	(e)	(f)	(e)	(h)
1	Fort Pierce	530,955	$ 25,008	610,792	$ 649,638	610,729	$ 777,580	$ 1,452,226
2	Gainesville	212,070	20,889	1,800,630	1,836,520	1,552,158	1,895,563	3,752,972
3	Homestead	828,222	413,923	742,680	922,081	438,632	651,412	1,987,416
4	Kissimmee	964,453	215,914	894,847	785,175	455,134	589,318	1,590,407
5	Lakeland	3,168,280	48,074	1,432,000	1,389,868	1,551,473	2,027,626	3,465,568
6	Sebring	118,181	17,432	240,732	284,112	153,258	201,764	503,308
7	Starke	30,310	11,209	105,038	134,113	67,675	94,738	240,060
8	Total Seven Cities	5,852,471	$752,449	5,826,719	$6,001,507	4,829,059	$6,238,001	$12,991,957

Source:
Columns (b), (d), (f): Exhibit No. 3 herein.
Columns (c), (e), (g): Exhibit No. 5 herein and columns (b), (d) and (f).

EXHIBIT D

Moody's Public Utility Manual, 1974

Report on Florida Power & Light Company

FLORIDA POWER & LIGHT COMPANY

CAPITAL STRUCTURE

LONG TERM DEBT

Issue	Rating	Amount Outstanding	Times Charges Earned 1973	1972	Interest Dates	[1]Call Price	Price Range 1973	1972
1. First 3s, due 1997	Aa	10,000,000			J&J 1	100.39	85 - 80⅜	85½ - 82⅝
2. First 3⅛s, due 1978	Aa	11,000,000			J&D 1	100.57	83⅜ - 77	83⅜ - 80
3. First 3s, due 1979	Aa	10,000,000			J&D 1	100.69	79 - 72⅜	79⅛ - 76½
4. First 3⅜s, due 1981	Aa	10,000,000			M&N 1	101.06	76⅝ - 70	76⅞ - 71¼
5. First 3⅛s, 1983	Aa	15,000,000			A&O 1	101.52	75½ - 69	75¾ - 72
6. First 3⅛s, 1984	Aa	10,000,000			M&N 1	101.34	66⅝ - 61⅛	67 - 63¾
7. First 3⅜s, 1986	Aa	15,000,000			A&O 1	101.52	68 - 62	68⅛ - 65½
8. First 4⅛s, 1986	Aa	15,000,000			J&D 1	102.59	72½ - 67	73¼ - 66½
9. First 4⅛s, 1987	Aa	15,000,000			M&N 1	102.92	75⅛ - 68	75½ - 73
10. First 4¼s, 1988	Aa	20,000,000			A&O 1	102.43	69½ - 63⅛	69¾ - 60
11. First 5s, 1989	Aa	25,000,000			J&D 1	102.79	76¾ - 68¼	77½ - 74¼
12. First 4½s, 1992	Aa	25,000,000			F&A 1	103.38	70⅛ - 62	73½ - 67⅝
13. First 4⅝s, 1994	Aa	35,000,000			A&O 1	104.38	69½ - 62½	70¼ - 68
14. First 4⅝s, 1995	Aa	40,000,000			M&S 1	104.49	69¼ - 61⅜	73⅞ - 65
15. First 5s, 1995	Aa	40,000,000			J&D 1	105.33	72 - 66	73½ - 71⅛
16. First 6s, 1996	Aa	40,000,000	3.29	3.16	J&D 1	105.62	84¾ - 74¼	86¾ - 81½
17. First 6¾s, 1997	Aa	60,000,000			J&D 1	106.38	92 - 84	92½ - 89⅞
18. First 7s, June 1, 1998	Aa	60,000,000			J&D 1	107.34	93⅜ - 84½	96½ - 87
19. First 7s, Dec 1, 1998	Aa	50,000,000			J&D 1	107.58	95 - 84½	96⅞ - 92⅛
20. First 8s, 1999	Aa	50,000,000			J&D 1	107.57	103⅜ - 96	104 - 102
21. First 8⅛s, 1975	Aa	70,000,000			J&J 1	[7]-----	104½ - 99½	108¼-103¼
22. First 7⅝s, 2001	Aa	80,000,000			J&J 1	107.74	100½ - 92	101 - 98
23. First 7⅝s, 2001	Aa	100,000,000			M&S 1	108.86	103 - 93	103½ - 99½
24. First 7⅝s, 2002	Aa	50,000,000			J&D 1	108.48	100½ - 92	101½ - 99¾
25. First 7½s, 2003	Aa	70,000,000			J&J 1	108.21	101½ - 89	[3]-----
26. First 8⅛s, 1980	Aa	50,000,000			-----	-----	-----	-----
27. First 8½s, 2004	Aa	[3]125,000,000			F&A 1	[4]-----	106¼-103¼	[12]-----
28. First 8⅞s, 1982	Aa	[12]100,000,000			J&J 1	109.16	[3]-----	[3]-----
29. Other long term debt	----	73,651,665			M&N 1	[4]-----	[12]-----	[12]-----
30. Poll. contr. rev. bds. (Dade Co.)	[10]--	35,250,000			[10]-----	[10]-----	-----	-----
31. Poll. contr. rev. bds. (St. Lucie Co.)	[12]--	25,000,000			[12]-----	[12]-----	-----	-----

CAPITAL STOCK Issue	Par Value	Rating	Amount Outstanding	Earned per Sh. 1973	1972	Divs. per Sh. 1973	1972	Call Price	Price Range 1973	1972
1. 4.16% cum. preferred	$100	"aa"	100,000 shs.			$4.50	$4.50	101	60 - 51	61 - 57
2. 4.12% cum. preferred, A	100	------	50,000 shs.			4.50	4.50	[4]-----	[2]-----	[2]-----
3. 4.12% cum. preferred, B	100	------	50,000 shs.			4.50	4.50	101	[2]-----	[2]-----
4. 4.12% cum. preferred, C	100	------	62,500 shs.			4.50	4.50	103	[2]-----	[2]-----
5. 4.32% cum. preferred, D	100	------	50,000 shs.	$79.68	$93.32	4.32	4.32	103.50	[2]-----	[2]-----
6. 4.35% cum. preferred, E	100	------	50,000 shs.			4.35	4.35	102	[2]-----	[2]-----
7. 7.28% cum. preferred, F	100	"aa"	600,000 shs.			7.44	[3]--	115	100⅜ - 89	101 - 99¾
8. 7.40% cum. preferred, G	100	"aa"	400,000 shs.			[14]--	[14]--	115	-----	[14]-----
9. 9.25% cum. preferred, H	100	"aa"	500,000 shs.			[3]--	[3]--	115	[3]-----	[3]-----
10. Common	No par	------	[3]33,056,849 shs.	[3]3.09	[3]2.69	1.16	[3]1.65	-----	40⅜ - 23¾	[11]44⅜ - 28

[1]Subject to change; also callable for sinking fund—see text. [2]Sold privately. [3]Issued in Jan. 1973. [4]See text. [5]Issued in Nov. 1972. [6]Based on weighted aver. no. of shs. outstg. as reported by company. [7]Not callable. [8]Includes $1.10 paid prior to 2-for-1 split. [9]Issued Jan. 17, 1974. [10]For description of bonds see Moody's Municipal & Government Service. [11]After 2-for-1 split; before, 72⅜-59¼. [12]Issued May 22, 1974. [13]Issued in Aug. 1973. [14]Issued in Oct. 1973. [15]Issued in May 1974.

HISTORY

Incorporated in Florida, December 28, 1925. Owns and operates properties formerly owned by Miami Electric Light & Power Co., Miami Gas Co., Miami Beach Electric Co., Southern Utilities Co., Daytona Public Service Co., Ormond Supply Co., Lakeland Gas Co., St. Johns Electric Co. and Southern Holding Co. and other properties.

American Power & Light Co. which formerly owned entire common distributed its holdings Feb. 15, 1950 to its own stockholders pursuant to dissolution plan.

On Mar. 31, 1959 merged wholly owned subsidiary Utilities Land Co.

On April 4, 1941 the City of Miami took title to the water distribution system of company's subsidiary, Miami Water Co., which it purchased for $5,136,265.

On Apr. 15, 1941, sold company's subsidiary, Miami Beach Railway Co., which operates bus transportation service in Miami Beach and across the causeway to Miami, to William D. Pawley. Consideration was $371,378.

On Jan. 7, 1946 sold company's subsidiary, Consumers Water Co., distributing water at retail in Coral Gables, Fla., to Leddy-Wheeler & Co., Orlando, Fla., for $927,400.

On June 27, 1951, sold electric properties at Perry, Madison and Monticello to Florida Power Corp. for $1,650,000, plus cost of property additions Jan. 1 to June 27, 1951.

On Mar. 2, 1954, sold certain electric properties situated in Hillsborough County, to Tampa Electric Co. for $205,866.

On Dec. 15, 1954, sold company's ice properties and one ice plant owned by subsidiary, Utilities Land Co., to City Products Corp. for $1,700,000.

On July 6, 1955, sold company's Palatka Gas properties to Putnam Gas & Fuel Company for $156,719.

In August, 1958, company sold its three gas plants and distribution systems, located in Miami, Daytona Beach and Lakeland, to The Houston Corp. for $5,137,000.

MANAGEMENT

Officers

R. C. Fullerton, Chairman
Marshall McDonald, Pres. & Chief Exec. Off.
B. H. Fuqua, Senior Vice-Pres.—Management Planning
H. W. Page, Senior Vice-Pres.—Management Planning
J. G. Spencer, Jr., Senior Vice-Pres.—Management Planning
Loftin Johnson, Senior Vice-Pres.—Management Planning
R. W. Wall, Jr., Senior Vice-Pres.—Management Planning
E. A. Adomat, Exec. Vice-President
F. E. Autrey, Exec. Vice-President
J. J. Hudiburg, Exec. Vice-President
L. C. Hunter, Group Vice-President
R. G. Mulholland, Group Vice-President
H. L. Allen, Vice-Pres.—Purch., Stores, Construction & Fuel
E. L. Bivans, Vice-Pres.—Power Supply
R. E. Uhrig, Vice-Pres.—Nuclear Affairs
A. M. Davis, Vice-Pres.
D. D. Dunlop, Vice-Pres.—Environmental Plann. & Research
R. J. Gardner, Vice-Pres.—Strategic Planning
W. M. Klein, Vice-Pres.—Miami Division
J. A. Lasseter, Vice-Pres.—Engineering
M. C. Cook, Treasurer
H. P. Williams, Jr., Comptroller
A. E. Pfeiffer, Secretary

Directors

David Blumberg, Miami, Fla.
G. W. English, Ft. Lauderdale, Fla.
R. H. Fite, Coral Gables, Fla.
R. C. Fullerton, Coral Gables, Fla.
L. E. Wadsworth, Bunnell, Fla.
W. M. Preston, Miami, Fla.
B. W. Powell, Sarasota, Fla.
G. F. Bennett, Boston, Mass.
J. M. McCarty, Ft. Pierce, Fla.
Marshall McDonald, Miami, Fla.
E. H. Price, Jr., Bradenton, Fla.
J. P. Taravella, Coral Springs, Fla.

Chief Engineers: R. T. Culberson, Gen. Eng., W. H. Rogers, Jr., Power Plant Eng.

Purchasing Agent: B. V. Correll

Annual Meeting: In May as designated by the Board.

No. of Stockholders: Dec. 31, 1973: Preferred, 1,372; common, 28,973.

No. of Employees: Dec. 31, 1973, 9,385.

Auditors: Haskins & Sells, Miami, Fla.

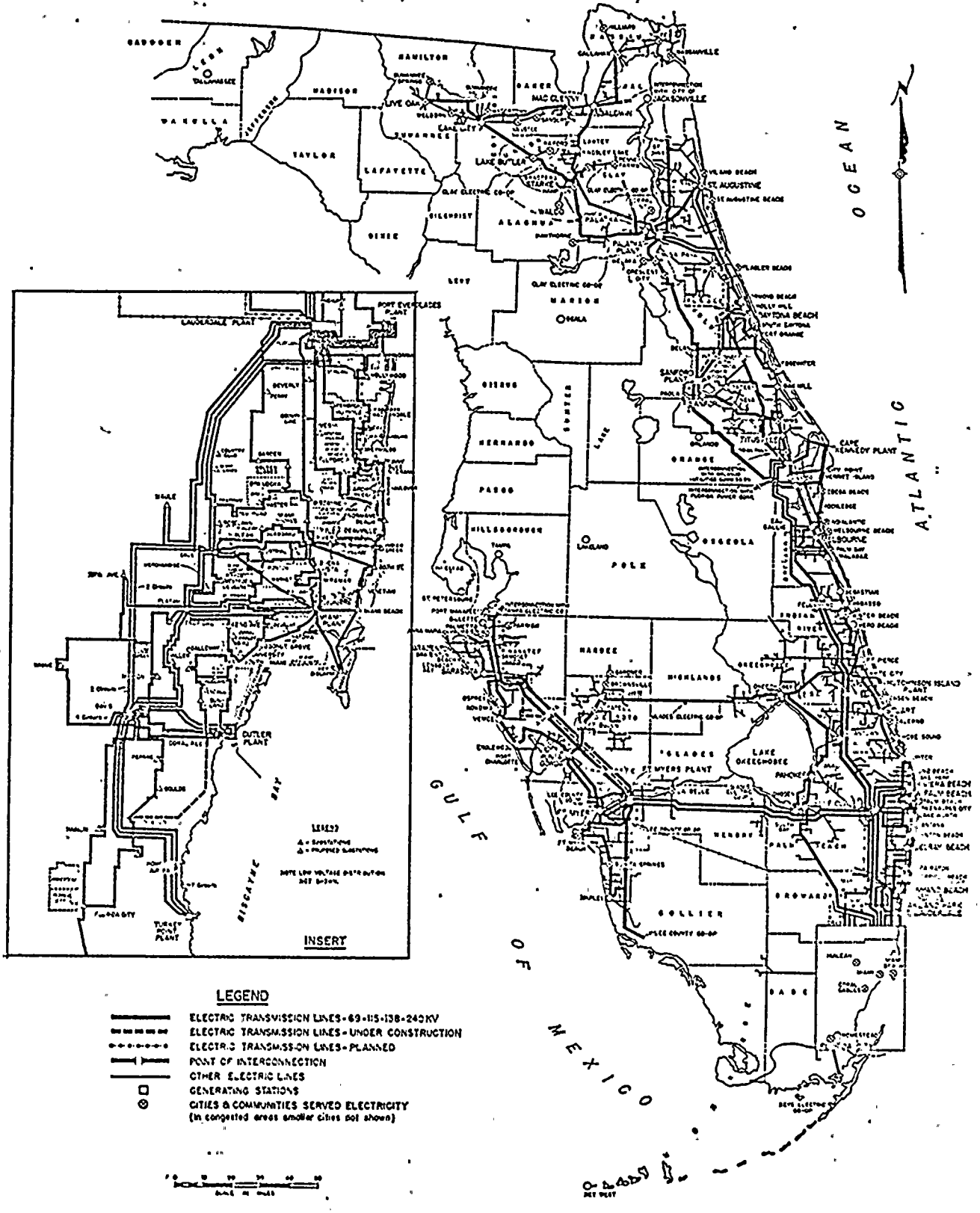
General Office: 4200 Flagler St., Miami, Fla. 33134.

BUSINESS

Supplies electric power and light service to a total of 570 communities, including Miami, Miami Beach, Coral Gables, Hialeah, Hollywood, Ft. Lauderdale, Palm Beach, West Palm Beach, Daytona Beach, Ormond, Melbourne, Cocoa, Titusville, and St. Augustine on the east coast; Ft. Myers, Punta Gorda, Sarasota and Bradenton in the western part; and Okeechobee, Pahokee, Belle Glade, Palatka, Lake City and Live Oak in central and northern parts of the state. Population served, 3,800,000. All electric properties are interconnected by transmission lines and operated as a unified system.

Territory Served By

FLORIDA POWER & LIGHT COMPANY



The territory served lies wholly within peninsular Florida. It includes the Cape Canaveral areas, Atlantic & Gulf Coast winter and summer tourist areas, the state's largest and most rapidly developing manufacturing center, and areas having extensive development of citrus, beef and dairy cattle and winter vegetables.

Company is also considering engaging in one or more new business activities relating to fuel supply, including exploration, development, production, purchase of crude oil, transportation and refining.

Subsidiary Joint Venture: In Mar. 1974, Fuel Supply Service, Inc., subsidiary and Amoco Production Co., a subsidiary of Standard Oil Co. (Indiana), agreed on a 3-year oil and gas joint exploration program in central Fla. The partnership is to be known as Amoco Florida. The 2 companies will share equally in subsurface leasing, seismic surveys and the drilling of as many as 10 exploratory wells in a 26-country area. Amoco Production will serve as managing partner, be responsible for day-to-day operations of the partnership, and contribute about $5,000,000 of existing oil and gas leases covering about 1,000,000 acres. Fuel Supply Services plans to invest $5,500,000 in the program and will share equally in any operating expenditures and in any crude oil or natural gas discovered by Amoco Florida.

PHYSICAL PROPERTY

Electric: Generating facilities owned by the company comprises 10 generating plants with a gross capability of 9,097,000 k.w. Company owns transmission and distribution substations with a total transformer capacity of 42,032,490 k.v.a. and 32,649 miles of electric lines, including 1,256 miles being operated at 240,000 volts, 1,154 miles at 138,000 volts, 622 miles at 115,000 volts and 499 miles at 69,000 volts.

The most important generating plants are as follows:

Lauderdale—Located on the New River with a max. name plate capacity of 1,133,972 k.w. The initial installation consisted of two 25,000 k.w. units, one of which was placed in operation in December, 1926, and the other in January, 1927. These two units were retired in 1964. An additional unit of 31,250 k.w. was installed in 1940 and retired in 1965. Two 156,250 k.w. units were placed in operation, one in Sept. 1957 and the other in Apr. 1958. Twenty-four units of gas turbines were installed: 2 in May 1970; 4 in June 1970; 3 in July 1970; 3 in Aug. 1970; 12 in July 1972. Fuel-oil and natural gas. Net generation (k.w.h.)—steam: 1973, 1,678,222,000; 1972, 1,953,746,000. Fuel cost per k.w.h. generated (mills)—steam: 1973, 6.63; 1972, 4.59. Net generation (k.w.h.)—gas turbines: 1973, 642,695,000; 1972, 871,773,000. Fuel cost per k.w.h. generated (mills)—gas turbines: 1973, 8.07; 1972, 9.45.

Miami—Installed generating capacity, max. gross, 46,000 k.w. name plate rating. The initial 27,500 k.w. unit was placed in operation in 1925 and retired in 1964. A 46,000 k.w. unit was placed in operation in June, 1948. Fuel—oil and natural gas. Net generation (k.w.h.): 1973, 90,542,000; 1972, 226,625,000. Fuel cost per k.w.h. generated (mills): 1973, 8.64; 1972, 6.16.

Sanford—Located on the St. Johns River. Installed generating capacity max. gross, 1,028,450 k.w. name plate rating. The initial 10,000 k.w. unit placed in operation in Nov., 1926, 18,750 k.w. installed in 1947 (these two units retired in 1964), 156,250 k.w. in May, 1959, 436,000 k.w. in July 1972 and 436,100 k.w. added in June 1973. Fuel—oil and natural gas. Net generation (k.w.h.): 1973, 2,855,436,000; 1972, 1,766,520,000. Fuel cost per k.w.h. generated (mills): 1973, 7.06; 1972, 5.41.

Riviera—Located near West Palm Beach. Installed generating capacity, max. gross, 739,590 k.w. name plate rating, 43,750 k.w. unit placed in operation in 1946, 75,000 k.w. addition completed in 1953. 310,420 k.w. completed in 1962. 310,420 k.w. completed in 1963. Fuel—oil and natural gas. Net generation (k.w.h.): 1973, 3,909,622,000; 1972, 3,473,525,000. Fuel cost per k.w.h. generated (mills): 1973, 6.10; 1972, 5.41.

Port Everglades—Installed generating capacity of 1,679,086 k.w. consisting of two 225,250 k.w. units, five 2,750 k.w. diesel driven units and 12 34,228 k.w. gas turbine units. One placed in operation in Apr. 1960, the second Apr., 1961. Two 402,050 k.w. units, one placed in operation June, 1964, the other in Apr. 1965, the diesel-driven units in Jan. 1969 and gas turbine units in 1971. Fuel—oil and natural gas. Net generation (k.w.h.)—steam: 1973, 7,322,264,000; 1972, 7,960,697,000. Fuel cost per k.w.h. generated (mills)—steam: 1973, 6.16; 1972, 4.97. Net generation (k.w.h.)—gas turbines: 1973, 299,911,000; 1972, 518,598,000. Fuel costs per k.w.h. generated (mills)—gas turbines: 1973, 8.98; 1972, 10.41.

Cutler—Originally constructed in 1948; last unit installed in 1971. Installed generating capacity, max. gross, 351,500 k.w. name plate rating. Fuel—oil and natural gas. Net generation (k.w.h.): 1973, 1,550,014,000; 1972, 1,954,079,000. Fuel cost per k.w.h. generated (mills). 1973, 5.52; 1972, 5.04.

Palatka—Originally constructed in 1951 last unit installed in 1956. Installed generating capacity max. gross, 109,500 k.w. name plate rating. Fuel—oil and natural gas. Net generation (k.w.h.): 1973, 556,894,000; 1972, 508,857,000. Fuel cost per k.w.h. generated (mills): 1973, 6.95; 1972, 5.26.

Fort Myers—Placed in operation in Nov., 1958. Installed generating capacity max. gross, 558,300 k.w. name plate rating consisting of one 156,250 k.w. unit placed in service in November 1958 and one 402,050 k.w. unit placed in service in July 1969. Fuel oil is used. Net generation (k.w.h.): 1973, 2,833,776,000; 1972, 2,967,698,000. Fuel cost per k.w.h. generated (mills): 1973, 7.32; 1972, 5.59.

Cape Canaveral—Placed in operation in April 1965. Installed generating capacity max. gross 804,100 k.w. name plate rating consisting of two 402,050 k.w. units, one placed in service in April 1965, the second in May 1969. Fuel oil and natural gas. Net generation (k.w.h.): 1973, 4,605,197,000; 1972, 4,840,446,000; 1971, 4,535,922,000; Fuel cost per k.w.h. generated (mills): 1973, 5.63; 1972, 4.77.

Turkey Point—Installed generating capability of 2,337,790 KW name plate ratings consisting of two 402,050 KW, one placed in operation in April 1967, the other in April 1968, five 2,750 KW diesel-driven units made available in Jan. 1969, one 759,970 Nuclear Unit placed in operation in Nov. 1972 and a second 759,970 Nuclear Unit placed in initial operation in June 1973. Fuel-oil, natural gas and nuclear. Net generation (K W H)—steam: 1973, 4,560,303,000; 1972, 4,094,997. Fuel cost per K W H generated (mills)—steam: 1973, 6.31; 1972, 4.91. Net generation (K W H)—Nuclear: —1973, 4,431,556,000; 1972, 43,394,000. Fuel cost per KWH generated (mills)—Nuclear: 1973, 1.75; 1972, 4.23.

1974 Construction Program estimated to cost $563,400,000 includes generating stations, $345,400,000; transmission and distribution plant, $185,900,000 and other additions and improvements $32,100,000.

A cooling system at the Turkey Point Plant and gas turbines with a generating capability of 683,000 KW at Ft. Myers are scheduled for completion in 1974. The installation of 520 MW of combined cycle gas turbines at Palatka, one 850 MW fossil unit at Manatee and one 890 MW nuclear unit at St. Lucie are scheduled to be placed in operation during 1975. A second 850 MW fossil unit at Manatee is expected to be complete in 1976. During 1977 an initial 850 MW fossil unit will be placed in service at Martin, followed in 1978 with a similar unit. The second 890 MW nuclear unit at St. Lucie is scheduled for initial operation in 1979 and a third 850 MW fossil unit at Martin is scheduled for 1980.

FRANCHISES

The franchises under which the company operates in the various municipalities are generally satisfactory and have no unusual or burdensome requirements.

Expiration dates of franchises in the more important municipalities are as follows:

Electric: Miami, 1984; Daytona Beach, 1977; West Palm Beach, 1977; Miami Beach, 1982; St. Augustine, 1983; Fort Lauderdale, 1979; Coral Gables, 1997; Palm Beach, 1981; Sarasota, 1983.

In 1971 one franchise was granted, in 1972 two franchises were lost but a larger one was gained due to a merger of two cities and in 1973 one franchise was granted.

Since 1945, 163 franchises were granted.

REGULATION

Company is subject to continuing regulation by Florida Public Service Commission as to rates, service, accounting, issuance of securities, and certain other activities. Company was authorized by FPSC to increase rates by $14.6 million effective on and after Jan. 31, 1973 based on 1971 sales and $40 million effective on and after Apr. 3, 1973 based on 1972 sales. The new tariff schedules became effective on and after May 10, 1973. Company applied in Aug. 1973, to FPSC for $6.2 million rate increase which became effective on and after Nov. 30, 1973.

Company is subject to regulation by the Federal Power Commission in various respects; keeping of accounts, the acquisition and disposition of certain facilities, and jurisdiction with respect to wholesale sales to certain electric cooperatives and municipalities. In Jan. 1973, Company filed with FPC an application increasing electric rates to wholesale customers for resale. Higher rates expected to produce $2.3 million were placed in effect on Sept. 1, 1973 and Jan. 1, 1974, which are subject to refund.

RESIDENTIAL RATES

Electric: Monthly rates available in all territory served on Nov. 30, 1973:

First 35 k.w.h. or less—$2.00
Next 25 k.w.h.—4.44c per k.w.h.
Next 100 k.w.h.—3.23c per k.w.h.
Next 340 k.w.h.—2.12c per k.w.h.
All additional k.w.h.—1.92c per k.w.h.

Minimum bill, $2.00.

Note: The above schedules are subject to adjustment for changes in fuel costs.

OPERATING STATISTICS

OPERATING STATISTICS, YEARS ENDED DEC. 31

(Compiled from reports filed with Federal Power Commission)

ELECTRIC	1973	1972	1971	1970	1969	1968	1967
Customers:							
Residential & rural	1,397,228	1,289,027	1,194,015	1,115,070	1,045,744	985,706	934,843
Commercial & industrial	164,252	144,931	134,487	126,408	120,636	113,013	106,236
Other	[1]6,168	12,136	11,914	11,646	10,967	10,501	10,255
Total	1,567,648	1,446,114	1,340,416	1,253,124	1,177,347	1,109,220	1,051,334
K.w.h. sales (000):							
Residential & rural	16,822,976	14,652,751	13,080,408	11,814,172	10,277,902	8,640,243	7,211,301
Commercial & industrial	12,935,454	10,857,837	9,631,257	8,519,652	7,503,032	7,469,084	6,703,316
Other	[1]2,708,670	3,417,220	3,076,887	2,781,557	2,664,238	1,641,990	1,374,803
Total	32,467,100	28,927,808	25,788,552	23,115,381	20,445,172	17,751,317	15,289,420
Revenues:							
Residential & rural	$382,214,793	$302,850,319	$258,270,899	$223,330,010	$196,008,874	$168,330,201	$144,501,167
Commercial & industrial	285,461,444	215,040,991	182,716,060	155,583,437	138,352,428	131,174,804	118,979,336
Other	[1]42,177,274	49,442,730	41,764,957	35,381,511	33,433,166	23,653,556	21,845,601
Total	$709,853,511	$567,334,040	$482,751,916	$414,294,958	$367,794,468	$323,158,561	$285,326,104
Steam k.w.h. generated	29,960,093,000	29,743,867,000	27,045,555,000	25,147,177,000	22,361,804,000	19,354,507,000	16,640,088,000
Nuclear k.w.h. generated	4,431,556,000	43,394,000					
Other k.w.h generated	944,822,000	1,393,765,000	722,116,000	247,023,000	2,062,000	24,000	93,000
Nuclear test operation	249,497,000	22,632,000					
K.w.h. purchased & net interchange	(401,364,000)	294,675,000	116,220,000	d281,477,000	d145,802,000	d7,183,000	235,000
Total	35,184,604,000	31,498,333,000	27,883,891,000	25,112,723,000	22,218,064,000	19,347,348,000	16,640,416,000
Co. use and loss and unaccounted for	2,717,504,000	2,570,525,000	2,059,021,000	1,997,342,000	1,772,892,000	1,596,031,000	1,350,996,000
System peak load k.w.	6,894,000	6,011,000	5,378,000	5,001,000	4,329,000	3,789,000	3,160,000
SALARIES AND WAGES							
Electric	$92,826,046	$74,002,065	$66,477,131	$59,444,147	$50,598,211	$40,712,517	$36,692,529
Utility plants, other	33,185,709	29,977,395	25,019,906	20,793,800	15,910,607	15,097,139	13,850,471
Total	$126,011,755	$103,979,460	$91,497,037	$80,237,947	$66,508,818	$55,809,656	$50,543,000

[1]During May and June, 1973 approximately 12,600 customers were transferred from Other Sales to Public Authorities as follows: 7,000 to Residential; 5,600 to Commercial.

INCOME ACCOUNTS

COMPARATIVE INCOME ACCOUNT, YEARS ENDED DEC. 31
(Taken from reports filed with Federal Power Commission)

	1973	1972	1971	1970	1969	1968	1967
Electric operating revenue	$714,012,430	$570,842,500	$484,830,185	$416,051,924	$369,509,924	$324,608,590	$285,326,104
Operating expenses	325,015,805	267,153,502	209,365,927	167,001,417	140,238,012	119,721,271	106,155,268
Maintenance	51,290,399	41,829,619	36,948,475	31,437,893	23,475,952	19,279,109	16,834,101
Depreciation	64,720,053	52,864,247	47,181,732	42,313,777	38,239,352	34,553,884	31,322,337
Amortiz.—limited term utility inv.	94,954	34,040	12,750	13,752	8,079	8,079	8,133
Federal income taxes	28,712,737	23,500,041	42,203,009	37,582,224	49,385,799	46,638,629	35,713,087
Other income taxes	4,559,798	3,939,426					
[1]Inc. taxes deferred in pr. yrs.	cr1,360,359	cr893,307	cr893,307	cr1,272,468	cr923,244	cr923,244	cr923,244
[2]Prov. for deferred inc. taxes	21,639,199	9,245,606	4,219,299	1,330,885			
General taxes	59,746,184	47,071,478	40,677,129	35,265,841	31,365,638	28,268,921	27,097,197
[3]Investment tax credit adjustments	9,264,458	11,701,312	2,118,380	295,579	2,383,824	2,786,163	2,390,969
Total oper. rev. deductions	563,683,228	456,445,994	377,212,559	318,589,685	284,173,412	250,332,812	218,597,848
Net operating revenue	150,329,202	114,396,506	107,617,626	97,462,234	85,336,512	74,275,778	66,728,256
Other income	27,081,475	30,893,606	18,415,565	728,559	1,150,489	334,570	265,318
Gross income	177,410,677	145,290,112	126,033,191	98,190,798	86,487,001	74,610,348	66,993,574
Other income deductions—net	cr6,270,429	cr7,940,135	cr5,024,837	589,704	537,864	424,718	333,579
Interest on long term debt	69,126,904	56,669,492	46,639,031	34,977,648	30,606,450	23,382,401	17,043,902
Amortiz.—debt disc. & exp., net	cr170,961	cr178,566	cr162,147	cr94,110	cr89,725	cr61,088	cr45,247
Other interest charges	6,166,691	6,952,654	5,579,979	3,491,213	2,006,016	1,954,322	2,729,214
Total income deductions	68,852,205	55,473,445	47,032,026	38,964,455	33,060,605	25,700,353	20,061,448
Net income	108,558,472	89,816,667	79,001,165	59,226,343	53,426,396	48,909,995	46,932,126
Retained earnings, begin. of year	148,057,660	95,935,743	200,773,328	172,799,735	147,537,089	125,127,721	103,023,657
Misc. credits						23,753	32,169
Total credits	256,616,132	185,754,410	279,774,493	232,026,078	26,549,000	174,061,469	149,987,952
Preferred dividends	6,079,770	1,614,750	1,614,750	1,614,750	200,963,485	1,614,750	1,614,750
Common dividends	38,429,250	36,080,000	32,224,000	29,638,000	1,614,750	24,881,000	23,213,000
[4]Misc. debits			150,000,000			28,630	32,481
Retained earnings, Dec. 31	$212,107,112	$148,057,660	$95,935,743	$200,773,326	$172,799,735	$147,537,089	$125,127,721

[1]See General Notes under Balance Sheet.

[2]Represents net reduction in taxes resulting from accelerated amortization taxwise of cost of emergency facilities. This provision, required by state regulatory authorities, will be restored to income after period of amortization, generally in amount equal to increase in Federal income taxes resulting from lack of deduction for tax purposes for normal depreciation on those facilities.

[3]Represents reductions of taxes resulting from accelerated depreciation on qualified additions made to depreciable plant subsequent to Jan. 1, 1970.

[4]1971: Transfer to common stock account.

Record of Earnings, years ended Dec. 31 (in $):

	Oper. Revenues	Oper. Expenses	Maintenance	Depreciation	Taxes	Net Oper. Revenues	Gross Income	Income Deduct.	Net Income	Com. Divs.	No. of Com. Shs.	Earn. Per Com. Sh.
1967	285,326,104	106,155,268	16,834,101	31,330,470	64,278,009	66,728,256	66,993,574	20,061,448	46,932,126	23,213,000	13,900,000	3.26
1966	268,612,021	97,410,725	16,044,150	28,598,376	62,953,456	63,665,314	63,906,929	16,669,990	47,296,939	21,680,000	13,900,000	3.29
1965	249,091,238	88,524,103	14,903,856	30,935,302	59,858,085	54,869,892	54,989,850	14,402,872	40,586,978	19,448,000	13,600,000	2.87
1964	235,722,572	80,254,421	12,901,896	27,888,452	62,149,461	52,528,342	52,630,726	12,535,667	40,095,059	18,632,000	13,600,000	2.83
1963	220,749,581	73,875,815	11,661,373	26,206,631	62,361,850	46,643,912	46,829,594	10,664,956	36,164,638	17,136,000	13,600,000	2.54
1962	200,672,839	67,957,720	10,736,662	23,438,681	55,504,502	43,035,274	43,167,846	10,103,036	33,064,810	16,048,000	13,600,000	2.31
1961	181,728,604	63,372,575	10,340,131	20,304,652	49,504,821	38,206,425	38,487,727	8,233,341	30,254,386	14,416,000	13,600,000	2.11
1960	172,680,046	61,587,839	9,221,953	17,604,655	47,253,682	37,011,917	38,421,759	8,094,426	30,327,333	13,000,000	13,600,000	2.11
1959	154,850,414	55,351,981	8,772,836	15,614,719	41,771,466	33,339,412	33,989,429	6,924,989	27,064,440	11,418,000	13,200,000	1.93
1958	144,883,377	54,444,181	8,423,639	13,914,686	37,936,940	30,163,931	30,502,385	5,729,357	24,773,027	9,699,000	6,600,000	3.51
1957	131,338,443	53,075,736	7,112,616	12,090,018	33,370,469	25,689,604	26,279,254	5,884,776	20,394,478	7,965,000	6,300,000	2.93
1956	110,133,930	42,699,555	6,652,417	10,964,845	28,155,337	21,661,776	22,019,013	4,940,259	17,138,754	7,320,000	6,000,000	2.59
1955	93,068,876	35,671,315	5,604,620	9,465,091	24,325,419	18,002,430	18,276,876	4,521,605	13,755,272	6,012,750	6,000,000	2.05
1954	79,475,884	31,416,443	5,306,889	8,564,463	19,343,888	14,844,202	14,913,968	4,235,250	10,678,718	4,508,000	2,695,000	3.51
1953	69,597,232	27,337,404	4,801,341	7,363,281	17,815,896	12,279,310	12,436,355	4,044,170	8,392,185	3,920,000	2,450,000	3.07
1952	61,408,593	24,410,057	4,007,502	6,523,073	15,449,423	11,018,538	11,202,578	3,580,925	7,621,653	3,552,500	2,450,000	2.84
1951	54,722,682	21,797,143	3,948,505	5,430,336	13,638,377	9,908,320	9,989,902	3,283,171	6,706,731	3,430,000	2,450,000	2.50
1950	45,885,426	18,421,263	3,770,771	4,203,026	9,637,575	9,852,791	10,070,986	3,676,432	6,394,554	3,062,500	2,450,000	2.43
1949	40,476,548	16,703,207	4,212,545	3,333,393	6,905,009	9,322,394	9,372,164	3,613,275	5,758,889	2,730,000	2,450,000	2.17

BALANCE SHEETS

COMPARATIVE BALANCE SHEET, AS OF DEC. 31
(Taken from reports filed with Federal Power Commission)

ASSETS	1973	1972	1971	1970	1969	1968	1967
Total utility plant	$2,640,236,426	$2,302,830,954	$1,979,435,411	$1,663,287,407	$1,429,923,261	$1,288,641,375	$1,130,566,336
Less: Accum. dep. & amort	423,712,304	371,290,885	332,485,336	297,225,022	266,393,215	234,704,384	216,898,591
Nuclear fuel	23,707,856	23,104,043	11,138,275				
Net utility plant	2,240,231,978	1,954,644,112	1,658,088,350	1,366,062,385	1,163,530,046	1,053,936,991	913,667,745
Other physical property	1,047,850	3,266,743	423,248	362,190	393,131	431,943	433,537
Non-current receivables					1	7,000	89,829
Other investments	8,828,857	26,826	26,001	26,200	25,200	25,301	25,301
Special funds	13,286,589	12,751,102	12,253,230	11,757,736	11,324,246	10,984,114	10,675,316
Total inv. & fund. accounts	23,163,296	16,044,671	12,702,479	12,146,126	11,742,578	11,448,358	11,223,983
Cash	1,516,112	1,135,631	8,694,587	7,451,188	6,414,907	7,851,948	7,390,771
Special deposits	214,346	60,343	46,910	80,376	102,334	117,565	195,536
Working funds	1,134,675	362,075	412,975	403,150	402,350	366,550	360,050
Temporary cash investments				2,750,000	19,847,022	6,000,000	
Notes receivable					7,000	75,447	775,089
Accounts receivables, net	55,699,395	42,426,890	33,661,322	26,238,559	24,260,490	21,397,040	15,725,739
[5]Materials and supplies	66,482,058	46,502,488	42,483,878	37,724,187	33,265,808	28,247,809	28,686,189
Prepayments	3,771,836	3,105,828	2,061,600	1,935,814	1,230,274	650,631	1,120,837
Other current and accrued assets	3,602,233	3,427,174	2,330,417	3,023,728	2,644,911	2,012,994	1,433,630
Total current & accrued assets	132,420,655	97,040,429	89,694,689	79,607,702	88,175,096	66,722,984	55,687,811
[6]Unamortized debt disc. & exp.		68,502	80,198	92,574	129,729	206,588	283,766
[7]Unamortized debt expense	2,065,774						
Misc. deferred debits	3,814,340	438,393	497,509	142,546	495,393	109,604	84,900
Total deferred debits	5,880,114	507,395	577,707	235,120	625,122	316,192	368,666
Total assets	$2,401,696,043	$2,068,236,607	$1,761,063,225	$1,458,051,333	$1,264,072,842	$1,132,424,525	$980,948,235
LIABILITIES							
4½% cum. preferred ($100)	$10,000,000	$10,000,000	$10,000,000	$10,000,000	$10,000,000	$10,000,000	$10,000,000
4½% cum. preferred, A ($100)	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000
4¼% cum. preferred, B ($100)	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000
4¼% cum. preferred, C ($100)	6,250,000	6,250,000	6,250,000	6,250,000	6,250,000	6,250,000	6,250,000
4.82% cum. preferred, D ($100)	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000
4.35% cum. preferred, E ($100)	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000
7.28% cum. preferred, F ($100)	60,000,000	60,000,000					
7.40 cum. preferred, G ($100)	40,000,000						
[8]Common stock	613,907,200	569,094,700	502,334,700	299,242,700	299,242,700	255,282,700	255,282,700
Premium on preferred A stock	112,500	112,500	112,500	112,500	112,500	112,500	112,500
Premium on preferred D stock	5,950	5,950	5,950	5,950	5,950	5,950	5,950
Premium on preferred F stock	78,600	78,600					
Premium on preferred G stock	12,800						
Capital stock expense	dr2,642,839	dr2,395,844	dr2,311,057	dr2,223,124	dr2,157,510	dr2,157,510	dr2,157,510
Retained earnings	212,107,112	148,057,660	95,935,743	200,773,328	172,799,735	147,537,089	125,127,721
Total stockholders' equity	959,831,323	811,203,566	632,327,836	534,161,354	506,253,375	437,030,729	414,621,361

LIABILITIES (cont'd):	1973	1972	1971	1970	1969	1968	1967
Mortgage debt	1,011,743,000	892,031,000	842,396,000	662,894,000	7,625,000	543,834,000	434,260,000
Install. purch. & sec. contr.-Poll. contr. rev. bds.	35,250,000						
Other long term debt	73,651,665	73,608,000	17,625,000	7,625,000	593,301,000	7,625,000	8,000,000
[4]Unamort. prem. on l.t. debt	4,790,430						
Total long term debt	1,125,435,095	965,639,000	860,021,000	670,519,000	600,926,000	551,459,000	442,260,000
Accounts payable	34,804,859	24,844,147	27,880,346	22,251,215	15,120,101	13,048,261	9,330,867
[1]Customer deposits	46,723,111						
Taxes accrued	39,158,435	23,683,990	27,747,079	26,456,053	24,124,895	21,101,463	19,785,468
Interest accrued	21,960,090	16,428,795	14,457,895	8,853,741	5,745,771	5,366,332	4,699,412
Other current liabilities	28,942,926	19,837,330	21,829,880	19,098,712	13,802,456	15,193,299	13,426,065
Notes payable	37,000,000	80,504,000	58,811,833	71,623,667	35,500		
Total current & accr. liabilities	208,589,421	165,348,263	150,727,033	148,283,388	58,828,723	54,709,355	572,204
Customers advances for construction	491,588	454,329	780,492	680,017	641,189	577,397	2,145,883
[4]Unamortized premium on debt		3,411,011	3,362,333	2,975,881	3,144,785	3,210,664	11,693,972
Accum. deferred invest. tax credits	39,780,549	30,516,092	19,277,868	17,159,538	16,863,959	14,480,135	1,134,425
Other deferred credits	8,060,381	11,540,635	10,475,660	10,418,206	9,321,360	7,102,346	47,241,812
Total deferred credits	48,332,518	45,922,067	33,896,353	31,233,642	29,971,293	24,370,542	15,546,484
Other reserves	15,196,094	13,682,411	13,497,385	13,522,115	13,451,487	13,198,617	12,935,337
Contrib. in aid construction			16,616,184	12,940,636	10,112,970	7,686,638	6,467,809
[1]Customers deposits		42,208,548	38,296,981	35,036,737	32,232,950	29,750,356	27,732,900
Accum. def. income taxes	44,311,592	24,032,752	15,680,453	12,354,461	12,296,044	13,219,288	14,142,532
Total liabilities	$2,401,696,043	$2,068,236,607	$1,761,063,225	$1,458,051,333	$1,264,072,842	$1,132,424,525	$980,948,235
Net current assets	d$76,168,766	d$68,307,834	d$61,032,344	d$68,675,686	$29,346,373	$12,013,629	$8,446,029

[1]During 1973, Company reclassified customers deposits as a current liability, 1972 and prior years not restated to reflect this change. In years 1972 and prior this account was excluded from current liabilities and shown separately in accordance with procedure approved by Florida Public Service Commission May 6, 1959.

[2]Represented by no par shares: 1973, 34,050,000; 1972, 32,800,000; 1971, 15,400,000; 1970 and 1969, 14,600,000; 1968-67, 13,900,000.

[3]Less inventory adjustment reserve (reclassified in 1967 as a valuation reserve); prior years adjustment included in totals.

[4]1973: In compliance with FPC Order 503, 1973 balances and all debits and credits during 1973 have been segregated into expense and premium. 1972 and prior years not restated to reflect this change. In 1972 and prior years, if expense exceeded premium net amt. was charged to unamort. debt discount and expense; and if premium exceeded expense it was credited to unamort. premium on debt and amortized over respective lives of debt issues.

General Notes

(a) Company provides book depreciation on a straight-line service-life basis.

Prior to 1973, depreciation was provided at 3.30% of average depreciable plant.

Effective Jan. 1, 1973 the company began providing depreciation by primary accounts as directed by the FPSC based on the following rates:

Steam Production Plant	2.86%-4.00%
Other Production Plant	4.00%
Transmission Plant	1.82%-3.50%
Distribution Plant	1.67%-5.25%
General Plant	2.38%-9.00%
Transportation Equipment	8.16%

The effect of these changes is not material. Nuclear facilities continue to be depreciated at 3.30% while a depreciation study is being reviewed by the Florida Public Service Commission.

(b) The 3% and 4% investment tax credit has been applied on books to reduce taxes accrued and credited to "Unamortized investment credit," which is being amortized over useful life of related property to reduce the provision for depreciation, in accordance with an order of the Florida Public Service Commission. In statement of income provision for Federal income tax has been reduced by amount of investment tax credit, provision for depreciation has been shown without reduction for amortization, and effect on net income has been offset by an "Investment tax credit adjustment" (after amortization of $1,360,359 in 1973; $919,735 in 1972, $802,886 in 1971, $760,637 in 1970, $639,696 in 1969, $507,933 in 1968, $596,436 in 1967.

FINANCIAL AND OPERATING RATIOS

ELECTRIC	1973	1972	1971	1970	1969	1968	1967
Res. sales % total	51.8	50.7	50.7	51.1	50.3	48.7	47.2
Res. revs. % total	53.8	53.4	53.5	53.9	53.3	52.1	50.6
Res. aver. rate per k.w.h. (cents)	2.27	2.07	1.97	1.89	1.91	1.95	2.00
Res. aver. cust. use (k.w.h.)	12,040	11,367	10,955	10,595	9,828	8,766	7,714
INCOME ACCOUNT							
% Elec. gross of total	100	100	100	100	100	100	100
% deprec. of gross oper. rev.	9.1	9.3	9.7	10.2	10.3	10.6	10.0
% mainten. of gross oper. rev.	7.2	7.3	7.6	7.6	6.4	5.9	5.9
% annual deprec. of utility plant	2.45	2.30	2.38	2.54	2.67	2.68	2.77
% net oper. rev. to net util. plant	6.71	5.92	6.53	7.13	7.3	7.0	7.3
Operating ratio	70.1	71.6	68.9	66.4	63.8	63.0	63.6
Times chgs. earn. before inc. taxes	3.29	3.16	3.34	3.63	4.15	4.77	5.26
Times chgs. earn. after inc. taxes	2.44	2.42	2.52	2.54	2.64	2.91	3.38
Times chgs. & pfd. div. earned	2.25	2.35	2.44	2.44	2.52	2.76	3.12
Earned per share, preferred	$79.68	$93.32	$217.93	$163.38	$147.38	$134.92	$129.47
Earned per share, common (actual)	$3.01	$2.68	$3.03	$3.95	$3.72	$3.40	$3.26
[2]Earned per share, common (adj.)	$3.01	$2.68	$2.52	$1.98	$1.86	$1.70	$1.63
[2]Earned per share, common (aver.)	$3.09	$2.69	$2.56	$1.97	$1.86	$1.70	$1.63
Net tang. assets per com. sh. (actual)	$24.20	$21.80	$38.71	$34.10	$32.19	$28.83	$27.22
Net tang. assets per com. sh. (adj.)	$24.20	$21.80	$19.36	$17.05	$16.10	$14.42	$13.61
Number of shares—4½% cum. pfd.	100,000	100,000	100,000	100,000	100,000	100,000	100,000
—4½% cum. pfd., A	50,000	50,000	50,000	50,000	50,000	50,000	50,000
—4½% cum. pfd., B	50,000	50,000	50,000	50,000	50,000	50,000	50,000
—4½% cum. pfd., C	62,500	62,500	62,500	62,500	62,500	62,500	62,500
—4.32% cum. pfd., D	50,000	50,000	50,000	50,000	50,000	50,000	50,000
—4.35% cum. pfd., E	50,000	50,000	50,000	50,000	50,000	50,000	50,000
—7.28% cum. pfd., F	600,000	600,000					
—7.40% cum. pfd., G	400,000						
—com. (actual)	34,050,000	32,800,000	15,400,000	14,600,000	14,600,000	13,900,000	13,900,000
—[2]com. (adj.)	34,050,000	32,800,000	30,800,000	29,200,000	29,200,000	27,800,000	27,800,000
—[2]com. (aver.)	33,056,849	32,576,000	30,276,000	29,200,000	27,876,000	27,800,000	27,800,000
BALANCE SHEET							
% mtges. of capitalization	48.6	50.2	56.5	55.0	53.6	55.0	50.7
% other debt of cap.	5.2	4.1	1.2	0.6	0.7	0.8	0.9
[1]% preferred stock of cap.	6.5	5.4	2.4	3.0	3.3	3.7	4.2
% com. stock & surplus of cap.	39.7	40.3	40.0	41.4	42.5	40.6	44.2
% mtge. debt of deprec. plant	45.2	46.2	51.2	48.5	51.0	51.6	47.5
% all debt of deprec. plant	50.0	50.0	52.2	49.1	51.6	52.3	48.4
Ratio gross plant to gross revs.	3.7-1	4.0-1	4.1-1	4.0-1	3.9-1	4.0-1	4.0-1
Deprec. res. in % of gross plant	15.9	16.1	16.3	17.9	18.6	18.2	19.1
PRICE RANGE							
1st 3s, 1977	83-80⅜	85½-82⅜	82⅞-77⅛	77⅜-62	74½-68⅞	77½-74⅞	82⅜-70
1st 3⅛s, 1978	83⅜-77	83⅜-80	81⅛-74	76-67⅝	74⅜-61½	77-74	82⅜-74⅜
1st 3s, 1979	79-72⅜	79⅛-76½	78-70	72⅜-64⅜	71¾-60⅜	74½-70¾	80⅜-69½
1st 3⅜s, 1981	76⅜-70	76⅞-71¼	75-68¼	71⅛-63½	72⅞-64½	76¾-72½	84⅜-73¾
1st 3⅞s, 1983	75½-69	75¾-72	73¾-67½	70⅜-63½	73¼-61⅜	78-73½	86¾-74½
1st 3⅛s, 1984	66⅜-61⅛	67-63¾	65¼-59⅜	62¼-55	69-56⅜	69-65	86-64¼
1st 3⅜s, 1986	68-62	68⅛-65½	67¾-61½	65-55⅛	67⅛-58¾	77-68⅝	82⅜-68¾
1st 4¾s, 1986	72½-67	73¼-68½	74⅜-68	71⅛-64¼	99-68⅛	80½-76	95-77½
1st 4⅜s, 1987	75⅛-68	75½-73	75⅞-69¾	73⅛-65	77¾-66¾	83-79¾	94⅜-80⅜
1st 4¼s, 1988	69½-63⅛	69¾-60	69¾-64¼	68¼-60⅜	72-58	76⅜-73½	88-71½
1st 5s, 1989	76¾-68¼	77½-74¼	78¾-71½	74¾-66⅜	86¼-69¼	86½-82	99⅜-82½
1st 4½s, 1992	70⅛-62	73½-67⅜	72-64	70⅛-59¾	73⅛-62	79⅜-75⅛	92½-76
1st 4⅜s, 1994	69½-62½	70¼-68	71¼-64¼	70⅝-61	70⅜-62¾	80⅛-76⅛	94½-77
1st 4⅜s, 1995	69¼-61⅜	73⅞-65	72-63⅜	70¼-60¼	74½-62	80⅛-75¾	94½-76⅜
1st 5s, 1995	72-66	73½-71⅛	77½-67½	73¼-63¾	78⅛-65¾	84⅜-81⅞	99¾-82½
1st 6s, 1996	84¾-74¼	86¾-81½	87¼-77¾	83½-72¾	88-76¼	98-88	106¾-93
1st 6¾s, 1997	92-84	92½-89⅞	94¼-85¾	91⅞-80	98½-82	104¾-96	101¼-101
1st 7s, June 1, 1998	93⅞-84½	96⅞-87	97-87½	91-81½	100½-81½	106½-99½	
1st 7s, Dec. 1, 1998	95-84½	96⅞-92¼	97-84¼	91-80	101-81	102⅛-98¾	
1st 8s, 1999	103⅞-96	104-102	103½-94⅝	99½-90⅛	103⅜-96		
1st 8⅛s, 1975	104½-99½	108¼-103¼	109½-101¼	106⅜-100¼			
1st 7⅞s, 2001	100½-92	101-98	104-93				
1st 7¾s, 2001	103-93	103½-99½	103¼-97⅜				
1st 7⅞s, 2002	100½-92	101½-99¾					

PRICE RANGE (cont'd):	1973	1972	1971	1970	1969	1968	1967
1st 7½s, 2003	101½-89	---	---	---	---	---	---
1st 8⅛s, 1980	106¼-103¼	---	---	---	---	---	---
4½% cum. preferred	60-51	61-57	60-55	52½-46½	58-53	72-67	78-71
7.28% preferred F	100⅜-89	101-99¾	---	---	---	---	---
Common (actual)	40⅛-23¾	[1]44⅜-28	76¼-56¼	75-54⅛	76½-64½	80¼-62⅞	80¾-66
[2]Common (adj.)	40.38-23.75	44.38-28.00	38.13-28.13	37.50-27.13	38.25-32.25	40.13-31.50	40.25-32.75

[1]At liquidating value of $100 per share. [2]Adjusted for 2-for-1 split May 1972. [3]After 2-for-1 split; before, 72⅜-59¼.

Additional Miscellaneous Ratios and Data: (Compiled from Uniform Statistical Report):							
Financial Ratios	1973	1972	1971	1970	1969	1968	1967
Gross Inc. % Long term debt	20.9	16.8	16.9	20.8	22.4	21.7	23.0
Margin of safety—%	22.2	22.6	24.7	24.4	27.6	29.2	28.6
% of rev. available for common	14.3	15.5	16.0	13.8	14.0	14.6	15.9
Dividend payout—%	37.7	40.9	41.6	51.4	51.2	52.6	51.2
Avg. annual yield—%	3.4	3.0	3.2	3.1	2.7	2.50	2.29
Avg. times earnings	11.0	13.5	13.0	16.3	19.0	21.0	22.4
Miscellaneous							
Fuel cost—% of rev.	28.7	28.8	25.2	20.9	19.7	19.7	19.0
Labor cost—% of rev.	17.7	18.2	18.9	19.3	18.0	17.2	17.7
System capacity, Kw (000)	9,097	7,950	6,359	5,911	5,471	[1]4,580	4,148
System peak, Kw (000)	6,894	6,011	5,378	5,001	4,329	3,789	3,160
Load factor %	58	60	59	57	59	58	60
Heat rate (BTU per kwh) (equiv.) gas & oil	10,381	10,346	10,132	10,128	10,012	10,081	10,025
Fuel—avg. cost per bbl. (equiv.) gas & oil	3.50	3.20	2.73	2.15	2.07	2.09	2.07
Employees	9,385	8,405	7,711	7,349	6,549	6,046	5,657
Employees per $1 million rev.	13.1	14.7	15.9	17.6	17.7	18.7	19.8

[1]Gross capability.

LONG TERM DEBT

1. Florida Power & Light Co. first 3s, 1977:

Rating—Aa

OPEN MORTGAGE—Outstanding, this series, $10,000,000.
DATED—July 1, 1947.
MATURITY—July 1, 1977.
INTEREST—J&J 1 at office of trustee in New York. Principal and interest payable in U. S. legal tender.
TRUSTEES—Bankers Trust Co., New York, and Florida National Bank, Jacksonville.
DENOMINATION—Coupon, $1,000 and any multiple of $100; registerable as to principal; fully registered, $1,000, $10,000 and any multiple of $100. C&R and the several denominations interchangeable; $2 charge for each bond exchanged.
CALLABLE—As a whole or in part on at least 30 days' published and mailed notice at any time to each June 30, incl., as follows:
1975... 100.39 1976... 100.26 1977... 100.00
Also callable for sinking & improvement fund (which see) or replacement (or maintenance) fund, or with proceeds of property released or taken by eminent domain, at special prices to each June 30, incl., as follows:
1975... 100.38 1976... 100.26 1977... 100.00
SINKING AND IMPROVEMENT FUND—Annually Dec. 1, 1954-76 incl., in cash or 1977 series bonds, a sum equal to 1% of greatest par of such bonds outstanding at any one time prior to next preceding Jan. 1, less par of bonds (a) retired from proceeds of insurance, release or taking by eminent domain of property and (b) the right to authentication of which (on basis of retirement of 1977 series bonds) is waived as basis for release of property or withdrawal of proceeds of insurance, release or taking by eminent domain of property. Credit may be taken for par of bonds the right to authentication of which (against property additions or retirement of 1977 series bonds) is waived. Requirements may be anticipated. Cash in sinking fund may be used to purchase or redeem bonds or withdrawn on waiver of right to authentication of bonds. Cost of such retirements in excess of par to be paid from other funds. Bonds so acquired to be cancelled.
SECURITY—All series are equally and ratably secured by a first lien on all properties owned and franchises held by company, subject to certain leases on minor portions of company's property, etc. There are excepted from the lien hereof (i) cash, stocks, bonds and other securities not specifically pledged (ii) merchandise held for resale, etc.; (iii) bills, notes and accounts receivable, etc. Mortgage permits the release of property.
CREATION OF ADDITIONAL DEBT—Additional bonds may be issued in this or other series in principal amount equal to (1) 60% of cost or fair value, whichever is less, of property additions; (2) principal amount of bonds or prior lien bonds retired or then to be retired and (3) cash deposited with Trustee for that purpose, provided, in each case, adjusted net earnings (as defined) are either (a) at least twice annual interest on or (b) at least 10% of principal amount of, all first mortgage bonds outstanding and all outstanding debt of prior or equal rank, including the additional issue, except that no earnings test is required to issue bonds to refund prior lien bonds and such test is required to refund bonds only in certain cases.
No bonds may be issued on basis of property additions subject to qualified liens, as provided.
REPLACEMENT FUND — Company agrees that, for each year, it will expend 15% of adjusted gross operating revenues for maintenance and replacements, but not in excess of (a) actual expenditures for such purpose plus (b) $2,000,000 plus (c) 2½% of gross additions to depreciable property, made after Dec. 31, 1943 and prior to beginning of such year, less (d) 2½ of gross property retirements made after Dec. 31, 1943 and prior to beginning of such year. Any deficiency may be made up by depositing cash with Trustee or by certifying gross property additions, which may not thereafter be made the basis of the authentication and delivery of bonds, release of property or withdrawal of cash or on waiver of right to issue bonds or by taking credit for bonds retired through use of certain cash which did not represent proceeds of release of funded property. Such cash may be withdrawn on expenditures for maintenance or gross property additions or on waiver of the right to issue bonds, or be applied to retirement of bonds.
DIVIDEND RESTRICTIONS — Company will not make any distribution on common (except in common shares) or acquire any common stock unless thereafter and subsequent to June 30, 1947, depreciation and property retirement provisions (excluding amortization for amounts included in utility plant adjustment and similar accounts) plus earned surplus remaining after deduction of (a) $2,000,000 plus (b) proceeds from sale of common and (c) charges to earned surplus (less dividends and distributions on and acquisitions of common, preferred dividends, and net charges to earned surplus for depreciation and retirement reserves), shall at least equal replacement fund requirements.
RIGHTS UPON DEFAULT—In event of default (60 days grace period provided for interest payment), the Trustee or holders of at least 25% of bonds may declare bonds due and payable immediately.
INDENTURE MODIFICATION — Provisions may be modified, except as provided, with consent of holders of 70% of bonds and, if rights of one or more, but less than all, series of bonds are affected by such modification, then also by holders of 70% of each series of bonds so affected.
LEGAL—For savings banks in Conn., Mass., N. H., N. J. and N. Y.
TAX STATUS—No provision for refund or assumption of any Federal or state taxes.
PURPOSE—Proceeds from sale of bonds and debentures used to redeem debenture 4⅛s, due 1979, and $750,000 bank notes.
OFFERED—($10,000,000) at 102.60 (proceeds to company 101.89) on July 31, 1947 by a syndicate headed by Lehman Brothers, New York

2. Florida Power & Light Co. first 3⅛s, 1978:

Rating—Aa

OPEN MORTGAGE—Outstanding, series due 1978, $11,000,000.
DATED—June 1, 1948.
MATURITY—June 1, 1978.
INTEREST—J&D 1 at office of trustee in New York. Principal and interest payable in U. S. legal tender.
TRUSTEES—Bankers Trust Co., New York, and Florida National Bank, Jacksonville.
REGISTRAR—Bankers Trust Co., New York.
DENOMINATION—Coupon, $1,000 and any multiple of $100; registerable as to principal; fully registered, $1,000, $10,000 and any multiple of $100 C&R and the several denominations interchangeable; $2 charge for each bond exchanged.
CALLABLE—As a whole or in part on at least 30 days' published and mailed notice at any time to each May 31, incl., as follows:
1973... 100.95 1974... 100.76 1975... 100.57
1976... 100.38 1977... 100.25 1978... 100.00
Also callable for sinking fund (which see) or maintenance fund, or with proceeds of property released or taken by eminent domain at special prices to each May 31, incl., as follows:
1973... 100.69 1974... 100.59 1975... 100.47
1976... 100.36 1977... 100.25 1978... 100.00
SINKING AND IMPROVEMENT FUND—Annually Dec. 1, 1954-77 incl., in cash or 1978 series bonds a sum equal to 1¼% of greatest par of such bonds outstanding at any one time prior to next preceding Jan. 1, less par of bonds (a) retired from proceeds of insurance, release or taking by eminent domain of property and (b) the right to authentication of which (on basis of retirement of 1978 series bonds) is waived as basis for release of property or withdrawal of proceeds of insurance, release or taking by eminent domain of property. Credit may be taken for par of bonds the right to authentication of which (against property additions or retirement of 1978 series bonds) is waived. Requirements may be anticipated. Cash in sinking fund may be used to purchase or redeem bonds or withdrawn on waiver of right to authentication of bonds. Cost of such retirements in excess of par to be paid from other funds. Bonds so acquired to be cancelled.
DIVIDEND RESTRICTIONS—Company will not pay any dividends (except in common stock) or make any distribution on or acquire for value any common, unless thereafter remaining earned surplus is at least equal to the sum of (1) any excess of replacement provision since May 31, 1948, plus any excess of earned surplus since such date over the sum of $2,350,000 plus proceeds from sale of common, contributions to capital (other than $4,000,000 from parent), and charges to earned surplus (other than distributions on common, dividends on preferred, or charges to earned surplus with corresponding credits to reserves for depreciation and retirement of property, etc.), all since May 31, 1948, plus (2) cost of reacquisition of common subsequent to May 31, 1948 not charged to earned surplus.
OTHER PROVISIONS—For provisions relating to security, creation of additional debt, rights upon default and indenture modification, see first 3s, 1977 (No. 1).
LEGAL—For savings banks in Conn., Mass., N. J., N. H. and N. Y.
TAX STATUS—No provision for refund or assumption of any Federal or state taxes.
PURPOSE—Proceeds used to pay short term loans, finance additional facilities, and for other purposes.
OFFERED—($11,000,000) at 102.46 (proceeds to company 102.10999) on June 10, 1948 by Harriman Ripley & Co., New York.

3. Florida Power & Light Co. first 3s, 1979:

Rating—Aa

OPEN MORTGAGE—Outstanding, series due 1979, $10,000,000.
DATED—June 1, 1949.
MATURITY—June 1, 1979.
INTEREST—J&D 1 at Bankers Trust Co., New York.
TRUSTEES—Bankers Trust Co., New York, corporate trustee; Florida National Bank, Jacksonville.
DENOMINATION—Coupon, $1,000; registerable as to principal; fully registered, $1,000, $10,000 and, at option of company, in either form in multiples of $100. C&R interchangeable; $2 charge for each bond exchanged.
CALLABLE—As a whole or in part on at least 30 days' published and mailed notice at any time to each May 31, incl., as follows:
1974... 100.87 1975... 100.69 1976... 100.52
1977... 100.35 1978... 100.20 1979... 100.00
Also callable on like notice for current sinking and improvement fund or replacement fund, or with proceeds of release of property, at special prices to each May 31, incl., as follows:
1974... 100.55 1975... 100.47 1976... 100.38
1977... 100.29 1978... 100.20 1979... 100.00
SINKING AND IMPROVEMENT FUND—Annually Dec. 1, 1955-78, 1¼% of greatest amount of 1979 series bonds at any time outstanding, under same terms as first 3⅛s, due 1978.

EXHIBIT E

Tables and Maps Excerpted from Statistics of the Florida Electric Utility Industry, 1960-1974 by the Florida Energy Data Center

GENERATING CAPACITY BY PRIME MOVER
Florida Electric Utility Industry
(Megawatts)

TABLE C2

	As of December 1973 NAME PLATE CAPACITY						As of December 1974 NAME PLATE CAPACITY					
	Conventional Steam	Gas Turbine	Diesel	Hydro	Nuclear Steam	Total	Conventional Steam	Gas Turbine	Diesel	Hydro	Nuclear Steam	Total
Fla. Power & Light	6008.640	1232.208	33.100		1519.940	8793.888	6008.640	1976.208	33.100		1519.940	9537.888
Florida Power Corp.	2111.400	672.948				2784.348	2521.300	1168.300				3689.600
Fla. Public Util.			3.230	0.168		3.398			3.230	.168		3.398
Gulf Power Company	1667.000	41.850				1708.850	1667.000	41.850				1708.850
Tampa Electric	2393.980	36.000				2429.980	2393.980	193.500				2587.480
Reedy Creek Util.		12.000				12.000		12.000				12.000
Investor Owned (I)	12181.020	1995.006	36.330	0.168	1519.940	15732.464	12590.920	3391.858	36.330	.168	1519.940	17539.216
Fort Pierce	62.000		5.500			67.500	62.000		5.500			67.500
Gainesville/Alachua	180.100	43.500	1.162			224.762	180.100	43.500	1.162			224.762
Homestead			36.095			36.095			36.095			36.095
Jacksonville	1201.200	100.640				1301.840	1201.200	449.640				1650.840
Key West	107.000		17.490			124.490	107.000		17.490			124.490
Kissimmee			30.270			30.270			30.270			30.270
Lakeland	204.000	53.750	5.500			263.250	204.000	53.750	5.500			263.250
Lake Worth	74.080		22.572			96.652	74.080		13.600			87.680
New Smyrna	7.500		10.640			18.140	7.500		10.640			18.140
Orlando	438.270	37.500				475.770	732.570	37.500				770.070
St. Cloud			19.650			19.650			24.110			24.110
Sebring	12.650		12.731			25.381	12.650		12.731			25.381
Starke			7.490			7.490			10.790			10.790
Tallahassee	198.000		71.000			269.000	198.000		71.000			269.000
Vero Beach	62.000		13.378			75.378	62.000		13.378			75.378
Wauchula			7.656			7.656			7.656			7.656
Municipals (M)	2546.800	235.390	261.134	0	0	3043.324	2841.100	584.390	259.922	0	0	3685.412
Florida Keys REA			16.000			16.000			16.000			16.000
Woodruff				30.000		30.000				30.000		30.000
Other (0)	0	0	16.000	30.000		46.000	0	0	16.000	30.000	0	46.000
Total (I)+(M)+(0)	14727.820	2230.396	313.464	30.168	1519.940	18821.788	15432.020	3976.248	312.252	30.168	1519.940	21270.628

Source: FPC Form 4

SECTION I

TABLE C1

GENERATING CAPACITY

INTRODUCTORY COMMENTS

Florida's electrical generating capacity (name plate) has been increasing at an average annual rate of 12.7 % during the period between 1960 and 1974. This rate is much larger than the 7.70 experienced by the U. S. as a whole and is directly tied to Florida's rapid rate of population growth.

From 75 to 86% of this capacity, (1960-1974), has been owned by the Investor Owned Utility Companies and nearly all the remainder is owned by Publically-owned Utilities. Florida Keys is the only generating Electric Cooperative in the State.

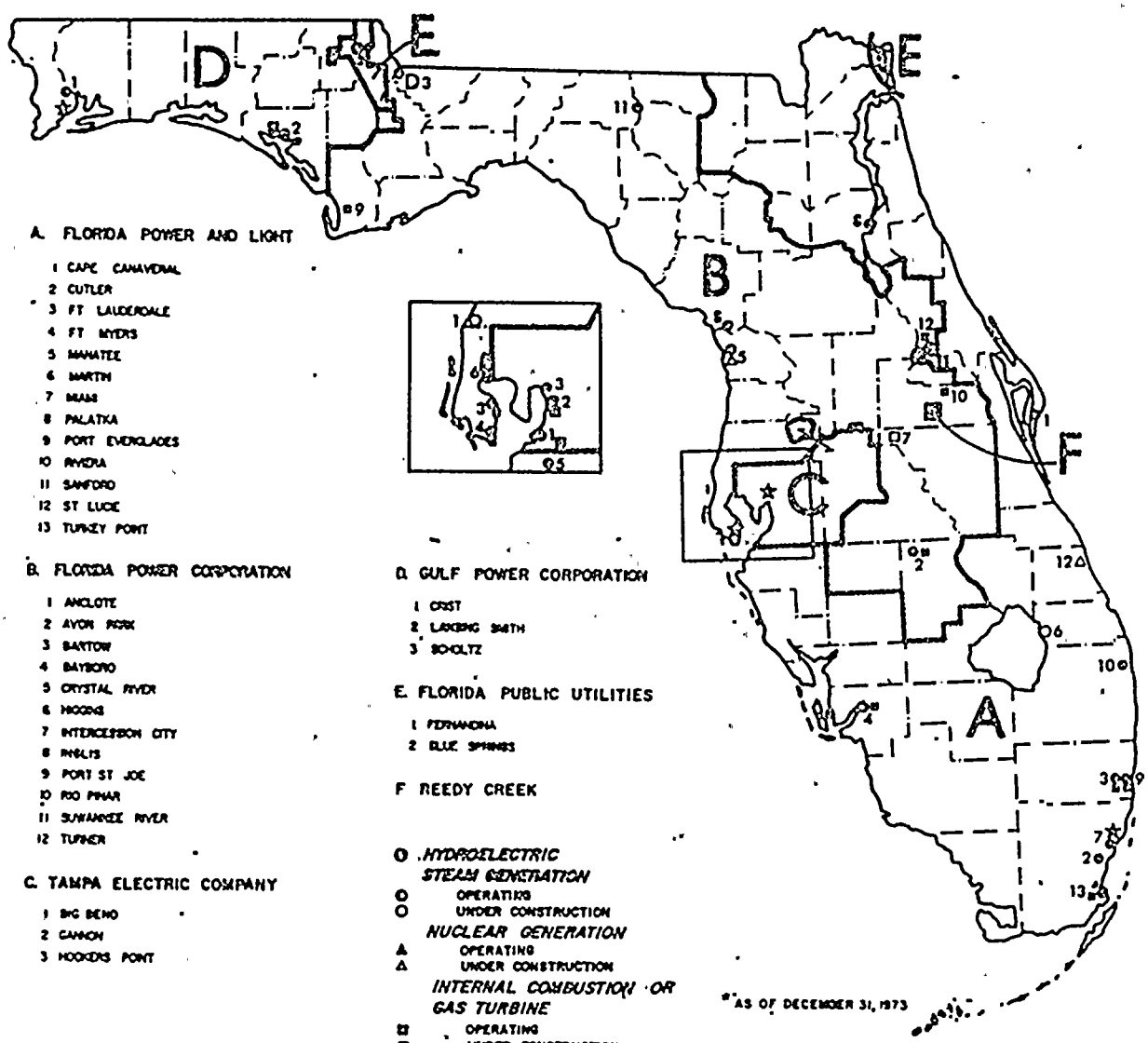
In this report the term "name plate" rating or capacity is used frequently and it is defined here as the full-load continuous rating of a generator, prime mover, or other electrical apparatus under specified conditions designed by the manufacturer. This rating is usually physically attached to the machinery.[1]

This term should not be confused with "net capability" which is the maximum load which a generating unit or generator can carry under specified conditions or for a given period of time without exceeding approved limits of temperature and stress. This capability varies with the character of the load and the time of the year.[1]

1. SOURCE: FREAC

MAP C7-X

PRIVATELY OWNED UTILITIES



Service areas and plant locations of investor-owned utilities in Florida.
(Map by Florida Resources and Environmental Analysis Center)

TABLE C-7

ELECTRIC UTILITY PLANT STATISTICS
FLORIDA ELECTRIC UTILITY INDUSTRY
(CAPACITY IN KILOWATTS)

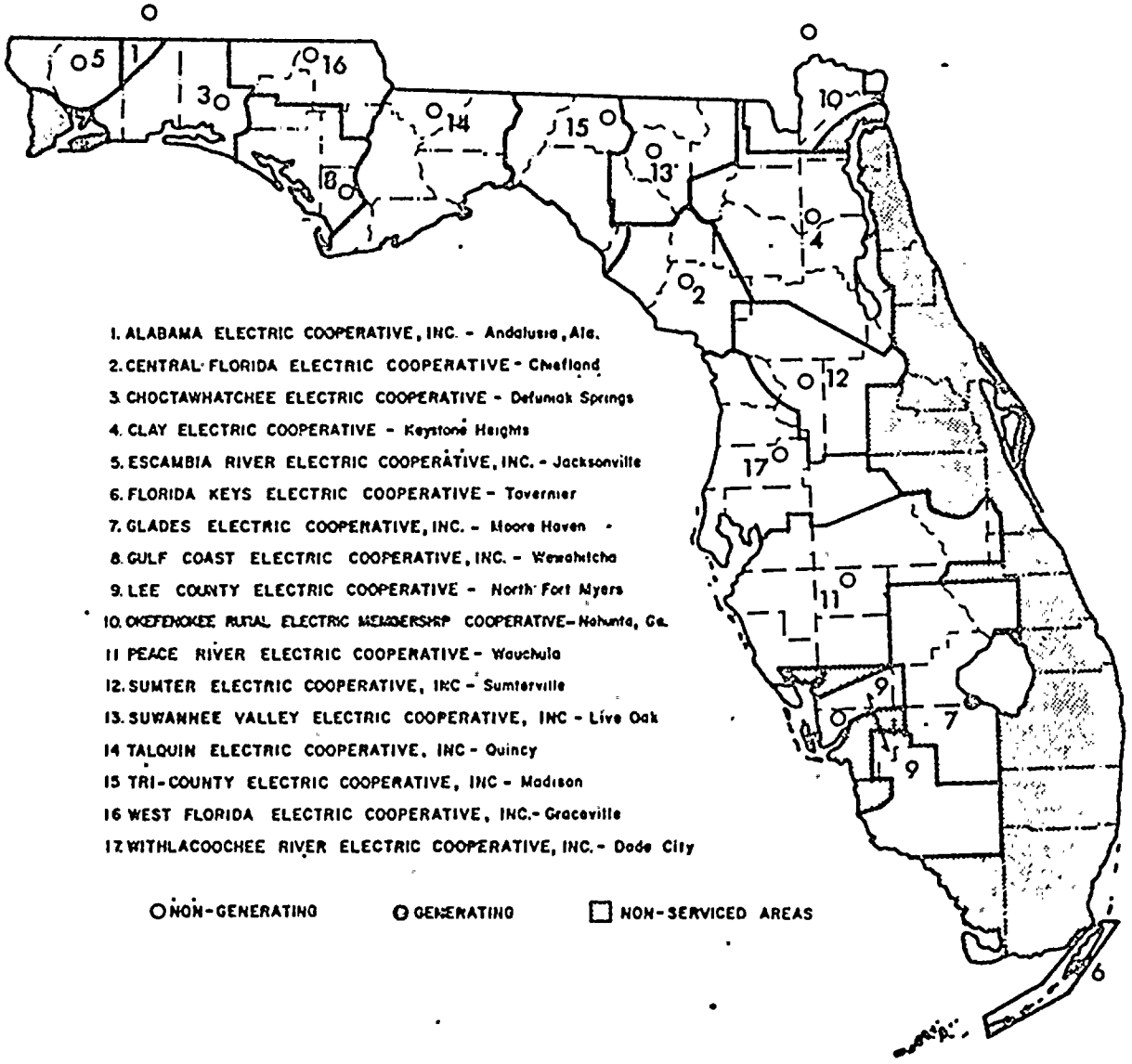
COMPANY PLANT	PRIME MOVER	TYPE FUEL	NAMEPLATE CAPACITY AS OF DEC. 1973	NAMEPLATE CAPACITY AS OF DEC. 1974
ORLANDO			475770	770070
1. INDIAN RIVER	STEAM	F.O., N.G.	334520	628820
2. L. HIGHLAND	STEAM	F.O., N.G.	103750	103750
3. L. HIGHLAND	GAS TURB.	DIST., N.G.	37500	37500
ST. CLOUD				
1. ST. CLOUD	INT COMB.	F.O., N.G.	19650	24110
SEBRING			25381	25381
1. SEBRING	STEAM	F.O., N.G.	12650	12650
2. SEBRING	INT. COMB.	F.O., N.G.	12731	12731
STARKE				
1. STARKE	INT. COMB.	F.O., N.G.	7490	10790
TALLAHASSEE			269000	269000
1. S. O. PURDOM	STEAM	F.O., N.G.	118000	118000
2. S. O. PURDOM	GAS TURB.	F.O., N.G.	25000	25000
3. HOPKINS	GAS TURB.	F.O., N.G.	46000	46000
4. HOPKINS	STEAM	F.O., N.G.	80000	80000
VERO BEACH			75380	75380
1. VERO BEACH	STEAM	F.O., N.G.	62000	62000
2. VERO BEACH	INT. COMB.	F.O.	13378	13378
WAUCHULA				
1. WAUCHULA	INT. COMB.	F.O.	7656	7656
FLA. KEYS				
1. MARATHON	INT. COMB.	F.O.	16000	16000
SOUTHEASTERN POWER ADMIN.				
1. JIM WOODRUFF DAM	HYDRO	WATER	30000	30000

SOURCE: Federal Power Commission Form 4

NOTE: F.O. - Fuel Oil
N.G. - Natural Gas
J.F. - Jet Fuel
BIT. - Bituminous Coal
INT. COMB. - Internal Combustion
GAS TURB. - Gas Turbine
HYDRO - Hydroelectric

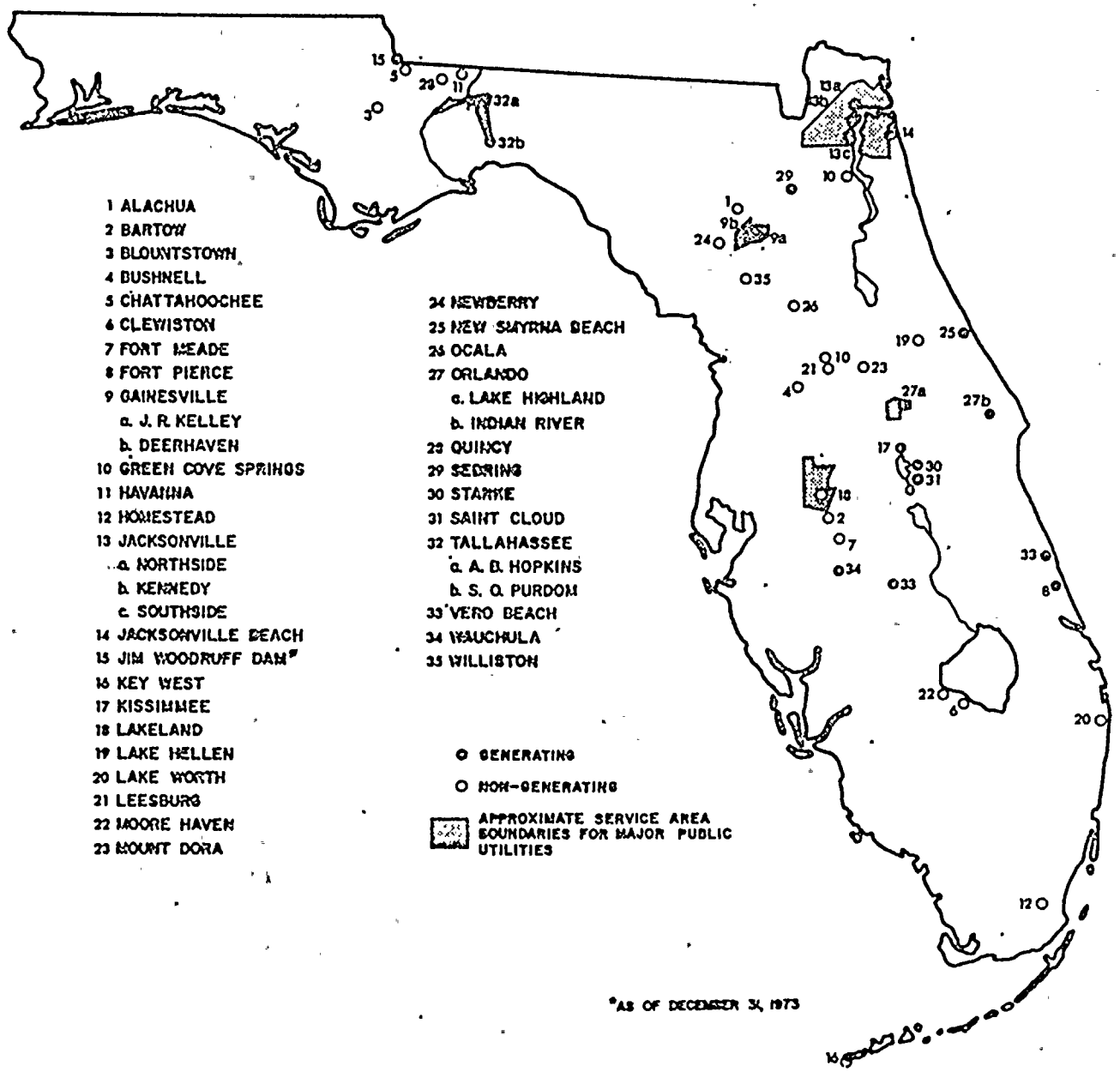
MAP C7-XXX

FLORIDA RURAL ELECTRIC COOPERATIVES



Service areas of rural electric cooperatives in Florida.
(Map by Florida Resources and Environmental Analysis Center)

PUBLICLY OWNED UTILITIES



Service areas of public owned utilities in Florida. *(Map by Florida Resources and Environmental Analysis Center)*

SALES TO ULTIMATE CUSTOMERS**
SELECTED FLORIDA COMPANIES
(MEGAWATT - HOURS)

TABLE S3

COMPANIES	SALES TO ULTIMATE CUSTOMERS 1973	1974
INVESTOR OWNED SYSTEMS		
FLORIDA POWER & LIGHT	31117100	31236336
FLORIDA POWER CORP.	11381839	11017870
FLORIDA PUBLIC UTILITIES	219312	236278
GULF POWER COMPANY	4143700	4171751
TAMPA ELECTRIC CO.	7843142	8031443
REEDY CREEK UTIL., CO.	501146	482586
TOTAL	55206239	55176264
GENERATING MUNICIPALS SYSTEM		
FT. PIERCE	259100	254437 *
GAINESVILLE/ALACHUA	593098	603783
HOMESTEAD	142600	104277
JACKSONVILLE	4647300	4335600
KEY WEST	319000	328511
KISSIMMEE	148400	142403
LAKELAND	851700	845603
LAKE WORTH	208000	211229
NEW SMYRNA BEACH	86900	91596
ORLANDO	1767613	1701600
ST. CLOUD	60700	70794
SEBRING	71500	69075
STARKE	26800	26804
TALLAHASSEE	847700	811785
VERO BEACH	225000	225278
WAUCHULA	29500	33967
TOTAL	10284911	9856742

SOURCE: FPC Forms
Electric Utility Companies

* FY Ended September 30, 1974

** Sales to ultimate customers = total sales of electricity minus sales for resale.

SALES TO ULTIMATE CUSTOMERS**
SELECTED FLORIDA COMPANIES
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SOURCE: FPC Forms
Electric Utility Companies

* FY Ended September 30, 1974

** Sales to ultimate customers = total sales of electricity minus sales for resale.

EXHIBIT F

Discovery Documents from "Gainesville vs Florida Power Corporation and Florida Power & Light Company." CA 68-305-CIV. J. (20 pages)

- Newspaper Article dated 11/6/58, re Proposed Sale of New Smyrna Beach System.

- One-page Memo dated 10/17/56 - Ben H. Fuqua to A. B. Wright re: Generating Plans at New Smyrna Beach, Starke, Green Cove Springs.

- One-page Memo dated March 24, 1958 - Ben H. Fuqua to A. B. Wright.

- Three-page Memo dated August 19, 1958 from Charles H. Cole to A. B. Wright. Information regarding New Smyrna Beach citizens and civic organizations.

- One-page Memo dated August 19, 1958, from A. B. Wright to R. C. Fullerton. Re: New Smyrna Beach officials.

- One-page Letter dated September 16, 1958, from Robert H. Fite to Milton H. Frank. Re: "Prospects" at New Smyrna Beach.

- Three-page Memo dated September 22, 1958, from A. B. Wright to Robert H. Fite, President. Re: New Smyrna Beach, Florida, Negotiations for Purchase, Emergency Interconnection, and Plan for "Executive Session" with City Commission.

- One-page Letter dated September 30, 1958, from Robert H. Fite to H. E. Butterbrodt. Re: New Smyrna Beach.

- One-page Excerpt from Minutes of "Special Meeting of the City Commission of the City of New Smyrna Beach, Florida, Held Friday, October 3, 1958." Re: Proposal by FP&L to provide emergency power requirements at lower cost provided the City of New Smyrna Beach agreed to postpone purchase of additional generating equipment at that time.

- One-page Memo from A. B. Wright to Mr. Robert H. Fite, President, dated November 7, 1958, re meeting discussed on page 13 of this Exhibit.

- Three-page Memo from A. B. Wright to Mr. Robert H. Fite, President, dated April 20, 1959, describing the electric distribution facilities at New Smyrna Beach advocating purchase of the system by the Company.

- One-page Letter from City Auditor and Clerk of New Smyrna Beach to Florida Power & Light Company notifying the Company of the rejection of the Company's proposal to purchase the system. Dated July 29, 1959.

- One-page Memo from A. B. Wright to Ben H. Fuqua dated July 30, 1959, re the sale of wholesale power on a long term basis by the Company to New Smyrna Beach.

- Newspaper Article Dated July 26, 1967, from Orlando Sentinel re New Smyrna Beach power failure.

Form 12us 51 1/50 Page 452
Mail to: H. B. McDonald
Refer To:
1.
2.
3.
Return to H. B. McDonald

CLIPPING SHEET

City Orlando, Florida
Paper Orlando Sentinel
Date 11/6/53 Page 1 Sect Seminole
Office Mailed From Sanford Volusia edition

Copies For
White - Office Circulation
Blue - Permanent Record
Yellow - Special File

Secret Session Charged

Attorney Reveals He Quit To Fight Utility Plant Sale

By NORMAN WOLFE
Sentinel Staff

NEW SMYRNA BEACH — Former City Atty. Lee Freeman charged yesterday the city commission met secretly with Florida Power and Light officials at Commr. F. L. Edwards' office before the power company appeared publicly at a commission meeting.

Freeman said when the FP&L officials did appear publicly the commission tried to make it appear spontaneous and unplanned.

One of the Commissioners, Fred Brannon Jr., admitted Freeman's charge to be correct but said, "I went to Edwards' office under the impression we were to talk about getting some emergency power for the city this winter. When I got there I found they [FP&L] were trying to buy our plant."

Brannon also charged Mayor Robert Arnau "was supposed to notify the newspapers and didn't."

Lee Freeman

Freeman, in his first public utterance since he quit the city staff weeks ago, declared, "I quit immediately after the secret meeting because I wanted to be free to fight any attempts by these three commissioners [Arnau, Edwards and Tom Tipton, who also favors sale] to ruin or sell our utility system."

The former city attorney added, "It can easily be proven that the system is New Smyrna Beach's finest and most profitable asset. Without a well-operated utility, taxes would almost have to be doubled or the city's services cut to a trickle."

Freeman, who quit his post without giving any reasons, declared yesterday, "No city attorney should attempt to make public policy but as city attorney I sat with the commission and said more than I should have concerning the fantastic and unexplained action of this three-man majority [Arnau, Tipton and Edwards] which fired the city's utility engineers."

He said he termed the action "fantastic" because "these three men knew that under the professional guidance of those engineers our city's electric system had become known over the state as the second most efficient electric generating system of nine Florida cities of comparable size and had become recognized by financial houses as a sound and well-operated system."

Freeman said the only public reasons ever given by Tipton, Edwards and Mayor Arnau was something about "rings being taken from an engine and Commr. Tipton's claim that the charge of the new engineers, Smith & Gillespie, was cheaper."

Freeman said the "rings were removed on the recommendation of the manufacturer of the engine and the actual Smith & Gillespie contract did not bear out Tipton's claim."

Edwards, according to Freeman, made no statement but "when he first took office he stated publicly that Reynolds, Smith & Hills [Jacksonville engineers the three-man bloc fired] were the best in the state."

Freeman declared, "This action was taken by Tipton, Edwards and Mayor Arnau, against the advice and recommendations of the city manager, the superintendent of electric distribution, the superintendent of electric generation and the city attorney."

He said, "They knew full well the action would be costly to the city."

The firing of Reynolds, Smith & Hills admittedly set the city's power renovation program back several months and leaves the city without adequate guarantee of power in the event of a severe winter such as last year.

The commission has been dickering with Florida Power and Light for emergency power this winter and in return has agreed to change the city charter to make it easier to buy.

Brannon and Commr. Julius Harris oppose the consideration of sale or lease of the plant but to date have been overridden by Mayor Arnau and Tipton and Edwards.

Florida Power and Light is now drawing a dollar-a-month offer to submit to the commission.

If the charter is changed, and it will probably [illegible] a public referendum [illegible] then only a simple majority would be required for approval.

As it stands 75 pct. of all freeholders must vote and that number 75 pct. must approve.

HEARING SET ON PROPOSED SMYRNA DEAL

NEW SMYRNA BEACH — A public meeting on the proposed sale of the municipal power plant is scheduled for 7:30 p.m. today at the chamber of commerce auditorium.

It will be handled as a regular meeting of the city commission with the five commissioners seated on stage and Mayor Robert Arnau presiding.

Anybody wishing to speak may do so and it will be the

Miami, Florida
October 17, 1956

Mr. A. B. Wright - Daytona Beach

Ben H. Fuqua

We would like you to determine as accurately as you can the future plans for the expansion of generating capability, indicating which additions will be steam and which will be diesel, in the following municipal electric systems:

New Smyrna Beach
Starke
Green Cove Springs

We need this information in connection with some studies we are making here. I realize there are angles and contingencies in connection with each one of them, but I would appreciate as concise a statement as you can make on them.

Ben H. Fuqua

BHF:mcl

Miami, Florida
March 24, 1958

Mr. A. B. Wright

Ben H. Fuqua

I have received information that under the Revenue Bond Ordinance prepared by Pierce, Carson and Welburn, Inc. of Jacksonville, the City of New Smyrna receives no payment to the General Revenue Fund on the operation of the electric system. Do you know if this is correct? If so, the climate for negotiations should be pretty good.

Ben H. Fuqua

BHF:es

Daytona Beach, Fla.
August 19, 1958

Mr. A. B. Wright, Vice President

Chas. H. Cole

NEW SMYRNA BEACH, FLORIDA

Information you requested yesterday is shown below:

New Smyrna Beach News - weekly. 109 S. Magnolia St., New Smyrna Beach
A John H. Perry chain newspaper. Publisher, Winifred H. Matthews; Editor, Frances H. McGrath. Published Thursdays.

The Pelican - weekly. 107½ Canal St., New Smyrna Beach
Publisher, Phyllis H. Austin; Editor, R. H. Austin
Published Thursdays by the Pelican Press, Inc.

New Smyrna Beach Chapter - American Red Cross
J. J. Quilligan, '58 campaign chairman of this Chapter

We consistently recognize the Smyrna Chapter by donations, our last in amount of $50.

Bank of New Smyrna Beach. 200 Canal St. - John R. DeBerry, president
Mr. DeBerry is credited with the statement, following request for company service by developer in City territory, that, "If New Smyrna isn't equipped and able to furnish such facilities, then other utilities should be permitted to do so."

J. A. Sapp, owner of Sapp's Super Market and outside ranch property, was elected to Board of Directors during January, '58, Stockholders' meeting.

New Smyrna Beach Business and Professional Women's Club
Officers for '58: Evelyn Norman, president; Frances Williams, vice president; and Mrs. James Gentry, secretary.

New Smyrna Beach Board of Realtors
Officers for '58: Margaret Stone Klikna, president; A. A. Taylor, vice president; George Martin Marshall, treasurer, and Harris Wright, secretary.

S. O. Shinholser, Jr., Realtor, previously of Sanford, is now located at New Smyrna Beach, with offices at 410 Flagler St., His father, S. O. Shinholser, was one-time president of Sanford Atlantic National Bank. We enjoy extremely fine relations with Mr. Shinholser, Jr.

New Smyrna Beach Chamber of Commerce

1953 officers: Rufus X. Thomas, owner-manager of Thomas Pharmacy, president; Charles E. Jarrard, motor-court owner, first vice president; Attorney David L. Shannon, second vice president; Vivian Oyler, fish-camp operator, secretary-treasurer.

Attorney Shannon is registered Republican, with rather good acceptance in the "City."

Developer and builder, J. C. Avery, of Ellison Homes, Inc., 303 Crawford Road, New Smyrna Florida Power & Light Company will supply service to Mr. Avery's new development west of the Golf Course, immediately adjacent New Smyrna Beach city limits. This territory, you will recall, was released by the City of New Smyrna Beach at the request of Ellison Homes, Inc. Mr. Ellison of that organization, now deceased, and operations are continued by Mr. Avery.

Attorney Robery H. Matthews, 1402 Live Oak, New Smyrna Beach, represents Ellison Homes, Inc. At request of Mr. Matthews we abandoned and released easement rights over lands now held by Ellison Homes, Inc. I found Mr. Matthews very friendly and fair-minded in our business discussions regarding this release. He also informed me at the time that possibly the company would have an opportunity to render service to this development, that's since proven out.

Smyrna Beach Saddle Club. Eugene E. O'Reilly is president of this Club. Clyde E. Hart is advertising chairman of committee, including J. H. Sapp, Herbert Cowart and Matt Kelly. This Club own property in Mission City.

We have consistently backed up their operation by program advertising since 1952, to my knowledge.

We've also assisted in other enterprises in connection with their activities, that have been very well received.

Coronado Civic Association

'53 officers: Ernest W. Cobb, president; William J. Cozens, vice president; Mrs. Eva Palm, treasurer; and Charles Jarrard, secretary.

Annual meeting was addressed by Senator E. William Gautier.

Enchance Club of New Smyrna Beach

'53 officers: Thomas E. McClelland, president; George Marshall, vice president; Chester V. Robertson, secretary; and William Creon, treasurer.

I. R. Hamilton, superintendent, Florida East Coast Railway Company
We both know Mr. Hamilton. He's been closely associated with Kiwanis Club at New Smyrna Beach. We've likewise furnished rate information to him in connection with Bill Toomer's survey. I'm sure he's very friendly towards this company.

New Smyrna Beach Kiwanis Club
'58 officers: Norman Wolfe, president; Dr. Nicholas Esternay, vice president; William M. Gillespie, secretary-treasurer; B. B. Littleton, Ray Thomas, George Dallas, Harold McKee, K. C. Baldwin, William L. Wright and David L. Shannon, whom we've mentioned before.

Attorney George I. Fullerton, Oak Hill.
He's also president New Smyrna Abstract Co., Inc., 124 Canal Street; likewise, president of East Coast Highways Association.

Mr. Fullerton was selected by Road Department for right-of-way procurement in connection with 4-laneing in that vicinity, and accomplished a very excellent job.

E. Dalton White, White Sand & Materials, 523 Smith St., New Smyrna Beach
We both know Mr. White. Mr. Fite is likewise well acquainted with him from his New York days and White's previous editorship.

The Pelican noted June 12, that a study of zoning along new U.S.#1 and Canal St., west of railroad, was authorized by the City, with Emery & Brennan, planning and zoning consultants of Ft. Lauderdale. George Emery of Emery & Brennan, you recall, having been associated having been associated with him before.

New Smyrna Beach American Legion, Post No. 17
Lee Burdette, commander; Roger H. Clancy, second vice commander; Marcus Chambers, sergeant-at-arms; Rev. John E. Pickens, Jr., chaplain; and George Miller, adjutant

Smyrna Yacht Club.
John E. Braunagel, commodore; C. R. Keesey, vice commodore; and John C. Deal, rear commodore.

FORM 1000 REV. 42 10M 3-48

FLORIDA POWER & LIGHT COMPANY

INTER-OFFICE CORRESPONDENCE

PL-80

LOCATION Daytona Beach, Florida
DATE August 19, 1958

COPIES TO

TO Mr R C Fullerton, Vice President

FROM A B Wright

SUBJECT: New Smyrna Beach, Florida

In response to your letter of August 11, the city officials of New Smyrna Beach are as follows:

Robt. L. Arnau, Mayor-Commissioner, Zone 2 (General Contractor)
Thos. E. Tipton, Zone 1 (employed by FEC Rwy.)
Julian B Harris, Zone 3 (owner of San Marino Cottages, Beach side)
F L Edwards, Zone 4, (member of contracting firm, Watson & Edwards)
Fred R Brannon, Zone 5 (Attorney)
Walter T Slattery, City Manager
Edwin E Hughes, City Clerk
~~R Lee Freeman, City Attorney~~ James V. Gillespie
David L Shannon, Municipal Judge
Abbe Partin, Fire Chief
E H Wessler, Chief of Police

I am attaching copy of memorandum dated August 19 from Mr Chas H Cole to the writer giving additional information which you requested.

Others who have been active in the community and civic affairs are: Mr Eric Watson, senior member of the contracting firm of Watson & Edwards, Mrs. Hannah D Bonnet, formerly a member of the City Commission and who was appointed by the present Commission to the new office of Public Relations Representative and Goodwill Ambassador and the following members of the City Advisory Board: Mrs. Eleanor Bender, Wm. L. Wright, I E Hamilton, M E Weimer, Robert Hershberger, Harold Brown, W W Gunn, Harry F Holton, Jas. B. Felmet and J E Presley.

Also, residents of New Smyrna are: Senator E. Wm. Gautier and Harris Saxon, Chairman of the County Commission of Volusia County.

I believe that this will give you a starting point and I will be glad to discuss this further with you while I am in Miami this week.

ABW/ALK
Attachment

1 - Mr. McGregor Smith

2 - Doc Files

PL-78

September 16, 1958

Mr. Milton H. Frank, Vice President
Franklin Van Sant and Associates
152 E. Gilman Street
Madison 1, Wisconsin

Dear Mr. Frank:

I certainly appreciated the information about New Smyrna Beach. We have been working up there for some little time now and it seems to be about one of the best "prospects" that we have had.

From the way it looks now, a possible referendum could not be expected before spring or perhaps later in the year but we are certainly going to make every effort to acquire the property. I know we can do a better job for them than the city and at lower rates.

We would like very much to get acquainted with your friend at New Smyrna. I am certain he will have a lot of good ideas and we would like to get his suggestions. It sure would be appreciated if you would send me his name and address.

Thanks again for your interest and if you can get off and spend a little time with us we will enlist you in the campaign too.

Very best wishes to you.

Sincerely yours,

Robert H. Fite
President & General Manager

RHF:bh

Dcc: Mr. Alan B. Wright (With copy of Mr. Frank's letter)

Daytona Beach
September 22, 1933

Mr Robert H Fite, President

A B Wright

NEW SMYRNA BEACH, FLORIDA

As reported verbally, I met with the New Smyrna Beach City Commission at a regular meeting on August 28 and at that meeting told the city officials that our Company desired to work with them towards leasing the City's electric plant and distribution system.

Present at this meeting were the following city officials: Robert L Arnau, Mayor-Commissioner, Zone 2; Thomas E Tipton, Zone 1; F L Edwards, Zone 4; Fred R Brannon, Zone 5. Commissioner Julian B Harris, zone 3, was absent.

By three to one vote the Commission agreed to request a proposal from our Company. Commissioners Arnau, Tipton and Edwards voted for and Commissioner Brannon against requesting a proposal.

Other city officials present at this meeting were: Mr R Lee Freeman, City Attorney, who subsequently resigned and has been replaced by Mr J U Gillespie, and Walter T Slattery, City Manager.

I would suggest the following procedure in our negotiations with the City:

1 - Contact each Commissioner and City Manager individually and explain to them our reasons for withholding a formal proposal at this time. In view of the restrictions in the City Charter concerning lease or sale of the City's electric property, it would be prohibitive to attempt to take any action until the Charter was changed. I had discussed this with the Commission prior to the regular meeting and I believe that they all realize that nothing could be accomplished under the present City Charter provisions. Since the meeting I have talked with Commissioner Tipton and expect to complete my individual contacts during this week.

2 - Endeavor to obtain the Commission's approval of:

(a) postponing purchase of any additional generating equipment at this time

(b) agreeing to request a charter change at the next Legislature which would permit a realistic approach of the leasing or sale of the City's electric property. The Commission could, by majority vote, pass a resolution to amend the Charter. There is no doubt any proposed charter change would ask for a referendum and this referendum should be decided by a simple majority vote of free holders or of those voting.

3 - If 2 above is agreeable to the Commission, we would agree to install a substation of 1000-1500 KVA capacity, 13.2/4 KV, possibly in the Mission City area. From this substation we could pick up the Samsula feeder, and also possibly the City water pumping (wells) and even perhaps Edgewater. Connection charge, up and down cost with credit for salvage, should approximate $5000.00 and would be refundable if final negotiations for lease are consumated.

4 - At the proper time, say after the first of the year, we should obtain a meeting of the Commissioners in the nature of an "executive session" for really negotiating a proposal for leasing or purchase of their electric property. This also would be subject to the majority of free holders or of those voting. The requirements of both referendums, in all probability, would have to be spelled out in the necessary charter change and I certainly would endeavor to keep this on a simple majority basis.

As pointed out by Attorney E W Gautier, we can certainly use the next few months for education purposes and maintain the "good neighbor" policy that we have been following during the past several years.

I would like to discuss this further with you, if possible, Thursday of this week when I am in Miami.

ABW-fc

RHF
9-25-58

NEW SMYRNA BEACH MUNICIPAL ELECTRIC SYSTEM

1. Get certified copy of resolution of Commission requesting Florida Power & Light Company to survey the electric property, looking toward possible purchase or lease.

2. Work out plans with the City Commission to proceed along the following lines:

   (a) Florida Power & Light to furnish, at regular charges, firm power this winter as needed by New Smyrna Beach. Commission to agree verbally not to order any additional generating equipment in the meantime, and to initiate and put through legislation changing the Charter in such a way as to enable the City to dispose of its electric property by sale or lease upon a majority vote of the freeholders participating in an election held for that purpose.

   (b) Get Commission to negotiate in executive meetings next spring, probably March, for lease of the system and get an agreement that if a mutually acceptable plan can be arrived at, it will be put into writing and passed as an ordinance by the City immediately after agreement is reached and submitted to a vote of the people.

September 30, 1958

Mr. Herbert E. Butterbrodt
106 Granada Street
New Smyrna Beach, Florida

Dear Mr. Butterbrodt:

Mr. Frank in Madison, Wisconsin has, as you know, been interested in the electric service situation at New Smyrna Beach and wrote to me about your possible interest in it.

Mr. Alan B. Wright, Vice President of Florida Power & Light Company, who is in charge of our operations in the northern end of the State and who has headquarters at Daytona Beach, has had some preliminary negotiations with the people of New Smyrna looking towards possible purchase or lease of the electric system. I know he would like to discuss the matter with you and will, I am sure, call on you in the near future. I hope to do the same the next time I am in that part of the State.

I would be very glad to hear from you and to meet you if you happen to be in Miami before I have an opportunity to get up there. If you do visit Miami, please let me know. The telephone number is FR 4-5333 and my office is at 1012 Ingraham Building.

Very best wishes.

Sincerely yours,

Robert H. Fito
President & General Manager

RHF:bh
CC: Mr. Milton H. Frank
Mr. Alan B. Wright

FORM 1003 PAGE 43 10M 3-48

PL-73

FLORIDA POWER & LIGHT COMPANY

INTER-OFFICE CORRESPONDENCE

PERSONAL

LOCATION Daytona Beach, Florida

DATE November 7, 1958

COPIES TO

TO Mr Robert H Fite, President

FROM A B Wright

SUBJECT: CITY OF NEW SMYRNA BEACH

I am attaching a certified copy of excerpts from minutes of the Special City Commission meeting held in New Smyrna Beach, Friday, October 3, 1958.

The excerpts include action taken on the "proposal" which we submitted at this meeting.

The aftermath of our meeting resulted in a very vigorous participation by the Municipal Ownership League, culminating in an open meeting in the Chamber of Commerce auditorium at New Smyrna Beach last night. I have given Mr Fuqua a rather complete report of this meeting which was highlighted by a tirade against our Company delivered by Mr Phillip A Lobsinger from Lake Worth. I do not think, however, that Lobsinger's remarks made much impression on the Commission majority.

I have had an opportunity to talk with Mr Herbert E. Butterbrodt and he also attended the meeting last evening. He appears anxious to help when we feel that the time is opportune.

ABW/ALK
Attachment

CERTIFIED COPY OF EXCERPTS FROM MINUTES IN DOC. FILE "NEW SMYRNA BEACH, CITY OF - GENERAL"

CONFORMED COPY ATTACHED

FLORIDA POWER & LIGHT COMPANY
INTER-OFFICE CORRESPONDENCE

PL-72

LOCATION Daytona Beach, Florida
DATE April 20, 1959

COPIES TO Mr Ben H Fuqua

TO Mr Robert H Fite, President

FROM A B Wright

SUBJECT: CITY OF NEW SMYRNA BEACH

In order to give you a more complete picture of the electric distribution facilities at New Smyrna Beach we have complied certain information not previously submitted and have also taken today a set of snapshots depicting various types of construction, rural and urban, which are enclosed. The pictures indicate that some of the City's distribution is in very good shape while some of it particularly on rural laterals, needs maintenance.

The distribution system originally was operated at 2.3 Kv but in recent years has been converted to 4 Kv. The conversion has been done in stages over several years but the most recent, at which time the "backbone" feeders were "beefed" up, was carried out between Feb. 6, 1956 and August 1, 1956. This work was done by Southeastern and represents construction certainly approaching our specifications. This type of construction amounts to about 20% of the City's system. Sixty per cent is typical of our construction just prior to performing a conversion job. You might say this is "midway"; it will operate quite satisfactorily but . . . should be improved from year to year under planned system improvement program. The remaining 20%, in order to provide good service, should be worked over immediately.

Overall, the distribution system will compare very favorably with other municipal systems in the State and is about comparable to our own facilities in Holly Hill before we converted to 13 KV.

It is estimated that this system is spread out over an area of some 25 square miles with approximately 140 pole line miles having an average density of about 35 customers per mile. Southern Bell Tel. & Tel. Company is attached to 2,279 New Smyrna Beach poles; New Smyrna Beach is attached to 511 owned by Southern Bell.

FLORIDA POWER & LIGHT COMPANY

INTER-OFFICE CORRESPONDENCE

LOCATION

DATE

COPIES TO

TO

FROM

SUBJECT: New Smyrna Beach - Page #2

In regard to the value of this system it is difficult to set up a depreciation factor which would apply to all parts of the system. For instance, the present value of the new subdivision areas represent a large part of the value of system. Since 1952 the number of meters has increased from 3500 to 5674 at the end of '58 representing an increase of 63%. It is therefore logical to assume that depreciation on these items would not be at the same rate as items on older lines.

Taking the above into consideration the following represents the present day value of the system which is based on today's reproduction cost and applying proper depreciation to each individual account.

Acct. 354,	Poles & Fixtures	$129,800
" 355,	Overhead Conductors, etc.	137,500
" 356	U. G. Conduit	500
" 357	U. G. Conductor	6,700
" 358	Transformers & Devices	135,000
" 359	Services, Etc.	92,900
" 360	Meters & Sockets	80,000
" 363	Street Lighting	90,000
	Sub Total	$ 672,400
	Materials in Storeroom	45,897
	Total	$ 718,297

Referring to the estimates submitted March 5th to Mr Fuqua covering our cost to serve New Smyrna Beach and to provide some immediate system improvement work, as pointed out by you, the total should have been $400,000 instead of $410,000. In checking the work sheets I find that the distribution substation, 5000 Kva 13/4 Kv, was changed from $40,000 to $30,000 but the total addition was not changed.

FLORIDA POWER & LIGHT COMPANY

INTER-OFFICE CORRESPONDENCE

LOCATION

DATE

COPIES TO

TO

FROM

SUBJECT: New Smyrna Beach - Page #3

The figure of $80,000 included in this estimate for system improvement is made up of $50,000 for completing 13 Kv express feeder to the Beach and certain conversion to 13 Kv on the Beach side and $30,000 for immediately required system improvement work on the mainland, which also includes conversion of the Samsula line to 13 Kv.

In conclusion I would like to say again that in my opinion the acquisition of New Smyrna Beach certainly provides some distinct advantages other than just taking over a municipally owned property. The population is now approximately 11,000 which is very closely associated with our Daytona Beach District. When the Ponce de Leon Inlet is bridged as practically everyone in this area seems to think will be the case in a matter of a few years, New Smyrna Beach will simply become a continuation of Daytona Beach. The enclosed map shows the vast potential of water-front development which is really just beginning to get under way. Bouchelle Island at the South Causeway is now being developed and a larger development known as Venezia Fingers is now being developed at the North Causeway on a rather large scale. In addition, new developments are springing up along State Road 40 close to Mission City and you will recall that the beach side has hardly been touched. Two new industrial parks are now being developed in the Edgewater area east and west of the F.E.C. Railway with several small industries already located. The larger development is owned by a Dr. Thomas Jones and Associates from Miami and I understand is well financed. Located also at the south end of Edgewater is a large residential development known as Florida Shores. This is building up very rapidly and promises to be one of the best known along the upper east coast.

Part of Mr McCravy's tabulation of January 30, 1959 showing electric revenue, KWH Sales and Customers for New Smyrna Beach 12 months ending November, 1958 indicated annual residential KWH sales of 13,049,000. on of 4780 residential customers resulting in an average of

PL-70

CITY OF NEW SMYRNA BEACH

Volusia County, Florida
Post Office Box [illegible]

July [illegible], 193[illegible]

Florida Power & Light Co.
Daytona Beach, Florida

Attention: Mr Alan R. Wright
Vice President

Gentlemen:

At the regular meeting of the City Commission held on July 27, 1939, the Commissioners requested me to advise you that the offer that you presented to them at their meeting of April 27, 1939, covering a proposal to purchase the light plant has been rejected.

The Commissioners have also asked me to inquire of you whether Florida Power & Light Co. would be interested in wholesaling power to them on a long time basis. We would appreciate an early reply to this inquiry.

Nothing in this letter should be construed as [illegible] giving [illegible] power [illegible] this [illegible].

Respectfully yours,

[illegible]
[illegible]
City Auditor and Clerk

FORM 4008 PAGE 42 2-48 P.O. 47981

FLORIDA POWER & LIGHT COMPANY
INTER-OFFICE CORRESPONDENCE

LOCATION Daytona Beach, Florida PL-69
DATE July 30, 1959

COPIES TO

TO Mr Ben H Fuqua, Vice President

FROM A B Wright

SUBJECT: CITY OF NEW SMYRNA BEACH

I am attaching copy of letter dated July 29, 1959 that I have received from Mr F H Lee, City Auditor and Clerk of the City of New Smyrna Beach, wherein the City formally rejects our proposal presented at the Commission meeting of April 27, 1959.

In regard to the City's inquiry as to whether we would be interested in selling wholesale power on a long term basis, I have prepared the attached suggested reply.

Your comments will be appreciated.

ABW/ALK
Attachment

PL-327

CLIPPING SHEET

Mail to M. D. McDonald	
Refer to:	
1. Mr. C.C. Fulleho	
2. Miami	
3.	
Return to M. D. McDonald	

City: Daytona Beach
Paper: Orlando Sentinel
Date: July 26, 1967 Page ____ Sect. ____
Office Mailed From: [illegible handwriting]

COPIES	FOR
White	Office Circulation
Blue	Permanent Record
Yellow	Special File

Orlando Sentinel
FLORIDA
Wed., July 26, 1967 1—B

New Smyrna Beach Has Power Failure

NEW SMYRNA BEACH — This city had its own version of the great Northeast power failure Tuesday when a bearing gave out at the steam plant at 4:45 p.m.

Utilities Director John V. Little said Tuesday night that electrical service was restored via the auxiliary diesel plant.

He said a replacement part was being sought and may be air-freighted from Baltimore as early as Wednesday.

We may be called on for some help if the "part" is not forthcoming shortly.

[signature]
7/26/67

7/27 - We picked up 1100 kw at 6:01 yesterday evening - still carrying load and looks like may be for some time.
RAS

EXHIBIT G

- Three-Page Letter Dated February 19, 1965, to the City Commission, New Smyrna Beach, from A. B. Wright of Florida Power & Light re: Proposal for sale or lease of the New Smyrna Beach system to the Company.

- Newspaper from Daytona Beach Morning Journal, June 15, 1965, reporting on support of New Smyrna Beach Commissioners by businessmen in their rejection of proposals to purchase the City's electric system.

- Newspaper Article from New Smyrna Beach News, June 10, 1965, re City's contracts to purchase diesel units and switchgear for City's electric system.

- Newspaper Article from New Smyrna Beach News, June 10, 1965, re friction among City Commissioners re sale or lease of New Smyrna Beach electric system.

- Article from Daytona Beach Evening News, June 8, 1965, re meeting of City Commissioners, New Smyrna Beach, to continue discussions on proposed sale or lease of electric system.

- Informal memo re Emergency Procedure for obtaining power from FP&L by New Smyrna Beach. (No date)

FLORIDA POWER & LIGHT COMPANY

Daytona Beach
February 19, 1965

City Commission
City of New Smyrna Beach
New Smyrna Beach, Florida

Dear Commissioners:

This refers to our recent discussion in connection with your power problems and the manner in which these problems might be solved. We feel confident that our Company can adequately serve the present and future requirements of the City of New Smyrna Beach with the type of service which would definitely promote the growth of your City, and towards that end we suggest that some form of lease or sale agreement be developed which would permit our Company to operate the City's electric plant and distribution system.

It is realized that at this time, it is impossible to submit definite figures, and also that any agreement would be subject to approval of the qualified electors of New Smyrna Beach and the Board of Directors of the Florida Power & Light Company, but in an endeavor of at least establishing the framework, in our opinion, this agreement should cover the following salient factors:

1 - If a lease, it should be for a period of 30 years which would coincide with the term of a standard electric franchise to be granted by the City to the Company, and should become effective September 1, 1965, or earlier, if possible.

2 - A lease, upon its effective date, should provide that the Company immediately proceed to install necessary transmission, substation and other facilities to tie in with the City's distribution system. Likewise, it should provide for necessary improvements to the system and thereafter for expansion of it in order to serve all customers and operate existing facilities as they exist now.

3 - Any sale or lease should provide the City with appropriate financial remuneration.

4 - An agreement should provide for the application of Florida Power & Light Company Rate Schedules, as filed with Florida Public

Utilities Commission, which are now or later effective throughout the Company's system. It is now estimated that application of these rates would result in an annual savings to the electric customers of New Smyrna Beach in excess of $160,000.

5 - A lease should provide at the end of its term that the City would have the option to acquire the property at depreciated value which the Company has installed during the term of the lease except for the substation and transmission system tie. Also, if the City did not exercise this option, then the Company would have the right to acquire the City's electric property at depreciated value.

Other matters of interest and advantages to the people of New Smyrna Beach are as follows:

Under Florida Power & Light Company policy there are noncontribution charges and we have no plans for instituting such charges. Normal extensions are made without charge to the customer.

Florida Power & Light Company would establish a district office in New Smyrna Beach suitably housed and well staffed, which would be an asset to the City. Trouble calls would be covered on a 24 hour basis.

All present Electric Department employees would be taken over by Florida Power & Light Company at salaries and wages equal to or above those the re-negotiation now scheduled by those employees and all regular Company benefits including pension plan, group life insurance, hospitalization insurance, paid vacation, sick leave, etc., would be made available to them.

FLORIDA POWER & LIGHT COMPANY

Daytona Beach
February 12, 1965

Page 3
City Commission
City of New Smyrna Beach

Florida Power & Light Company as a Company and through its employees will contribute to the support of all community activities, Chamber of Commerce, Merchant's Bureau, and other activities relating to civic and community progress and will lend its full support toward attracting industry to the area.

The City has already initiated the necessary procedure to provide certain charter changes with respect to granting 30-year electric franchises and also to permit the sale or lease of utility facilities, when approved by a simple majority of freeholders or qualified electors. We will continue our negotiations to attempt to reach a mutually satisfactory agreement, and in the meantime we are immediately taking an emergency connection to the City's distribution facilities on a temporary basis to supply the power requirements you have requested.

Yours very truly,

A B Wright
Vice President

ABW:ls

cc

In Volusia

Businessmen Back City Commission

Daytona Beach Morning Journal
Jan 15, 1965

From Our Southeast Volusia Bureau

NEW SMYRNA BEACH—Concern over the manner in which a minority group has packed and heckled recent City Commission meetings brought business and professional men out in full force at last night's meeting.

"We don't come to criticize or condemn," said John DeBerry, bank president and spokesman for the business men who comprised a good portion of the standing room only audience.

"We just thought it might be refreshing to endorse and commend many things you've done and things you propose to do for the city.

An Endorsement

"The fact that you don't see us at meetings is an endorsement of your actions in an acquiescent manner. We want you to know you have a vast majority of the township behind you without any reservation whatsoever."

DeBerry recalled a time two years ago when the Volusia County Citizens Council tried to block the program to finance a sewer system for the city. At that time, business and professional men and women and responsible private citizens in the community expressed their appreciation of the work the Commission was trying to do and called on the Citizens Council to stop trying to obstruct progress.

Mayor W. S. Hathaway, subject of much of the recent heckling, thanked DeBerry and said sometimes his job was a lonely one.

The Protestors

The Citizens Council has protested, along with City Commissioner Jack Golden, a charter member, Commission action in accepting the recommendations of Ernst and Ernst to continue municipal operation of the electric utility rather than sell it to a private company.

Commissioner Hannah Bonnet has voted with Golden in his attempt to obstruct continued city operation of the utility and to obstruct the extension of the city's sewer program.

An ordinance designed to prevent future heckling and disruption of Commission meetings was passed on a 3-2 vote although the Mayor and two other Commissioners agreed the ordinance wasn't necessary.

The ordinance was the result of the Mayor's request that a section of the city code be rescinded.

New Smyrna Beach News June 10, 1965

City of NSB Awards GM Contracts

Utilities Commission To Be Named

By L. E. Smith

Contracts for three diesel units and switch gear to cost $550,000 were awarded to General Motors Tuesday as the City Commission majority trio, Edythe Hester, Mayor W. S. Hathaway and Carlyle Harvey, voted to keep the City in the power business.

At the same session, recessed from Monday night, City Attorney R. H. Matthews was instructed to draw up necessary papers to allow appointment of a utilities commission. Mayor Hathaway said that the utilities commission, when appointed, would take over all decisions regarding the electric system, including the decision to continue negotiations with the Florida Power & Light Co. for sale or lease of the system.

Earliest delivery date for the diesel units, with a total of 6,000 KW capacity would be November, according to a representative of General Motors present. The bid for the equipment was submitted Jan. 7 originally, with a 30-day time limit.

At Mondy night's meeting, Carl White of Ernst & Ernst and Robert E. Bathen, executive engineer from R. W. Beck Associates, made a two-hour summary of their findings in the appraisal of the City operation of the electric system as against private operation.

Ten-year projections, divided into three parts, were outlined. Without the Edgewater accounts, or minus Edgewater and Samsula territories, the audi-

—See CITY on Page 3

City

(Continued from Page One).

tors and engineers decided that the electric plants would still contribute about 10% of the cost of operating the City. This contribuion would be after debt service on $3.8 to $5.3 million dollars worth of bonds issued during the period 1966-70, and $2.2 to $5.5 million dollars worth issued 1970-75.

The varying figures came about mainly because of uncertainty of retaining the Edgewater accounts. Auditor White pointed out that City of Edgewaer is scheduled to receive a 10% rebate, or $18,600, in this fiscal year, as compared to the six percent returned under the standard Florida Power & Light franchise.

Bathen stated that R. W. Beck recommends the installation of a 6,000 KW gas turbine generator in the second year of their capital investment program. Located next to the present steam plant, heat from the gas turbine would be transferred to the steam plant's boiler. An overall saving fuel costs of $44,000 is estimated for the first year of combined operation, increasing thereafter.

A. B. Wright, vice president of Florida Power & Light Co., was present at Monday night's meeting, and stated that his firm had not made a firm proposal on lease or purchase of the City electric system, but that such a proposal could be made within 30 days. Mayor Hathaway made a formal request that this be done.

Efforts of Commissioners Hannah Bonnet and Jack Golden to call an election immediately for a freeholders' vote on sale or lease of the electric system were unsuccessful; as they were repeatedly voted down by a 3-2 margin. On the question of the utilities commission, however, the vote was 3-1, with Mrs. Bonnet abstaining.

Daytona Beach Morning Journal, January 10, 1965

11-A

Charges Exchanged At City Meet

Hathaway and Golden "Have Words" Monday

By L. E. Smith

City Commissioner Jack Golden and Mayor W. S. Hathaway exchanged charges of City charter and ordinance violations following the report on utilities from Ernst & Ernst at the special City Commission meeting Monday night.

Refuting charges by Golden of improper payment of City bills, failure to follow charter provisions in conduct of meetings, and failure to file itemized expense accounts, Hathaway quoted from the City charter and ordinances and from minutes of commission meetings to justify commission actions in these areas.

Volusia County Citizens Council members packed the meeting room and at times drowned out the Mayor's efforts to speak in his defense with cries of "Get out!", "Resign!", "Boo!". Commissioner Hannah D. Bonnet finally picked up the gavel and pounded it on the table to restore order.

At the conclusion of the exchange, Hathaway said he would like an investigation to determine if VCCC was a non-political body, as it claims to be, and to determine the legal residence of Golden. Golden recently purchased a motel and is operating it and a real estate business at 1299 N. Dixie Freeway, in the Mayor's zone.

DAYTONA BEACH EVENING NEWS
June 8, 1965

Smyrna To Meet Again On Utility

From Our Southeast Volusia Bureau

NEW SMYRNA BEACH—City Commissioners were to meet in an adjourned session at 4 this afternoon at City Hall to discuss accounting and engineering reports on the city's electric utility.

The reports were read at last night's City Commission meeting by Ernst and Ernst, Cleveland accountants, and that firm's consultants, R. W. Beck and Associates, engineers. Ernst and Ernst was retained by the city to do a complete study of the two electric power plants and distribution lines.

The reports as presented were a comparative study to determine whether the city should sell or keep and enlarge the electric utility. They were based on a tentative proposal from the Florida Power and Light Co. for a 30 year franchise based on the usual six percent franchise offered in other cities.

The recommendation was that the city should continue to operate its own plants.

A. B. Wright, FPL representative, said last night his firm never had submitted a "true proposal" but would be in a position to submit one within 30 days.

Mayor W. S. Hathaway said the city still was "very interested" in receiving a definite proposal from FEC.

Hanging fire for today's meeting are bids for additional peaking units needed immediately at the diesel electric plant. The bids were opened in February but were held open at the request of the Commission, pending a decision on Ernst and Ernst's reports. A representative of the bidding firm indicated last night the bids wouldn't be held open after today.

N O T I C E

Should it become necessary for us to purchase power from F.P.&L in an emergency, the following procedure is necessary:

(1). Contact the Steam Plant - notify the engineer on duty that you are about to close in on FP&L for emergency power. Ask him to open the OCB & disconnect switches on line #2 (sub-station feeder line). Be sure you receive verification when this is done and by whom.

(2). Open OCB switches (Manually) at Sub Station #1 and #4.

(3). Contact the dispatcher of FP&L in Daytona Beach (Tel. No. CL2-1543 or CL5-3717) and inform him that you would like permission to close OH disconnect switches #16101 Located on Hgwy #44 at the STEP-UP Station to pick up NSB load of sub-stations #1 (Columbia St.) and #4 (Hgwy 44).

(4). After permission has been granted, close disconnect switches #16101 located at curb in front of Step-up station.

(5). Close OCB switches at Sub Stations #1 and #4.

Should we need more relief by feeding sub stations #2 and #3 the following procedure becomes necessary:

(1). Contact the Diesel Plant and notify the engineer on duty that you are about to close in on FP&L for emergency power to pick up load of sub-stn. #2 and #3. Ask him to open the OCB on line #3 and the disconnect switches on line #3 (feeding sub-stns. #2 & 3). Be sure you receive verification [illegible] and by whom.

[illegible] manually.

EXHIBIT H

- Two 2-page Letters from Alan Wright to Mr. James J. Berry , Vice President, Smith & Gillespie re proposed parallel connection of New Smyrna Beach and FP&L. One dated November 2, 1970; one dated November 11, 1970.

FLORIDA POWER & LIGHT COMPANY

Daytona Beach
November 11, 1970

Mr James J Berry, Vice President
Smith and Gillespie Engineers, Inc
P O Box 1048
Jacksonville, Florida 32201

Subject: New Smyrna Beach/Florida Power & Light Company
Your File No. 6913-2

Dear Mr Berry:

In response to your letter of November 6 which raised several questions relating to our letter of November 2, 1970, we submit the following:

1 - The annual rental specified is based on 18% of the estimated total cost of the line, changes and additions in our Edgewater Substation and the installation of a 10,000 kva, 13.2/23 kv autotransformer. The estimated total cost is $112,200. 18% of this figure would result in the annual rental figure of approximately $20,000.

2 - There would be no annual rental if a lump sum payment of up and down charges were made.

3 - The estimated amount of such up and down charges is $103,750. This represents the estimated installation and removal cost with credit for salvage. It is realized that this estimate may appear high but in most instances the removal labor will amount to approximately the same as the installation labor. Also, since it is proposed to construct the tie line using aluminum conductors, there would be very little salvage.

4 - If the Utility Commission of the City of New Smyrna Beach furnished the autotransformer to be installed and operated by our Company in the Edgewater Substation, this would reduce the total estimated cost shown in (1) above by $21,000. This total cost would accordingly become $112,200 - $21,000 or $91,200. The annual rental would then become 18% x $91,200 = $16,416.

Although we still do not consider it practical to operate both systems parallel under existing conditions we realize that at some future date changes may be made which

FLORIDA POWER & LIGHT COMPANY

would result in making a synchronized operation feasible. At this time however, it seems best to proceed on the unsynchronized basis.

We will be glad to participate in a discussion with representatives of the Utility Commission at an early date - within the next week or 10 days and will confirm this with you by telephone.

Yours very truly,

Alan B Wright
Vice President

ABW-fc

Orig: RCW
cc: JJB
SPJ
CBH

FLORIDA POWER & LIGHT COMPANY

Daytona Beach
November 2, 1970

Mr James J Berry, Vice President
Smith and Gillespie Engineers, Inc
P O Box 1048
Jacksonville, Florida 32201

Subject: New Smyrna Beach/Florida Power & Light Company
Your File No. 6913-2

Dear Mr Berry:

This will acknowledge your letter of October 23, 1970, and our several discussions in regard to the proposed interconnection between the electric system of the City of New Smyrna Beach and that of the Florida Power & Light Company. In this regard and as an expression of our understanding of these discussions, we submit the following:

We are agreeable to continue to sell power to the City to the extent of the capability which presently exists in the Edgewater Substation, which power will be made available to the maximum extent consistent with the satisfactory operation of our Company's system. This should not be interpreted in any manner as firm power but rather, as stated, on the basis of availability.

At the present time, in accordance with the capability of the Edgewater Substation, we could furnish approximately 10,000 kva over a tie line proposed for construction between our Edgewater Substation and the Smith Street Power Plant of the City of New Smyrna Beach. This would require a new feeder position and other additions in our Edgewater Substation and also the installation of a 10,000 kva, 13.2/23 kv autotransformer.

Our Company would be agreeable to construct that portion of the 23 kv tie line from the Edgewater Substation to the north city limits of Edgewater, furnish the necessary terminal facilities and additions in the Edgewater Substation and provide and install the 10,000 kva autotransformer - all on an annual rental basis which rent could be paid monthly. It is estimated that the annual rent would amount to approximately $20,000; however, this would be determined by the actual cost of the installation.

The proposed route of the tie line which you indicated certainly seems a logical one and we concur that the connection should

be made at the city limits of the City of New Smyrna Beach and City of Edgewater. We are still of the opinion that it would not be practical to operate both systems in parallel.

In regard to setting up a target date for completing and placing in service this tie line, it appears that delivery of the auto-transformer would determine the "in service" date. Recent quotations have indicated delivery of this type of transformer in approximately 30/35 weeks. We would certainly endeavor to improve this.

Yours very truly,

Alan B Wright
Vice President

ABW-fc

EXHIBIT I.

Correspondence between FP&L and New Smyrna Beach re lease or purchase of New Smyrna Beach electric system by Company (5 Pages)

- From Marshall McDonald, President, FP&L, to Mr. S. Victor McDonald, City Commissioner New Smyrna Beach - October 8, 1973.

- From R. W. Buck, City Manager New Smyrna Beach, to Mr. Robert L. Pringle, Jr., FP&L 5/31/73

- From R. W. Buck, Memo to Utilities Director June 19, 1973

- From R. G. Mulholland, FP&L, to R. W. Buck June 15, 1973

October 8, 1973

Mr. S. Victor McDonald
City Commissioner
City of New Smyrna Beach
Post Office Box 490
New Smyrna Beach, Florida 32069

Dear Mr. McDonald:

Thank you for your informative letter of October 2, in which you state that the views expressed by you are the official and unanimous views of the City Commission with reference to pursuing the matter of a lease or purchase of the New Smyrna Beach Electrical System by Florida Power & Light Company.

It appears that we have reached the stage where negotiations should be started, and I have directed and authorized Mr. Robert L. Pringle Jr., to represent Florida Power & Light Company in such discussions.

It will be helpful, however, if we could have a copy of the resolution or other expression of authorization by the City Commission, so that the meeting will be between parties who have the power and authority to speak for the entity represented.

Since we do not wish to delay, Mr. Pringle will be talking with you by telephone to try to arrange a convenient time and place for the first meeting. We would appreciate your sending us a copy of whatever document represents the official action by the City Commission authorizing the exploratory negotiations.

I assume you are aware that the law firm of Spiegel & McDairmid has been corresponding with the Company concerning an interconnection, but we are assuming that the official attitude of the City is to explore the sale or lease approach. If I do not correctly understand the situation, please let me know.

Sincerely yours,

Marshall McDonald

Marshall McDonald
President

MMcD:bc

cc: Robert L. Pringle, Jr.

City of New Smyrna Beach

POST OFFICE BOX 490
NEW SMYRNA BEACH, FLORIDA 32069

May 31, 1973

Mr. Robert L. Pringle, Jr.
Division General Manager
Florida Power and Light Company
Post Office Box 151
Daytona Beach, Florida

Dear Mr. Pringle:

At a joint meeting of the City Commission and Utilities Commission on May 30, 1973, the matter of requesting a proposal from Florida Power and Light Company for the sale or lease of the City electrical generation and distribution system was discussed.

The City Commission has expressed a desire that your company submit such a proposal. The Utilities Commission concurred with the City Commission's right to request this proposal and interposed no objection thereto.

I would appreciate information as to when such a proposal might be made. The Utilities Commission, at this time, is proceeding with plans for a major bond issue, a portion of which will be allocated for electrical system improvements. Time is therefore of the essence and your proposal is requested at the earliest possible date. Members of the Utilities Commission have indicated that they will assist you by making available whatever information you desire for this purpose.

Sincerely yours,

R. W. Buck
City Manager

RWB:pae

City of New Smyrna Beach

POST OFFICE BOX 490
NEW SMYRNA BEACH, FLORIDA 32069

June 19, 1973

MEMORANDUM TO: Utilities Director

SUBJECT: Request for information by FP&L.

1. I would appreciate your assistance in preparing the information requested by FP&L as per their letter to me of June 15, 1973.(Copy attached). If any of the information is not readily available, or if it will require more than two weeks to prepare, please let me know and I will inform FP&L accordingly.

Thanks very much.

R. W. Buck
City Manager

RWB:pae
Enclosure

P.O. BOX 3100 MIAMI, FLORIDA 33101

FLORIDA POWER & LIGHT COMPANY

June 15, 1973

Mr. R. W. Buck, City Manager
City of New Smyrna Beach
P. O. Box 490
New Smyrna Beach, Florida 32069

Dear Mr. Buck:

Our Northern Division Manager, Mr. R. L. Pringle, Jr., has forwarded your letter dated May 31, 1973, in which the City Commission has expressed a desire that we submit a proposal for either the purchase or lease of the City of New Smyrna Beach's electrical generation and distribution system. We would be receptive to discuss either of the two proposals. However, before we would be in a position to intelligently prepare a proposal of this nature it would be necessary for your Utilities Commission to submit the following information.

1. An up-to-date inventory of your electrical distribution system, as well as the generation. It would be most helpful if you could indicate the approximate year of installation and/or the depreciation value.

2. Gross revenues by class of customer for the years 1970-71-72.

3. The number of electric meters by class of service for the same three years.

The above will enable us to thoroughly study and be in a position to prepare a proposal for your consideration.

I am sure that you and the City Commissioners are aware that responding to a request of this nature is a time consuming and a costly endeavor for all involved, and it would be most desirable to have a unanimous approval of your Commissioners as well as a desire by the Utilities Commission that we are taking the proper course of action.

We again express our willingness to negotiate for either a lease or a sales proposal of your electrical generation and distribution system.

In the interest of time, you may desire to submit the necessary information to our Mr. R. L. Pringle, Jr., in Daytona Beach. We are looking forward in the very near future to discussing this subject in more depth so that we can arrive at a decision that will be beneficial to both parties.

Sincerely,

R. G. Mulholland
Group Vice President

RGM/dw
cc: Mr. R. L. Pringle, Jr.

EXHIBIT J

Documents Relating to Fully Integrated

Florida Electric Power Pool.

FLORIDA OPERATING COMMITTEE
WORKING GROUP

February 27, 1974

TO: Representatives - Florida Operating Committee, Working Group

At our February 14, 1974 meeting in Jacksonville it was agreed that I would appoint two committees. The purpose of this letter is to announce those appointments.

The Dispatcher Training Seminar Ad Hoc Committee is to prepare a one day training session for the Dispatchers on the practices covered by the Operating Handbook with particular emphasis on coordination of actions in restoration procedures following sub-normal system frequency. An outline of the program should be presented to the Working Group for its review. The members of this committee are:

C. H. Bennett, Tampa Electric Company - Chairman
R. F. Burkard, Florida Power & Light Company
Dennis Cheves, City of Gainesville
J. L. Scheidt, Florida Power Corporation
I. Reedy, Orlando Utilities Commission

The Review of Pooling Agreements Ad Hoc Committee is to review existing pooling agreements and prepare an informational type report that covers in general the advantages and disadvantages to participating systems in pooling agreements. The report should also note any unusual advantages or disadvantages that might be foreseen for the Florida Systems. The members of this committee are:

I. Reedy, Orlando Utilities Commission - Chairman
K. S. Buchanan, Florida Power & Light Company
T. H. Farrow, Tampa Electric Company
D. L. Hornak, Florida Power Corporation
J. C. L'Engle, Lake Worth Utilities Authority
J. K. Wiley, Jacksonville Electric Authority

J. E. Burris

J. E. Burris, Chairman

cc: Members, Florida Operating Committee, Steering Committee
Members, Ad Hoc Committees

Re-ENGROSSED

CS HB 1543

A bill to be entitled

An act relating to the Florida public service commission; adding subsections (2) and (3) to §366.04, Florida Statutes, extending commission jurisdiction over rural electric cooperative and municipal electric utilities for certain purposes; authorizing the commission to plan and develop a coordinated electric power grid; adding subsections (7) and (8) to §366.05, Florida Statutes, authorizing the commission to require certain reports and to require necessary facilities for the reliability of the energy grid; creating §366.05, Florida Statutes, providing for availability of energy reserves; creating §366.061, Florida Statutes, providing for a study of rate structure by the legislature; providing an appropriation; amending §366.11, Florida Statutes, providing limitations on certain exemptions; creating §366.015, Florida Statutes, directing the Florida public service commission to assume primary responsibility for initiation of interagency liaison in all technical areas affecting utilities under its primary jurisdiction; providing an effective date.

Be It Enacted by the Legislature of the State of Florida:

Section 1. Section 366.04, Florida Statutes, is amended by adding subsections (2) and (3) to read:

366.04 Florida public service commission; jurisdiction.--

(2) In the exercise of its jurisdiction the commission shall have power over rural electric cooperative and municipal electric utilities for the following purposes:

(a) To prescribe uniform systems and classifications of accounts.

(b) To prescribe a rate structure for all electric utilities.

(c) To require electric power conservation and reliability within a coordinated grid for operational as well as emergency purposes.

(d) To approve territorial agreements between and among rural electric cooperatives, municipal electric utilities, and other electric utilities under its jurisdiction or any of them; provided, nothing in this chapter shall be construed to alter existing territorial agreements as between the parties to such agreements.

(e) To resolve any territorial dispute involving service areas between and among rural electric cooperatives, municipal electric utilities, and other electric utilities under its jurisdiction or any of them. In resolving territorial disputes the public service commission may consider, but not be limited to the ability of the utilities to expand services within their own capabilities, the nature of the area involved including population and the degree of urbanization of the area, its proximity to other urban areas, and the present and reasonably foreseeable future requirements of the area for other utility services. No provision of this chapter shall be construed or applied to impede, prevent or prohibit any municipally owned electric utility system from distributing at retail electrical energy within its corporate

limits, as such corporate limits exist on the effective date of this act, provided, however, existing territorial agreements shall not be altered or abridged hereby.

(3) The commission shall further have jurisdiction over the planning, development and maintenance of a coordinated electric power grid throughout Florida, to assure an adequate and reliable source of energy for operational and emergency purposes in Florida and the avoidance of further uneconomic duplication of generation, transmission, and distribution facilities.

Section 2. Section 366.05, Florida Statutes, is amended by adding new subsections (7) and (8) to read:

366.05 Powers.--

(7) The commission shall have the power to require reports from all electric utilities to assure the development of adequate and reliable energy grids.

(8) If the commission determines that there is probable cause to believe that inadequacies exist with respect to the energy grids developed by the electric utility industry, it shall have the power, after holding hearings as provided by law, and after a finding that mutual benefits will accrue to the public utilities involved, to require installation or repair of necessary facilities, including generating plants and transmission facilities with the costs to be distributed in proportion to the benefits received, and to take all necessary steps to insure compliance. The electric utilities involved in any action taken or orders issued pursuant to this subsection shall have full power and authority notwithstanding any general or special laws to the contrary, to jointly plan, finance, build, operate or lease generating and transmission facilities and shall be further authorized to exercise the powers granted to corporations in chapter 361, Florida Statutes. Provided that this subsection shall not supersede or control any provision of the electric power plant siting act, sections 403.501 thru 403.516, Florida Statutes, 1973.

Section 3. Section 366.055, F.S., is created to read:

366.055 Availability of and payment for energy reserves.--

(1) Energy reserves of all utilities in the Florida energy grid shall be available at all times to insure that grid reliability and integrity are maintained. The commission is hereby authorized to take such action as necessary to assure compliance; provided, however, prior commitments as to energy use in interstate commerce as approved by the Federal Power Commission; commitments between one electric utility and another which have been approved by the Federal Power Commission; or commitments between an electric utility which is a part of the energy grid created herein and another energy grid shall not be abridged or altered except during an energy emergency as declared by the governor and cabinet.

(2) When the energy produced by one electric utility is transferred to another or others through the energy grid and under the powers granted by this section, the commission shall direct the appropriate recipient utility or utilities to reimburse the producing utility in accordance with the latest wholesale electric rates approved for the producing utility by the Federal Power Commission for such purposes.

Any utility which provides a portion of those transmission facilities involved in the transfer of energy from a producing utility to a recipient utility or utilities shall be entitled to receive an appropriate reimbursement commensurate with the transmission facilities and services provided. Provided further, no utility shall be required to sell purchased power to a recipient utility or utilities at a rate lower

than the rate at which the power is purchased from a producing utility.

(3) To assure efficient and reliable operation of a state energy grid, the commission shall have the power to require any electric utility to transmit electric energy over its transmission lines from one utility to another or as a part of the total energy supply of the entire grid, subject to the provisions hereof.

Section 4. Section 366.061, Florida Statutes, is created to read:

366.061 Electric utility rate structure study.--

(1) The legislature finds that over the past twelve (12) years electric power demand has been growing at an annual rate of approximately eleven (11) percent and that the impact of this growth rate on required electrical rates needs adequate investigation.

(2)(a) There is created a joint select committee of the senate and house of representatives composed of five (5) members of the senate appointed by the president of the senate and five (5) members of the house of representatives appointed by the speaker of the house of representatives. The committee shall conduct or contract with consultants of national reputation to conduct a study of rate structure of all electric utilities in Florida including rural electric cooperative and municipal electric utilities. A final report shall be submitted to the public service commission and the legislature by March 15, 1975. The members of the committee shall serve until the end of the 1975 regular session of the legislature at which time the committee shall terminate.

(b) Among the factors to be examined by the study are the form of marginal costs of service to new customers, the ability technically and economically, to engage in peak-load pricing and the magnitude and details of the economic relationships in Florida between the demand for electricity and its price, as well as other factors which may effect decisions on alternative rate structures.

(3) There shall be appropriated from the general revenue fund the sum of fifty thousand dollars ($50,000) with which to conduct this study during the fiscal year 1974-75.

Section 5. Section 366.11, Florida Statutes, is amended to read as follows:

366.11 Certain exemptions.--No provision of this chapter shall apply in any manner other than as specified in section 366.04(2) and (3), section 366.05(7) and (8), section 366.055, and section 366.061, Florida Statutes, to utilities owned and operated by municipalities whether within or without any municipality, or by cooperatives organized and existing under the rural electrification cooperative law of the state, nor to the sale of electricity, manufactured gas or natural gas at wholesale by any public utility to, and the purchase by, any municipality or cooperative under and pursuant to any contracts now in effect or which may be entered into in the future, where such municipality or cooperative is engaged in the sale and distribution of electricity, manufactured or natural gas, nor to the rates provided for in such contracts. Further the provisions of section 350.78, Florida Statutes, shall not apply to municipally owned and operated electric utilities and rural electric cooperatives. Nothing herein shall restrict the police power of municipalities over their streets, highways and public places or the power to maintain or require the maintenance thereof, nor the right of a municipality to levy taxes on public services under §167.431, Florida Statutes, nor affect the right of any municipality to continue to receive revenue from any public utility as is now provided or as may be hereafter provided in any franchise, nor

repeal §167.22, Florida Statutes.

Section 6. Section 366.015, Florida Statutes, is created to read:

366.015 Interagency liaison.--The Florida public service commission is directed to provide for and assume primary responsibility for establishing and maintaining continuous liaison with all other appropriate state and federal agencies whose policy decisions and rule-making authority affect those utilities which the commission has primary regulatory jurisdiction. This liaison shall be conducted at the policy-making levels as well as department, division or bureau levels. Active participation in other agency public hearings is encouraged to transmit the commission's policy positions and information requirements in order to provide for more efficient regulation.

Section 7. This act shall take effect July 1, 1974.

LAKE WORTH UTILITIES AUTHORITY

CITY OF LAKE WORTH
114 COLLEGE STREET
LAKE WORTH, FLORIDA 33460

TELEPHONE 305-585-2571 EXT. 55

CLIFFORD C. BLAISDELL, JR.
UTILITIES DIRECTOR

January 10, 1975

MEMORANDUM

To: Irving Reedy, Orlando Utilities Commission
Tom Farrow, Tampa Electric Company
Arnold Harrington, Jacksonville Electric Authority
Don Hornak, Florida Power Corporation
Ken Buchanan, Florida Power and Light Company

From: Claude L'Engle, Lake Worth Utilities Authority

I recently re-read PSC inter-staff memos dated July 31, 1974 and September 5, 1974 which, I feel, contain comments that are very significant in light of our recent investigation and report concerning a Florida Electric Power Pool.

On the chance that you either don't have these memos or have not read them lately, I am taking the liberty of sending them to you for your information.

Enclosures

cc: C. N. Whitmire, Chairman, FOC
RP&L
Mike Gent, General Manager, FCG

JCL'E/pr

MEMORANDUM

September 5, 1974

TO : WILLIAM L. WEEKS
GENERAL COUNSEL

FROM: JOSEPH D. JENKINS
ELECTRICAL ENGINEERING SUPERVISOR
ENGINEERING DEPARTMENT

RE : UNECONOMIC DUPLICATION OF GENERATING FACILITIES.

This is the Engineering Department's interpretation of the phrase "uneconomic duplication of generating facilities" which appears in H.B. 1543 better known as the "Grid Bill". We wish to emphasize that in our memorandum of July 31 we did not suggest that the overall Florida electrical configuration did or did not evolve into the lowest cost system but only that studies should be performed to insure the future evolution of the most economical electrical system without regard to individual company territorial boundary and/or plant ownership.

Consider for example the attached graph which shows the required generating unit reserve margin for a 4000 and a 6000 megawatt peak load system whose generating capability is wholly

comprised of 440 megawatt generating units and the resulting reserve margin when these two systems are combined into a fully integrated 10,000 megawatt system. The required generating reserve margin for the above hypothetical systems are tabulated below:

	4,000 MW System	6,000 MW System	Combined 10,000 MW System
% Reserve	37	28	21
MW Reserve	1480	1680	2100

Thus if the two smaller systems were combined into a 10,000 megawatt system fully integrated, with all other things being equal, 1060 megawatts less generating capacity would be required. (i.e., 2100 - (1480 + 1680) = 1060).

Assuming an annual fixed cost, i.e., interest on money, depreciation, taxes, fixed maintenance etc., of $25,000 per megawatt per year, an annual saving of $26,500,000 results if a formal fully integrated power pool is formed from the two systems.

In actual practice, an economic analysis would probably show that 880 megawatt units should be installed on the combined system

to take advantage of the attendant economies of scale. As indicated on the graph, larger units require larger reserve margins and an economic trade-off between unit sizes and reserve margins would have to be made.

JDJ/cd

CC: Chairman Bevis
Commissioner Mayo
Commissioner Hawkins
Mr. Ervin
Mr. Pruitt
Dr. Kennedy

M E M O R A N D U M

July 31, 1974

TO : WILLIAM L. WEEKS
GENERAL COUNSEL

FROM: JOSEPH D. JENKINS
ELECTRICAL ENGINEERING SUPERVISOR
ENGINEERING DEPARTMENT

RE : IMPLEMENTATION OF H.B. 1543 WITH REGARD TO "GRID" ASPECTS.

Attached is an engineering interpretation of subject bill with regard to Commission responsibility for the planning of electrical generating and transmission facilities. Rate schedules, classification of accounts and territorial boundaries are specifically omitted in this memorandum as these areas will, in all likelihood, require Commission investigation and deliberation necessitating the involvement of all departments.

The Engineering Department suggests that Commission responsibility can best be implemented through the Florida Electric Power Coordinating Group (FCG), a voluntary organization comprised of virtually all Florida electric utilities. It is suggested that any electric utilities not a member of this organization should be encouraged to so join.

In summary, implementation of H.B. 1543 with regard to long range electric power needs will require the Commission to initiate economic

feasibility studies as to the following items elaborated on in the attachment:

(1) A joint electrical generating unit addition expansion plan for Peninsula Florida as a whole without regard to individual service areas.

(2) Stronger transmission line interconnections both intrastate and interstate.

(3) A central computer dispatch (maximal dispatch) which automatically selects the most efficient generating pattern without regard to service area.

Pursuant to the results of economic feasibility studies on the above subjects, newly created F.S. 366.05(8) directs the Commission "to require installation of facilities if, after holding hearings, it is determined that inadequacies exist and to distribute costs in proportion to benefits received."

In addition, F.S. 366.05(7) gives the Commission power to require reports from "all electric utilities to assure development of adequate and reliable energy grids." This requirement can be more than satisfied by the reports now required by the Federal Power Commission shown in Attachment IV. This Commission is already in receipt of many of these reports from most utilities and much of the data reported is duplicated in other forms required by the Power Plant Site Act. It is suggested that in order to insure

receipt of all reports from all utilities, the Commission issue an order to all electric utilities requiring submittal of the forms shown in Attachment IV.

As any generating expansion plan chosen for economic considerations necessitates the timely installtion of generating units and transmission lines to achieve attendant minimal costs, the Commission will have to continually involve itself in the affairs of all State and Federal agencies whose powers may affect said expansion plan. This will require attendance at numerous hearings held by these agencies to state Commission position as to proposed rules and regulations which could be detrimental to the ability to supply electric power and supply it at the lowest possible cost consistent with adequate environmental protection. In newly created F.S. 366.015, the Commission is directed to assume primary responsibility for establishing and maintaining continuous liaison with other agencies whose rule making authority could effect electric power supply reliability and economy.

JDJ/cd

Attachment

CC: Chairman Bevis
Commissioner Mayo
Commissioner Hawkins
Mr. Ervin
Mr. Pruitt

Attachment I

INTERPRETATION OF THE "GRID" ASPECTS OF H.B. 1543

ITEM 1 - Joint Electrical Generating Unit Addition Expansion

As the FCG currently supplies a ten year comprehensive site plan compiled from the individual submittals of all electric utilities as required by the Power Plant Site Act, F.S. 403, it is suggested that in order to reasonably assure avoidance of uneconomic duplication of generating facilities, the FCG should be directed to prepare an economic analysis comparing their chosen comprehensive plan to at least one and preferably other alternative generating unit expansion plans. These alternative plans are to be chosen so as to collectively satisfy the projected demands of Peninsula Florida as a whole without regard to territorial boundaries or plant ownership.

In search of the most economical peninsula wide generating unit addition plan, particular consideration should be given to installation of as large a unit as possible at the fewest number of plant sites. This concept is similar to Florida Power and Light Company's 4000 megawatt Plant Seminole near Lake Okeechobee currently planned to comprise of 800 megawatt units or larger.

It should be noted that due to the long lead time required to install a generating unit, any expansion plan selected as a result of alternative studies to be requested from the FCG could not be implemented until the 1980-1982 time frame. Furthermore, whatever generating unit addition plan is selected as a result of economic studies performed by the FCG, there remains

the problem of certification of the plant sites by the Department of Pollution Control.

ITEM 2 - Transmission Lines

The Florida Electric Power Coordinating Group (FCG) is about to sign an agreement of intent for the joint construction and cost sharing of two 230 kilovolt lines - one between Florida Power and Gulf Power scheduled to be in service in 1976 and one between Jacksonville and Folkston, Georgia scheduled for operation in 1978 and one 500 kilovolt transmission line from central Florida to Georgia Power Company's nuclear Plant Hatch. Georgia Power Company has indicated they will pay for their section of the 230 KV line to the state line and will do same for the 500 KV line if it is operational no sooner than 1985. On this same subject, a joint FCG - FPC - PSC economic study has been initiated to determine if it is worthwhile for Florida to pay for that segment of the line in Georgia if it became operational in 1982, the earliest possible in-service date, and also the possibility of a second 500 kilovolt line from Crystal River to Tifton, Georgia. In view of the above it appears that implementation of a more reliable energy grid is well under way.

Further examination will be required as to the degree of interconnection to the Florida grid for several small municipally operated electric systems. This is particularly critical as many of the small municipally operated generating units can only burn natural gas or middle distillates, both of which are in critically short supply.

It should be emphasized that any plan comprised almost wholly of large generating units to achieve economies of scale must be augmented by

a strong transmission line grid network, the approval of which is obtained after review of a Development of Regional Impact (DRI) by the Division of State Planning.

ITEM 3 - Centralized Computer Dispatch (Maximal Dispatch)

Computerized energy dispatches are now employed by most electrical systems in Florida which automatically control the throttle on each electrical generating unit operating in a company's system so as to select the most efficient generation pattern. This department's interpretation of F.S. 366.04(2)(c), "to require electric power conservation and reliability within a coordinated grid for operational as well as emergency purposes," extends the computerized dispatch concept to one encompassing all of peninsula Florida irrespective of territorial boundaries and generating plant ownership. Many power pools such as the Southern Company and the Pennsylvannia - Jersey - Maryland (PJM) systems currently employ one central dispatch for all member companies.

However, F.S. 366.055 requires clarification before studies on this item are even initiated. Aside from whatever interpretation is given to F. S. 366.055, the problem of energy billings is difficult in a maximal computer dispatch because of the variation of fossil fuel costs among utilities as well as pricing of energy derived from low cost nuclear fuels. Other areas of energy availability to the grid are similarly impacted on by various interpretations of F.S. 366.055.

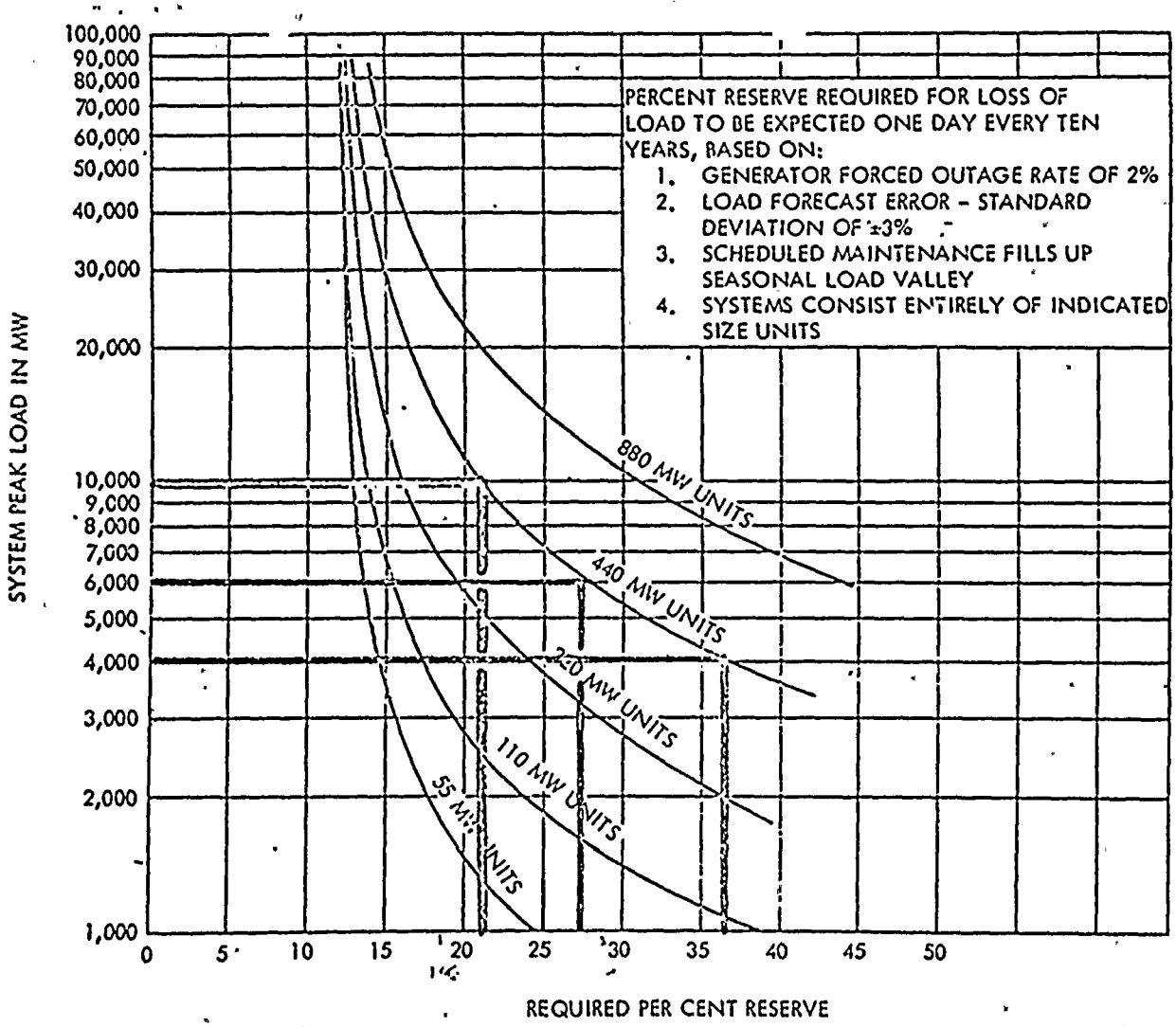
It is suggested that the first step in clarifying F.S. 366.055 is for this Commission to direct all utilities to file approved interchange agreements as well as those submitted for approval to the FPC.

Attach IV

FEDERAL POWER COMMISSION FORMS

☒ FPC FORM 1, 1M OR REA ANNUAL REPORT	-	Annual Report
FPC FROM 4	-	Monthly Power Plan Report
FPC FORM 5	-	Monthly Statement Operating Revenue and Income
FPC FORM 12	-	Power System Statement Year Ending
FPC FORM 12A	-	Power System Statement - Monthly
FPC FORM 12E	-	Monthly Power Statements
FPC FORM 12F	-	Power Line and Generating Construction Data
FPC FORM 23	-	Electric Utility Fuel Planning Report - Monthly
FPC FORM 23A	-	Quarterly Electric Utility Generation and Fuel Planning Report
FPC FORM 67	-	Steam-Electric Plant Air & Water Quality Control Data - Year Ending
FPC FORM 423	-	Monthly Report of Cost & Quality of Fuels for Steam-Electric Plant

All Interchange tariffs approved and submitted for approval to the FPC



SOURCE: Federal Power Commission
1970 National Power Survey
Page II-1-57

A FLORIDA ELECTRIC POWER POOL

A Report to the
FLORIDA OPERATING COMMITTEE
WORKING GROUP
Prepared by
Power Pooling Task Force

ORLANDO UTILITIES COMMISSION
500 SOUTH ORANGE AVENUE • P. O. BOX 3193 • ORLANDO, FLORIDA 32802 • 305/841-1230

February 25, 1975

To: Members of the Operating Committee

Gentlemen:

Enclosed you will find corrected pages to insert in your copy of the Pooling Task Forces' report.

Most of the changes are editorial in nature and will require no explanation. Parts C and D of the definition of participants in both the Team Pool and Link Pool were deleted by the Operating Committee at its Lakeland meeting.

If there are further questions concerning these changes, please feel free to call me or one of the other task force members.

Sincerely yours,

Irving Reedy
Task Force Chairman

IR/jh
enclosures

copies: Mr. K. S. Buchanan
Mr. T. H. Farrow
Mr. A. W. Harrington
Mr. D. L. Hornak
Mr. J. C. L'Engle
Mr. M. R. Gent

Changes, additions and deletions in the report entitled, "A Florida Electric Power Pool" issued by the Power Pooling Task Force to the Working Committee in December of 1974.

Page 1-2: Corrected the first word in the last line of the second paragraph to "are".

Page 5-2: 5B2.1 Participant

Deleted: (c) Which owns and controls transmission facilities operated at 69 KV or higher forming an integral part of the bulk power facilities; and

(d) Which operates or participates in the operation of a 24-hour dispatch center with a terminal on the communications network connecting the Participants.

Page 5-3: 5B3 Link Pool Executive Committee

Changed "Participants" to "Parties" in the first line of the first paragraph.

Changed "Participant" to "Party" in the first line of the second paragraph.

Page 5-6: 5B5 Link Pool Operating Committee

Inserted: "Each Associate Participant may designate a representative as a non-voting member of the Operating Committee".

Page 5-13: 5C2.1 Participant

Deleted: (c) Which owns and controls transmission facilities operated at 69 KV or higher forming an integral

Page 5-14: 5C2.1 Participant:

Deleted: part of the bulk power facilities.

(d) Which operates or participates in the operation of a 24-hour dispatch center with a terminal on the communications network connecting the Participants.

Changes, additions and deletions in the report entitled, "A Flroida Electric Power Pool" issued by the Power Pooling Task Force to the Working Committee in December of 1974.

Page 5-14: 5C3 Team Pool Executive Committee

Changed "Participants" to "Parties" in the first line of the first paragraph.

Changed "Participant" to "Party" in the first line of the second paragraph.

Page 5-18: 5C5 Team Pool Operating Committee

Inserted: "Each Associate Participant may designate a representative as a non-voting member of the Operating Committee."

Page 5-65: V Planning and Engineering Committee

Deleted: "If the Committee has serious disagreement on any matter, then that matter shall be referred to the Executive Committee for resolution."

Page 5-66: VI Operating Committee

Deleted: "If the Committee has serious disagreement on any matter, then that matter shall be referred to the Executive Committee for resolution."

Page 5-67: VII Environmental Committee

Deleted: "If the Committee has serious disagreement on any matter, then that matter shall be referred to the Executive Committee for resolution."

VIII Legislative Committee

Deleted: "If the Committee has serious disagreement on any matter, then that matter shall be referred to the Executive Committee for resolution."

Page 5-68: IX Public Relations Committee

Deleted: "If the Committee has serious disagreement on any matter, then that matter shall be referred to the Executive Committee for resolution."

December 11, 1974

Mr. J. E. Burris, Chairman
Florida Operating Committee
Working Group
Tampa Electric Company
Post Office Box 111
Tampa, Florida 33601

Dear Mr. Burris:

The Task Force which you appointed to investigate all aspects of Electric Power Pooling in Peninsula Florida has compiled the attached report.

The Task Force has researched the concepts of formal power pools and believes that additional benefits to electric utilities in Florida exist. Due to the complex nature of the subject and the absence of funds for extensive studies, the Task Force could not quantify the total benefits and/or values to individual systems that might be a party to a formal electric power pool.

For their valuable assistance on the Economic Dispatch and Unit Commitment studies necessary to complete this report, the Task Force wishes to recognize the work of Gary Nagle and Steven Stein of Florida Power Corporation, Don Moore and Tom Washburn of Orlando Utilities Commission and Don Benjamin of the Florida Electric Power Coordinating Group.

Respectfully submitted,

Power Pooling Task Force

K. S. Buchanan, Florida Power & Light Company
T. H. Farrow, Tampa Electric Company
A. W. Harrington, Jacksonville Electric Authority
D. L. Hornak, Florida Power Corporation
J. C. L'Engle, Lake Worth Utilities Authority

Irving Reedy, Orlando Utilities Commission
Task Force Chairman

TABLE OF CONTENTS

SECTION 1

SUMMARY

Simple forms of pooling consisting of interconnected operation for the purpose of sharing reserve generating capacity were practiced as early as mid 1920. As more financial and operational advantages were realized, these interconnections grew into networks of high voltage transmission lines, reliability was improved and many different types of operating arrangements resulted. Depending on the type of agreement, Power Pools are broadly classified as Formal or Informal.

In a Formal Power Pool members are contractually bound to the pool and are classed as either a Corporate Pool, a Team Pool, or a Link Pool. In 1970, sixty percent of the nation's generating capacity was contained in Formal Pools.

(a) A Corporate Pool is comprised of the corporate affiliates of a holding company and is operated as a single system.

(b) A Team Pool is made up of corporately non-affiliated systems. Planning and operations are carried out as a fully integrated system under the "one system" concept.

(c) A Link Pool is also made up of corporately nonaffiliated systems. A multi-party pool agreement provides for coordinated planning and operations and for interchange of capacity and energy on the basis of pool rate schedules for which provisions are made in the pool agreement.

Informal Pools are similar to Link Pools but have no formal multi-lateral pool agreement. Interchange rates for power and energy are in accordance with bilateral agreements between participating systems.

In order to share the burden of financing the development of large generating facilities, two or more systems sometimes jointly construct power plants which supply power to the owners at attractive rates. While these are not in the true sense power pools, they are sometimes referred to as Generation Pools.

The organization of a power pool is flexible and can be structured within the framework of existing laws according to the wishes of the membership. Two examples of formal power pool organizational structures are included in this report. If it is desired to make the transition from an informal pool to a formal pool, the link pool requires the minimum additional resource allocation of personnel and money since almost all pool functions are performed by the staff of member systems. The initial organization of a team pool is more difficult in that it requires permanent personnel for the pool staff and the establishment of a central dispatching center. A sample agreement of a link type and a team type pool is included in this report in Section 5.

To give some indication of the magnitude of savings that might be realized by formal pool operation of all systems in Peninsula Florida, a study was made of a typical on-peak and off-peak day which compared individually dispatched generation costs to the costs of a central or pool dispatched system. It is felt that sufficient restraints were employed to prevent overly optimistic results. Due to budget limitations a modified Economic Dispatch Program neglecting transmission losses was utilized and the results were favorably checked by a Unit Commitment Program. This study indicates that a fuel savings could be expected from a properly executed central dispatch of Peninsula Florida generating units. The results of this study are discussed in the Technical Section.

Joint planning for the development of generation and transmission facilities offers many advantages to the members of a power pool. Elimination of duplication of effort in the many steps necessary to obtain plant site certification along with transmission facilities expansion efforts which show that planning is based on common system needs without regard to service area should be viewed with favor by regulatory authorities. The magnitude of savings to be realized by large scale development of generation and transmission systems is shown in Section 6.

REV 2/25/75

SECTION 2

POWER POOLING CONCEPTS

As technical advances in the transmission of bulk electrical energy were made during the 1920's and 1930's, the concepts of power pooling were fostered by the realization of electric utilities that interconnected power systems could provide greater service reliability at a cost less than that of individual independent systems.

In the beginning, power pooling consisted primarily of mutual assistance arrangements which, together with the growing ability to transmit bulk power over considerable distances, made it possible for interconnected utilities to share reserves. This sharing reduced the burden of capital cost that the individual utilities had to invest for the same degree of reliability. As power pooling arrangements became generally accepted and the number of power pools grew, the concepts of power pooling broadened to include other areas where cooperation and coordination proved to be economically beneficial.

Joint studies of forecasted short and long range power requirements for large geographical areas allowed utilities to coordinate efforts in constructing bulk power transmission systems that provided greater benefits to pool members at a lower cost.

Transmission systems planned and constructed to provide for the flow of bulk power from one area to another enabled pool members to coordinate the construction of generating facilities. This was accomplished principally by staggering power plant construction or by the joint ownership of power generating facilities. By staggering construction, a member of a power pool builds a generating facility with greater capacity than required for its own needs. Through prior agreement, the building pool member then sells excess capacity to other member systems for a specified period of time. The process is repeated in turn by other pool members. Under joint ownership agreements, two or more (or, on occasion, the entire pooling body) jointly constructs, operates and owns a power plant. Early agreements provided for individual ownership of a portion of the particular facility, but this proved unwieldy to administer; the common practice today is for members to own an undivided interest in the facility as a whole. Both concepts, staggered construction and joint ownership, allow the various pool members to share in the "economies of scale" and the associated risks of larger units which can be constructed at a cheaper cost per kilowatt, and in benefits accruing from the lower

operating costs inherent in the more efficient larger units. Principal examples of this type of pooling cooperation are the P.J.M. (Pennsylvania-New Jersey-Maryland) Pool, Keystone and Conemaugh mine mouth generating plants with two 810 megawatt units at each plant, and various NEPOOL (New England Power Pool) ventures comprising both staggered construction and joint ownership concepts. Other joint pool efforts have made the construction of nuclear plants, with attendant low fuel cost, feasible. In the past several years, environmental and land use considerations have reduced the number of acceptable sites available for construction of power generation facilities. This added burden on utilities has made coordination and cooperation in the area of providing new generation facilities all the more important.

Although from the early days power pool members have cooperated in sharing reserves, scheduling unit outages, and providing for scheduled and emergency interchanges, only recently has the coordinated economic use of available power generation units within a pool gained acceptance. This concept, referred to as centralized economic dispatch, provides that the load being served by the pool as a whole be met by generation from the most economical sources available. While this relatively sophisticated operating technique requires a rather rigid pool organizational structure complete with a centralized dispatching center, staff, and on-line computer, its importance and value are becoming more and more evident due to increasing fuel costs and a declining availability of all fuels, especially the more environmentally attractive low sulfur coal and oil, and natural gas. Quite recently, an additional environmental advantage of centralized pool area dispatch has been utilized by reducing generation in areas experiencing short term adverse environmental conditions.

All power pooling or coordinating groups encompass at least some of the concepts enumerated above. As discussed in Section 3, power pools can be, and indeed are, structured in various degrees of organizational complexity. However, regardless of the type of pooling arrangement, there are definite benefits which can accrue to the individual pool members and through them the consumers. This appears to be particularly true where there is a diversity of size included in the pool membership, such as in the case of New England Power Pool (NEPOOL) and New York Power Pool (NYPP).

SECTION 3

TYPES OF POWER POOLS

The term "Power Pool" is defined in the Federal Power Commission's 1964 National Power Survey as "two or more electric systems which are interconnected and coordinated to a greater or lesser degree to supply, in the most economical manner, electric power for their combined loads." A wide range of diverse contractual arrangements exist today among systems from all segments of the electric utility industry providing for various degrees and methods of coordination. These variations reflect differences in load diversity, characteristics of generating plants, fuel costs and geography. They are also a product of managerial views with respect to planning, corporate rate-base requirements, allocation of transmission system costs between power pool and individual system functions and apportionment of benefits among pool members of disparate size, as well as complex legal and organizational problems.

Power pools can be broadly categorized as formal or informal. The term "Formal Power Pool" is defined in the Federal Power Commission's 1970 National Power Survey as "two or more electric systems which coordinate the planning and/or operation of their bulk power facilities for the purpose of achieving greater economy and reliability in accordance with a contractual agreement that establishes each member's responsibilities." An "Informal Power Pool" can be defined similarly, except that no member is so contractually obligated to other members.

Both Formal and Informal Power Pools provide the economic benefits that become available through performance of one or more of the following basic functions of interconnections:

1. Firm power sales and purchases
2. Reduction of generating reserve requirements
3. Economic loading of generating units
4. Provision of short-term capacity to compensate for unanticipated capacity deficiencies
5. Utilization of load diversity to reduce generating capacity requirements
6. Greater flexibility in scheduling maintenance

7. Staggered construction to make possible installation of larger generating units with attendant sharing of financial risk.

A. Formal Power Pools

Based on organizational structure, Formal Power Pools can be categorized as three types: Corporate Pool, Team Pool and Link Pool.

(a) Corporate Pool

Corporate Pool is a power pool comprised of the corporate affiliates of a holding company. A Corporate Pool is planned and operated as a single system with a central dispatching center for the economic dispatch of all generating units.

Examples of Corporate Pools are:

American Electric Power System (AEP)

Appalachian Power Company
Indiana & Michigan Electric Company
Kentucky Power Company
Kingsport Power Company
Michigan Power Company
Ohio Power Company
Sewell Valley Utilities Company
Wheeling Electric Company

General Public Utilities Corporation (GPU)

Jersey Central Power & Light
Metropolitan Edison Company
Pennsylvania Electric Company
New Jersey Power & Light Company

Middle South Utilities System

Arkansas Power & Light Company
Louisiana Power & Light Company
Mississippi Power & Light Company
New Orleans Public Service, Inc.

Southern Company System

Alabama Power Company
Georgia Power Company
Gulf Power Company
Mississippi Power Company

(b) Team Pool

Team Pool is a power pool comprised of non-affiliated systems which are planned and operated as a fully integrated system under the "one-system" concept. All of the above interconnection functions are provided.

A Team Pool has major joint generation-transmission planning and construction programs. Each pool member generally pays its proportionate share of the annual carrying charges on all transmission facilities which are classified as pool facilities. The annual carrying charges on transmission facilities associated with a joint ownership power plant are generally paid by the members which are joint owners in the same proportion as their ownership shares.

A central dispatching center provides for the economic dispatch of all generating units on a one-system, free-flowing tie basis. There is thus no advance scheduling of economy energy interchange between pool members. Billing for the resultant economy energy transactions is determined hourly by an after-the-fact accounting procedure based on actual pool dispatch costs and own-load dispatch costs which would have been incurred with operation independent of the pool. The pool bills the members monthly for all interchange transactions, including those with neighboring systems and pools.

Examples of Team Pools are:

Michigan Electric Power Pool

Consumers Power Company
Detroit Edison Company

New England Power Pool (NEPOOL)

Bangor Hydro-Electric Company
Boston Edison Company
Braintree Electric Light Department
Central Maine Power Company
Central Vermont Public Service
Eastern Utilities Associates
Fitchburg Gas & Electric Light
Holyoke Gas & Electric Department
New England Electric System
New England Gas & Electric Associates
Northeast Utilities
Public Service Company of New Hampshire
The United Illuminating Company

New York Power Pool (NYPP)

Central Hudson Gas & Electric
Consolidated Edison Company of N.Y.
Long Island Lighting Company
N. Y. State Electric & Gas Corporation
Niagara Mohawk Power Corporation
Orange & Rockland Utilities, Inc.
Power Authority of State of N.Y.
Rochester Gas & Electric Corporation

Pennsylvania-New Jersey-Maryland Interconnection (PJM)

Baltimore Gas & Electric Company
General Public Utilities Corporation
Pennsylvania Power & Light Company
Philadelphia Electric Company
Potomac Electric Power Company
Public Service Electric & Gas Company

(c) Link Pool

Link Pool is a power pool comprised of non-affiliated systems with coordinated planning and operation. A Link Pool can provide all of the above interconnection functions through its multi-party pool agreement and thus achieve operation approximating that under the "one-system" concept.

Each pool member generally pays the annual carrying charges on all transmission facilities within its service territory. Joint ownership of some transmission facilities such as EHV lines is sometimes provided for by a transmission facilities agreement among the owning systems. A pool member whose transmission facilities are necessary for effecting power exchanges between two other pool members is paid for such use by the receiving party in accordance with the pool agreement.

Exchange of capacity and energy is made on the basis of applicable pool rate schedules provided in the pool agreement. Billing for interchange transactions is on the basis of the scheduled interchange commitments between the pool members and is rendered by the supplying member to the receiving member directly. Interchange transactions involving systems of other members are billed in accordance with a wheeling service schedule of the pool agreement. Interchange transactions by a pool member with a neighboring system or pool are billed directly by the supplying party to the receiving party.

Examples of Link Pools are:

Illinois-Missouri Pool

Central Illinois Public Service Company
Illinois Power Company
Union Electric Company

Kentucky-Indiana Power Pool (KIP)

Indianapolis Power & Light Company
Public Service Company of Indiana
Kentucky Utilities Company

Missouri-Kansas Pool (MOKAN)

Empire District Electric Company
Kansas City Power & Light Company
Kansas Gas & Electric Company
Kansas Power & Light Company
Missouri Public Service Company

Iowa Pool*

Corn Belt Power Cooperative
Iowa Electric Light & Power
Iowa-Illinois Gas & Electric Company
Iowa Power & Light Company
Iowa Public Service Company
Iowa Southern Utilities Company

Upper Mississippi Valley Power Pool*

Cooperative Power Association
Dairyland Power Cooperative
Interstate Power Company
Lake Superior District Power
Minnesota Power & Light Company
Minnkota Power Cooperative
Montana-Dakota Utilities Company
Northern Minnesota Power Association
Northwestern Public Service Company
Northern States Power Company
Otter Tail Power Company
Rural Coop. Power Association
United Power Association

Wisconsin Power Pool

Madison Gas & Electric Company
Wisconsin Power & Light Company
Wisconsin Public Service Corporation

*Mid-Continent Area Power Pool (MAPP) was formed in 1973 by combining these two pools and a number of other utilities into a large regional pool which is functionally similar to the Upper Mississippi Valley Power Pool.

B. Informal Power Pools

An Informal Power Pool is similar to a Link Pool. Many of the benefits of a Link Pool can be obtained through bilateral and multiparty interconnection agreements.

Examples of Informal Power Pools are:

Florida Operating Committee
New Mexico Power Pool
Rocky Mountain Power Pool
Wisconsin-Upper Michigan Systems

C. Generation Pool

Any two or more power systems can form a jointly owned generating company to provide wholesale power to the participants. Such an arrangement could be termed a Generation Pool. A joint generating company could provide significant benefits to the owners, among them:

1. It could facilitate the financing of the very large capital requirements for construction of the new generating capacity needed.

2. It could result in a lower cost of financing, and thereby benefit consumers.

3. It could permit substantial economies of scale, standardization of design and other financial and operational benefits.

4. It could provide a more efficient means for the advance selection and governmental approval of environmentally acceptable sites for major power stations.

SECTION 4

EXAMPLES OF POWER POOLS

A. New York Power Pool (Team Pool)

The organization and functions of the New York Power Pool are representative of team pools. The New York Power Pool agreement is administered by an Executive Committee comprised of a senior officer from each member utility and an alternate for each committee member. The Executive Committee selects from among its members a Chairman and Vice Chairman to serve for one year. The Vice Chairman succeeds the Chairman at the end of each term of office. The agreement provides that the Executive Committee shall meet at least quarterly and at such other times as the Chairman may determine. The Executive Committee's responsibility is to determine policy with respect to all matters within the scope of the agreement and the carrying out of its provisions. The Executive Committee also reviews and directs the activities of the other committees of the Pool. An Executive Director acts as the liaison between the Executive Committee and the Operating, Planning, Environmental and Public Relations Committees. He is responsible for the administration and coordination of the activities of those committees and carries out such other duties as are assigned by the Executive Committee.

The Operating Committee, comprised of a senior executive from each of the members who is responsible for electric system operations and an alternate for each member, is responsible for the coordination of the operations of the bulk supply systems of the Pool members. The Committee directs the activities of the Power Pool Operating Manager and establishes such rules and practices as may be required to coordinate the operation of the bulk power supply system of the Pool members so as to insure reliability of service, and economic operation with due regard for environmental factors. The Committee has established subcommittees and task forces to assist in the carrying out of its responsibilities.

Under the direction of the Operating Committee, an Operating Manager and his staff of 57 personnel operate the Power Pool Control Center. The principal purposes of the Control Center are: coordinating the operations of the member companies insofar as they may affect the reliability of the bulk power supply on the interconnected systems in New York State; dispatching energy requirements, and monitoring the internal and external operations of the Pool to insure unimpaired overall security of bulk power supply at all times. More specifically, the Control Center operating staff schedules and dispatches operating capability and energy to meet the Power Pool load and reserve requirements in a reliable and economical manner; coordinates the operation of the Power Pool with other systems or pools; determines the required minimum reserve capability to be operated by each member of the Pool; schedules all transactions for the purchase or sale of operating capability or

energy; determines the cost of inter and intra Power Pool transactions and prepares billing statements for such transactions. The operating staff operates a Control Room at the Control Center with dispatchers on duty around the clock. Data essential to the effective analysis of power conditions are telemetered to the Control Room continuously. A high speed computerized bulk data system is installed at the Control Center. This computer system provides data collection and storage facilities, a display medium for the dispatchers and a powerful computational tool to perform security and economy calculations in real time. The computer system is interconnected with satellite equipment located in the operating centers of the members. The computer continuously monitors system data essential to security of operations such as frequency, transmission line flows, operating reserve, system load and system generation. The installation also gives the operating staff the ability to determine quickly what the system effect would be should certain contingencies occur. The Pool dispatchers are in constant communication with the member's dispatchers and the Pool computer system has the capability to communicate with equipment located at the members' operating centers.

The Planning Committee consists of a senior executive from each member system who is responsible for electric system planning and an alternate for each member. The Committee has the responsibility to coordinate and develop plans for the installation of additional generating capability and interconnecting transmission facilities within the Power Pool. The Committee is also responsible for the coordination of planning between the Power Pool and adjoining pools and with regional power coordinating agencies to the extent appropriate. The Committee has established Subcommittee and Task Forces to assist in the carrying out of its responsibilities.

Under the direction of the Planning Committee, a Planning Manager and his staff of 10 personnel assist the Planning Committee in carrying out its responsibility to coordinate and develop plans for installation of additional generating capability and interconnecting transmission facilities within the Power Pool and with adjoining pools and systems. The Planning Staff is also responsible for determining transfer limits between areas within New York State and between transmission systems of New York State and that of adjacent and interconnecting areas. The Planning Manager and staff are located at the Power Pool Control Center.

The Environmental Committee is comprised of executives and engineers representing each member system. The Committee possesses the knowledge to deal with the technical aspects of environmental protection and enhancement as they pertain to the planning function of the Pool. The Committee members are supported by designated representatives from the environmental engineering staffs of their member systems. The Director of Environmental Affairs is on the staff of the Executive Director and supports the activities of the Environmental Committee and maintains working contacts with Federal,

State and local officials involved in environmental matters. The Director of Environmental Affairs accommodates many environmental groups with information and guidance, and arranges contacts between these groups and NYPP representatives.

A Public Relations Committee consisting of a public relations representative from each member coordinates the public relations activities as they apply to the Pool as a whole. The Director of Public Relations provides support to the Public Relations Committee, implements Pool oriented public affairs and information programs and acts as host to visitors to the Power Control Center.

Chairmen and Vice Chairmen of the Operating, Planning, Environmental and Public Relations Committees are selected and rotated in the same manner as is done in the case of the Executive Committee.

B. Upper Mississippi Valley Power Pool (Link Pool)

The organization and functions of the Upper Mississippi Valley Power Pool are representative of link pools. The pool agreement is administered by a Planning Committee and an Operating Committee. Each member system is represented on both committees.

The Planning Committee has a broad assignment to carry out or coordinate engineering studies relating to expansion of new bulk power supply facilities. It is assigned specific responsibilities for development of load forecast, determination of generating reserve requirements, accrediting generating capabilities and scheduling of capacity sales and purchases in connection with staggering of generator additions and utilization of seasonal load diversity. This planning committee is represented as a unit on the MAPP Planning Committee and has a liaison representation in the MAIN organization. Allocations of reserve are handled through purchases and sales under established pool rate schedules so that each member provides its established pool percent reserve requirement. The member systems have a mixture of winter and summer peak loads and this diversity is utilized through schedules of six-month seasonal purchases and sales administered by the planning committee.

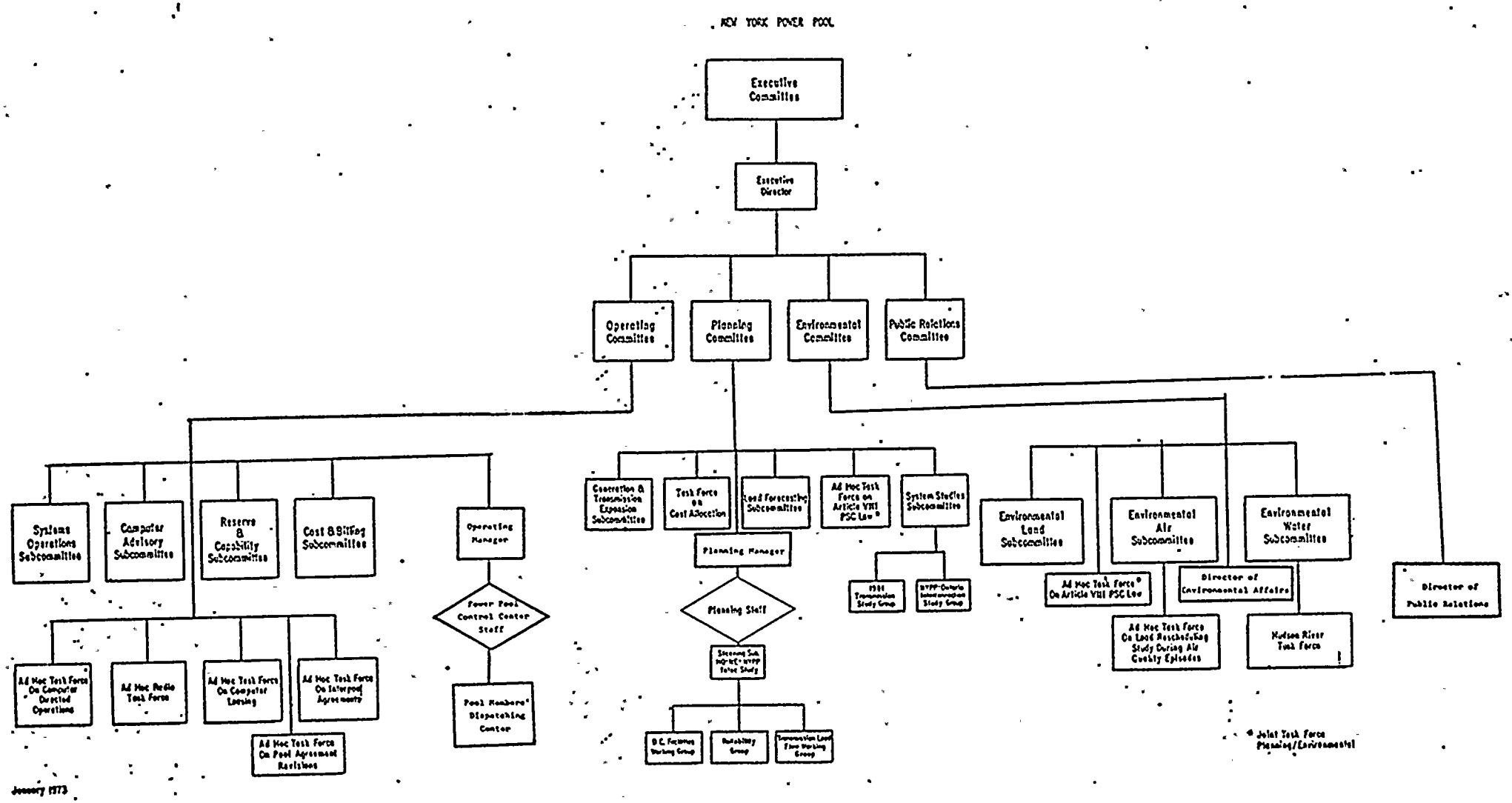
The Operating Committee is assigned responsibility for development and administration of operating practices on a pool-wide basis that will provide optimum operating economy consistent with high reliability of service. Specific areas of coordination cited in the pool agreement are spinning reserve, maintenance sechedules, economy energy transactions, short term load forecasts, and interchange energy accounting. A minimum spinning reserve equal to the largest generator unit in the pool is presently required. This amount is allocated among the member systems on the basis of the largest unit in each system and its annual peak load, equal weight being given to each of these two factors. Maintenance outages are coordinated at quarterly meetings of the Operating Committee. Operating coordination is carried out continuously through special subcommittees and rotation of specific assignments among the individual systems. For example, the dispatching office of one member system will be

designated as the spinning reserve coordination office, another dispatching office will act as maintenance coordination office, etc. A teletype communications network interconnecting the member dispatching offices is used extensively for carrying out routine coordination efforts and obtaining rapid response to emergency situations. The communication system is also used daily for arranging economy energy transactions to economically allocate generator loadings on a pool basis.

Exchanges of capacity and energy to accommodate the foregoing planning and operations are carried out under rate schedules provided in the pool agreement as follows:

A - Participation Power Interchange Service
B - Seasonal Participation Power Interchange Service
C - Emergency and Scheduled Outage Interchange Service
D - Spinning Reserve Interchange Service
E - Economy Energy Interchange Service
F - Wheeling Services and Losses
G - Operational Control Energy Interchange Service
H - Peaking Power Interchange Service
I - Short Term Power Interchange Service
J - Firm Power Interchange Service

Schedules A, B, H, I and J are primarily administered by the Planning Committee in connection with its responsibilities for coordinating generator planning, sharing of reserves and exchanging seasonal diversity power. The remaining service schedules are used under the direction of the Operating Committee in carrying out day-by-day coordination. Service Schedule F provides for transmission service between member systems that are not directly connected to each other and this schedule is essentially a supplement to all of the others.


NEW YORK POWER POOL
Executive Committee
Executive Director
Operating Committee
Planning Committee
Environmental Committee
Public Relations Committee
Systems Operations Subcommittee
Computer Advisory Subcommittee
Reserve & Capability Subcommittee
Cost & Billing Subcommittee
Operating Manager
Power Pool Control Center Staff
Pool Members' Dispatching Center
Ad Hoc Task Force On Computer Directed Operations
Ad Hoc Radio Task Force
Ad Hoc Task Force On Computer Loading
Ad Hoc Task Force On Interpool Agreements
Ad Hoc Task Force On Pool Agreement Revisions
Generation & Transmission Expansion Subcommittee
Task Force on Cost Allocation
Load Forecasting Subcommittee
Ad Hoc Task Force on Article VIII PSC Law*
System Studies Subcommittee
Planning Manager
Planning Staff
1981 Transmission Study Group
NYPP-Ontario Interconnection Study Group
Steering Sub. NEPOOL-NYPP Power Study
D.C. Flowing Working Group
Reliability Group
Transmission Load Flow Working Group
Environmental Land Subcommittee
Environmental Air Subcommittee
Environmental Water Subcommittee
Ad Hoc Task Force* On Article VIII PSC Law
Director of Environmental Affairs
Ad Hoc Task Force On Load Rescheduling Study During Air Quality Episodes
Hudson River Task Force
Director of Public Relations
* Joint Task Force Planning/Environmental
January 1973

UPPER MISSISSIPPI VALLEY POWER POOL

Coordination Functions

- Spinning Reserve
- Maintenance Schedules
- Short Term Load Forecasts
- Economy Interchange Transactions
- Emergency and Scheduled Outage Interchange Transactions
- Interchange Energy Accounting

Coordination Functions

- Bulk Power Supply Planning
- Long Term Load Forecasts
- Generating Reserve Requirements
- Scheduling Capacity Sales and Purchases in Connection with Coordinating Generating Planning and Sharing of Installed Reserve
- MAPP Planning Committee Representative
- MAIN Liaison Representative

SECTION 5

ALTERNATIVE STRUCTURES OF A FLORIDA ELECTRIC POWER POOL (FEPP)

SECTION 5

ALTERNATIVE STRUCTURES OF A FLORIDA ELECTRIC POWER POOL (FEPP)

INDEX

SECTION 5

ALTERNATIVE STRUCTURES OF A FLORIDA ELECTRIC POWER POOL (FEPP)

5A. INTRODUCTION

Some of the unique features of the existing informal Florida Pool, Florida Electric Power Coordinating Group (FCG), and its history of good operating and planning functional relationships facilitates an easy transition into a more formal pool structure with additional advantages. The FCG presently achieves five (5) of the seven (7) basic functions (enumerated in Section 3) of an interconnected system to some degree.

This section of the report will discuss the concepts of an orderly transition from the present informal pool into the formal pool of either the "link type" or the "team type." Typical agreements are also included in this section of the report. Organizational charts and descriptive responsibilities of the major functions are included. However, these charts are in no way to be construed as firm, but rather, illustrative, from an educational nature for the purpose of this report.

The staffing should be approached on a career basis within proper levels of the individual parties manpower resources.

5B LINK POOL STRUCTURE

5B1 Link Pool Organization

A possible organization structure of a link type Florida Electric Power Pool is shown in the chart (Subsection 5B9). The objective of this type of organization is to utilize the capability of the individual members on a dedicated pool basis. The only paid personnel on the pool staff are administrative and clerical. Other personnel involved in pool management, operation, planning, engineering, etc., are full time employees of the individual member companies. One of their primary job functions is to attend to pool matters on a continuous basis. The various committees function on a regular basis and the details of each committee will be spelled out in the following Subsections.

This type of organization is a logical step or transition from our present informal FCG organization to a more formalized organization with a minimum of new resource allocations of manpower and money. The organization can be modified as the need and justification arise.

5B2 Link Pool Membership

Any electric system operating facilities in the State of Florida for service to the public, as defined by the Florida Public Service Commission, shall be eligible for membership in the Florida Electric Power Pool (FEPP) as a Participant or Associate Participant. The degree of participation would be consistant with the existing Florida Electric Power Coordinating Group (FCG) objectives.

5B2.1 Participant

A Participant is any Party to the Florida Electric Power Pool Agreement

(a) Which owns and controls the operation of generating units having a combined installed capacity of 75MW net, or more; and

(b) Whose system is normally operated directly interconnected with one or more Participants

(c) Deleted 2/25/75
(d) Deleted 2/25/75

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5B2.2 Associate Participant

It is recognized that some Parties to the Florida Electric Power Pool Agreement cannot fully participate under the provisions set forth for a Participant. Therefore, provision is made for such Party to participate as an Associate Participant, it being recognized that its primary participation will be through the Participant to which the Party is connected under the provisions of appropriate contracts with such Participant.

5B3 Link Pool Executive Committee

.1 The Parties of the FEPP shall establish an Executive Committee to determine policy with respect to all matters within the scope of the Agreement and to arrange for the administration and implementation of the Agreement. The Executive Committee shall provide for the coordination of the planning, engineering, environmental, public relations, legislative, and operating functions of the members of FEPP in order that, to the greatest extent possible, such coordination will be directed to providing for the electric power needs of the State of Florida (excluding Gulf Power Company) as a whole.

.2 Each Party to the Agreement shall designate a senior officer, and as an alternate, a second officer authorized to act on his behalf, to serve on the Executive Committee. The expenses of each member of the Executive Committee shall be borne by the party he represents.

At its first meeting, the Executive Committee shall select from among its members a chairman and a vice chairman to serve for one year from such first meeting; and for each year thereafter the chairman shall be the member of the Committee who served as vice-chairman during the preceding year, and the vice-chairman shall be a member selected by the Committee. The Committee shall meet at least monthly and at such other times as the chairman may determine necessary.

The Executive Committee shall review and direct the activities of the Planning and Engineering Committee, Operating Committee, Environmental Committee, Public Relations Committee and Legislative Committee established hereunder. The Executive Committee shall arrange for the services of an Administrative Director of the FEPP and sufficient clerical and technical staff to permit them to fulfill their responsibilities hereunder. The Administrative Director shall act as a liason between the Executive Committee and the Committees; shall attend

.1 Changed "Participants" to "Parties"
.2 Changed "Participant" to "Party"

Rev. 2/25/75

committee meetings in a non-voting capacity; shall administer and coordinate the activities of FEPP and carry out such other duties as may be assigned by the Executive Committee.

All expenses arising out of the administration and implementation of the Agreement, other than the expenses incurred by each member or alternate member of the Executive Committee, Planning and Engineering Committee, Operating Committee, Environmental Committee, Public Relations Committee, and Legislative Committee shall be subject to the approval of the Executive Committee, in accordance with procedures to be established by the Executive Committee, and shall be allocated among the Parties in accordance with the formula for payment which may be in effect at the time such expenses are incurred.

The Chairman of the Executive Committee is hereby designated the agent of each of the parties for the purpose of filing changes in, or supplements to, the Agreement with the Federal Power Commission and other regulatory agencies.

The Executive Committee shall direct the activities of the Task Force on Pool Cost Allocation. This Task Force shall be responsible for determining the initial capacity and energy charges for the Agreement within the structure of the Pool Allocation Plan and present these to the Executive Committee for approval. The Task Force shall monitor the initial charges, after approval, on a continuous basis and based on information and recommendations from the Planning and Engineering Committee and the Operating Committee shall submit changes as appropriate to the Executive Committee for approval.

5B4 Link Pool Planning and Engineering Committee

The Executive Committee of FEPP shall establish a Planning and Engineering Committee which will be responsible for coordinating the planning and engineering of all bulk power supply facilities. The committee will review plans and engineering specifications developed by the underlying subcommittees for implementation by FEPP and will present the committee's recommendations to the Executive Committee for approval.

Each Participant shall designate the senior individual responsible for electric system planning and engineering along with an alternate to serve on the Planning and Engineering Committee. The expenses of each member on the committee will be borne by the party he represents.

Each Associate Participant may designate a representative as a non-voting member of the Planning and Engineering Committee.

The Planning and Engineering Committee shall select from among its members a chairman and vice-chairman. The officers shall be changed annually in rotation among the members of the committee. Each year, the vice-chairman of the committee during the preceding year shall succeed to the chairmanship. The Planning and Engineering Committee shall meet at regularly scheduled times and at such other times as the chairman may determine.

5B4.1 Capacity And Transmission Planning Subcommittee

The Planning and Engineering Committee shall establish a Capacity and Transmission Planning Subcommittee to develop plans for the capacity and transmission additions to FEPP. The subcommittee will be staffed by senior planning personnel responsible for studies and reports along the lines of individual Participant system expansion plans. The subcommittee shall recommend alternative plans to the Planning and Engineering Committee for their review and recommendations.

The subcommittee will select from among its members a chairman and vice-chairman. The officers shall be changed annually in rotation among the members of the subcommittee. The subcommittee shall meet at regularly scheduled times and at such other times as the chairman may determine.

5B4.2 Computer Program Development Subcommittee

The Planning and Engineering Committee shall establish a Computer Program Development Subcommittee to maintain, develop and research computer programs to aid in data collection, analysis, data manipulation, and control for pool planning and engineering functions. The subcommittee will be staffed with senior personnel with the proper background for this function from the Participants.

The subcommittee shall select from among its members a chairman and vice-chairman. The officers shall be changed annually in rotation among the members of the subcommittee. The subcommittee shall meet at regularly scheduled times and at such other times as the chairman may determine.

5B4.3 Production Plant Design Subcommittee

The Planning and Engineering Committee shall establish a Production Plant Design Subcommittee to develop acceptable design standards for pool generating facilities. The subcommittee will be staffed with senior personnel responsible for power plant design from the Participants.

The subcommittee shall select from among its members a chairman and vice-chairman. The officers shall be changed annually in rotation among the members of the subcommittee. The subcommittee shall meet at regularly scheduled times and at such other times as the chairman may determine.

5B4.4 Transmission and Substation Design Subcommittee

The Planning and Engineering Committee shall establish a Transmission and Substation Design Subcommittee to develop and maintain acceptable design standards for transmission and substation facilities dedicated to pool use. The subcommittee will be staffed with senior engineering personnel responsible for transmission and substation design from the Participants.

The subcommittee shall select from among its members a chairman and vice-chairman. The officers shall be changed annually in rotation among the members of the subcommittee. The subcommittee shall meet at regularly scheduled times and at such other times as the chairman may determine.

5B5 Link Pool Operating Committee

The Executive Committee of FEPP shall establish an Operating Committee which shall establish and maintain all necessary rules and practices necessary to coordinate the operation of the bulk power supply systems of the pool membership. These rules and practices shall insure reliability of service and economic operation.

Each Participant shall designate the senior individual responsible for electric system operation along with an alternate to serve on the Operating Committee. The expenses of each committee member will be borne by the party he represents.

Each Associate Participant may designate a representative as a non-voting member of the Operating Committee.

• Inserted paragraph

Rev. 2/25/75

The Operating Committee shall select from among its members a chairman and vice-chairman. The officers shall be changed annually in rotation among the members of the committee. Each year the vice-chairman of the committee during the preceeding year shall succeed to the chairmanship. The Operating Committee shall meet on a monthly basis and at such other times as the chairman may determine.

5B5.1 System Operations Subcommittee

The Operating Committee shall establish a System Operations Subcommittee. The subcommittee shall be responsible for developing and maintaining a pool operating manual, training for dispatching personnel, control center coordination and other operating practices as may be necessary. The subcommittee will be staffed by senior personnel responsible for system operation from the Participants.

The subcommittee will select from its members a chairman and vice-chairman. The officers shall be changed annually in rotation among the subcommittee members. The subcommittee shall meet at regularly scheduled times and at such other times as the chairman may determine.

5B5.2 Accounting Subcommittee

The Operating Committee shall establish an Accounting Subcommittee to develop and maintain practices involved in accounting for the costs involved with the operation of the pool and will be responsible for the cost schedules within the pool agreement. The subcommittee will be staffed by senior personnel with the proper background to carry out this important function from the Participants.

The subcommittee will select from among its members a chairman and vice-chairman. The officers shall be changed annually in rotation among the subcommittee members. The subcommittee will meet at regularly scheduled times and at such other times as the chairman may determine.

5B5.3 Reserve Requirement Subcommittee

The Operating Committee shall establish a Reserve Requirement Subcommittee. The subcommittee shall be responsible for developing and maintaining adequate reserve policies consistent with good reliability and economic operation. The subcommittee will

review current reserve requirements and will determine alternative courses of action should a contingency condition develop in the pool facilities. The subcommittee will be staffed with senior personnel with the proper background for this function from the Participants.

The subcommittee will select from among its members a chairman and vice-chairman. The officers shall be changed annually in rotation among the subcommittee members. The subcommittee shall meet at regularly scheduled times and at such other times as the chairman may determine.

5B5.4 Relay and Control Subcommittee

The Operating Committee shall establish a Relay and Control Subcommittee. The subcommittee will be responsible for developing and maintaining protection and control schemes for pool facilities. This includes installation, checkout, relay settings, relay maintenance, periodic review of coordination and other related control and protection functions for pool facilities. The subcommittee will be staffed with senior personnel with the proper background for this function from the Participants.

The subcommittee will select from among its members a chairman and vice-chairman. The officers shall be changed annually in rotation among the subcommittee members. The subcommittee shall meet at regularly scheduled times and at such other times as the chairman may determine.

5B5.5 Communications Subcommittee

The Operating Committee shall establish a Communications Subcommittee. The subcommittee will be responsible for developing and maintaining an adequate and reliable communications system between the Participants of the pool. The subcommittee will review and recommend the necessary communication system for good pool operations. The subcommittee will be staffed with senior personnel with the proper background for this function from the Participants.

The subcommittee will select from among its members a chairman and vice-chairman. The officers shall be changed annually in rotation among the subcommittee members. The subcommittee will meet at regularly scheduled times and at such other times as the chairman may determine.

5B5.6 Computer Coordination Subcommittee

The Operating Committee shall establish a Computer Coordination Subcommittee. This subcommittee will be responsible for developing and maintaining coordination of all pool computer facilities dedicated to day-to-day operation to insure maximum utilization of process control computer applications. This would include system control, system data acquisition, data manipulation, operators log, supervisory control and other such functions as may be allocated to the computer. The subcommittee will be staffed with senior personnel with the proper background for this function from the Participants.

The subcommittee will select from among its members a chairman and vice-chairman. The officers shall be changed annually in rotation among the subcommittee members. The subcommittee will meet at regularly scheduled times and at such other times as the chairman may determine.

5B5.7 Maintenance And Construction Subcommittee

The Operating Committee shall establish a Maintenance and Construction Subcommittee. The subcommittee will be responsible for developing and maintaining all necessary rules and practices necessary to coordinate the maintenance and construction of the generation and the bulk power supply systems of the pool membership. These rules and practices shall insure reliability of service and economic operation. The subcommittee will be staffed with senior personnel responsible for maintenance and construction from the Participants.

The subcommittee shall select from among its members a chairman and vice-chairman. The officers shall be changed annually in rotation among the subcommittee members. The subcommittee will meet at regularly scheduled times and at such other times as the chairman may determine.

5B6 Link Pool Environmental Committee

The Executive Committee of FEPP shall establish an Environmental Committee which shall develop and coordinate aspects of environmental protection and enhancement as they pertain to the planning function of FEPP.

Each Party shall designate the senior individual responsible for environmental activities along with an alternate to serve

on the Environmental Committee. The expenses of each member on the committee will be borne by the party he represents.

The Environmental Committee shall select from among its members a chairman and vice-chairman. The officers shall be changed annually in rotation among the members of the committee. Each year, the vice-chairman of the committee during the preceding year shall succeed to the chairmanship. The Environmental Committee shall meet at regularly scheduled times and at such other times as the chairman may determine.

5B7 Link Pool Public Relations Committee

The Executive Committee of FEPP shall establish a Public Relations Committee which shall develop and coordinate public relation activities as they apply to FEPP as a whole.

Each Party shall designate the senior individual responsible for public relation activities along with an alternate to serve on the Public Relations Committee. The expenses of each member of the committee will be borne by the party he represents.

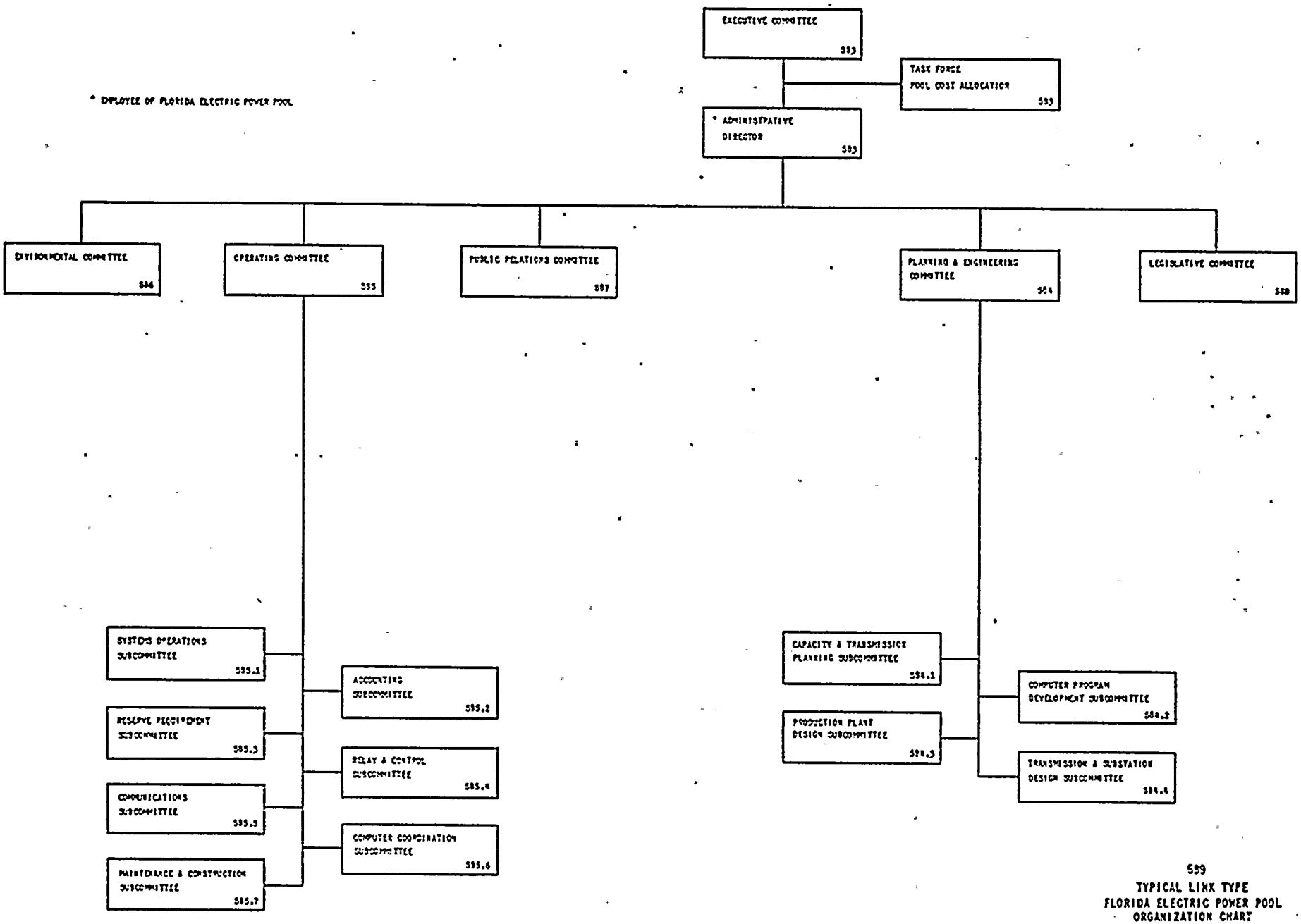
The Public Relations Committee shall select from among its members a chairman and vice-chairman. The officers shall be changed annually in rotation among the members of the committee. Each year, the vice-chairman of the committee during the preceding year shall succeed to the chairmanship. The Public Relations Committee shall meet at regularly scheduled times and at such other times as the chairman may determine.

5B8 Link Pool Legislative Committee

The Executive Committee of FEPP shall establish a Legislative Committee which shall develop and coordinate legislative activities as they apply to FEPP as a whole.

Each Party shall designate the senior individual responsible for legislative activities along with an alternate to serve on the Legislative Committee. The expenses of each member of the committee will be borne by the party he represents.

The Legislative Committee shall select from among its members a chairman and vice-chairman. The officers shall be changed annually in rotation among the members of the committee. Each year, the vice-chairman of the committee during the preceding year shall succeed to the chairmanship. The Legislative Committee shall meet at regularly scheduled times and at such other times as the chairman may determine.



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TYPICAL LINK TYPE
FLORIDA ELECTRIC POWER POOL
ORGANIZATION CHART

5C Team Pool Structure

5C1 Team Pool Organization

A possible organization structure of a team type Florida Electric Power Pool is shown in the chart (Subsection 5C10). The objective of this type of organization is to plan and operate the pool as a fully intergrated system under the "one-system" concept including a central pool distaching center. The pool staff of paid personnel will consist of administrative, engineering, operations and clerical personnel. In this type of organization, the Executive Committee composed of member companies' personnel still control the pool decisions but unlike the link type pool, the paid staff will attend to pool matters on a continuous basis. The details of pool staff and committee functions will be spelled out in the following Subsections.

This type of organization is a major step from our present informal FCG organization to a more formalized organization. This is a feasible approach with the understanding that the central pool dispatch system would not come into being until much later. With the additional staff personnel the total cost would be greater than for the link type pool but savings in member company personnel time should offset this additional cost.

5C2 Team Pool Membership

Any electric system operating facilities in the State of Florida for service to the public, as defined by the Florida Public Service Commission, shall be eligible for membership in the Florida Electric Power Pool (FEPP) as a Participant or Associate Participant. The degree of participation would be consistent with the existing Florida Electric Power Coordinating Group (FCG) objectives.

5C2.1 Participant

A Participant is any Party to the Florida Electric Power Pool Agreement

(a) Which owns and controls the operation of generating units having a combined installed capacity of 75MW net, or more; and

(b) Whose system is normally operated directly interconnected with one or more Participants.

(c) Deleted 2/25/75

(d) Deleted 2/25/75

Rev 2/25/75

5C2.2 Associate Participant

It is recognized that some Parties to the Florida Electric Power Pool Agreement cannot fully participate under the provisions set forth for a Participant. Therefore, provision is made for such Party to participate as an Associate Participant, it being recognized that its primary participation will be through the Participant to which the Party is connected under the provisions of the appropriate contracts with such Participant.

5C3 Team Pool Executive Committee

.1 The Parties of the FEPP shall establish an Executive Committee to determine policy with respect to all matters within the scope of the Agreement and to arrange for the administration and implementation of the Agreement. The Executive Committee shall provide for the coordination of the planning, engineering, environmental, public relations, legislative, and operating functions of the members of FEPP in order that, to the greatest extent possible, such coordination will be directed to providing for the electric power needs of the State of Florida (excluding Gulf Power Company) as a whole.

.2 Each Party to the Agreement shall designate a senior officer, and as an alternate, a second officer authorized to act on his behalf, to serve on the Executive Committee. The expenses of each member of the Executive Committee shall be borne by the party he represents.

At its first meeting, the Executive Committee shall select from among its members a chairman and vice-chairman to serve for one year from such first meeting; and for each year thereafter the chairman shall be the member of the Committee who served as vice-chairman during the preceding year, and the vice-chairman shall be a member selected by the Committee. The Committee shall meet at least monthly and at such other times as the Chairman may determine necessary.

The Executive Committee shall review and direct the activities of the Planning and Engineering Committee, Operating Committee, Environmental Committee, Public Relations Committee, and Legislative Committee established hereunder. The Executive Committee shall arrange for the services of an Administrative Director of the FEPP and sufficient clerical and technical staff to permit them to fulfill their responsibilities here-

.1 Changed "Participants" to "Parties"
.2 Changed "Participant" to "Party"

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under. The Administrative Director shall act as a liaison between the Executive Committee and the Committees: shall direct the activities of the General Manager of Studies; shall attend committee meetings in a non-voting capacity; shall administer and coordinate the activities of FEPP and carry out such other duties as may be assigned by the Executive Committee.

All expenses arising out of the administration and implementation of the Agreement, other than the expenses incurred by each member or alternate member of the Executive Committee, Planning and Engineering Committee, Operating Committee, Environmental Committee, Public Relations Committee, and Legislative Committee shall be subject to the approval of the Executive Committee, in accordance with procedures to be established by the Executive Committee, and shall be allocated among the Parties in accordance with the formula for payment which may be in effect at the time such expenses are incurred.

The Chairman of the Executive Committee is hereby designated the agent of each of the parties for the purpose of filing changes in, or supplements to, the Agreement with the Federal Power Commission and other regulatory agencies.

The Executive Committee shall direct the activities of the Task Force on Pool Cost Allocation. This Task Force shall be responsible for determining the initial capacity and energy charges for the Agreement and present these to the Executive Committee for approval. The Task Force shall moniter the initial charges, after approval, on a continuous basis and based on information and recommendations from the Planning and Engineering Committee and the Operating Committee shall submit changes as appropriate to the Executive Committee for approval.

5C4 Team Pool Planning And Engineering Committee

The Executive Committee of FEPP shall establish a Planning and Engineering Committee from the Participants which will be responsible for the planning and engineering of all pool facilities. The committee will review plans and engineering specifications developed by the underlying subcommittees for implementation by FEPP and will present the committee's recommendations to the Executive Committee for approval. The Planning and Engineering Committee shall also direct the activities of the General Manager of Planning and Engineering.

Each Participant shall designate the senior individual responsible for electric system planning and engineering along with an alternate to serve on the Planning and Engineering Committee. The expenses of each member on the committee will be borne by the party he represents.

Each Associate Participant may designate a representative as a non-voting member of the Planning and Engineering Committee.

The Planning and Engineering Committee shall select from among its members a chairman and vice-chairman. The officers shall be changed annually in rotation among the members of the committee. Each year, the vice-chairman of the committee during the preceding year shall succeed to the chairmanship. The Planning and Engineering Committee shall meet at regularly scheduled times and at such other times as the chairman may determine.

5C4.1 Capacity and Transmission Planning Subcommittee

The Planning and Engineering Committee shall establish a Capacity and Transmission Planning Subcommittee to develop plans for the capacity and transmission additions to FEPP. The subcommittee will be staffed by senior planning personnel responsible for studies and reports along the lines of individual Participant system expansion plans. The subcommittee shall recommend alternative plans to the Planning and Engineering Committee for their review and recommendations.

The subcommittee will have as permanent chairman the General Manager of Planning and Engineering. The subcommittee will select from among its members a vice-chairman who shall be changed annually in rotation among the members of the subcommittee. The subcommittee shall meet at regularly scheduled times and at such other times as the chairman may determine.

5C4.2 Computer Program Development Subcommittee

The Planning and Engineering Committee shall establish a Computer Program Development Subcommittee to maintain, develop and research computer programs to aid in data collection, analysis, data manipulation, and control for pool planning and engineering functions. The subcommittee will be staffed with senior personnel with the proper background for this function from the Participants.

The subcommittee shall have as permanent chairman the General Manager of Planning and Engineering. The subcommittee shall select from among its members a vice-chairman who shall be changed annually in

rotation among the members of the subcommittee. The subcommittee shall meet at regularly scheduled times and at such other times as the chairman may determine.

5C4.3 Production Plant Design Subcommittee

The Planning and Engineering Committee shall establish a Production Plant Design Subcommittee to develop acceptable design standards for pool generating facilities. The subcommittee will be staffed with senior personnel responsible for power plant design from the Participants.

The subcommittee will have as permanent chairman the General Manager of Planning and Engineering. The subcommittee shall select from among its members a vice-chairman who shall be changed annually in rotation among the members of the subcommittee. The subcommittee shall meet at regularly scheduled times and at such other times as the chairman may determine.

5C4.4 Transmission and Substation Design Subcommittee

The Planning and Engineering Committee shall establish a Transmission and Substation Design Subcommittee to develop and maintain acceptable design standards for transmission and substation facilities dedicated to pool use. The subcommittee will be staffed with senior engineering personnel responsible for transmission and substation design from the Participants.

The subcommittee will have as permanent chairman the General Manager of Planning and Engineering. The subcommittee shall select from among its members a vice-chairman who shall be changed annually in rotation among the members of the sub-committee. The subcommittee shall meet at regularly scheduled times and at such other times as the chairman may determine.

5C5 Team Pool Operating Committee

The Executive Committee of FEPP shall establish an Operating Committee which shall establish and maintain all necessary rules and practices necessary to coordinate the operation of the bulk power supply systems of the pool membership. These rules and practices shall insure reliability of service and economic operation. The Operating Committee shall also direct the activities of the General Manager of Operations.

Each Participant shall designate the senior individual responsible for electric system operation along with an alternate to serve on the Operating Committee. The expenses of each committee member will be borne by the party he represents.

- Each Associate Participant may designate a representative as a non-voting member of the Operating Committee.

The Operating Committee shall select from among its members a chairman and vice-chairman. The officers shall be changed annually in rotation among the members of the committee. Each year the vice-chairman of the committee during the preceeding year shall succeed to the chairmanship. The Operating Committee shall meet on a monthly basis and at such other times as the chairman may determine.

5C5.1 System Operations Subcommittee

The Operating Committee shall establish a System Operations Subcommittee. The subcommittee shall be responsible for developing and maintaining a pool operating manual, training of dispatching personnel, control center coordination and other operating practices as may be necessary. The subcommittee will be staffed by senior personnel responsible for system operation from the Participants.

The subcommittee will have as permanent chairmen the General Manager of Operations. The subcommittee will select from its members a vice-chairman who shall be changed annually in rotation among the subcommittee members. The subcommittee shall meet at regularly scheduled times and at such other times as the chairman may determine.

5C5.2 Accounting Subcommittee

The Operating Committee shall establish an Accounting Subcommittee to develop and maintain practices involved in accounting for the costs involved with the operation of the pool and will be responsible for the cost schedules within the pool agreement. The subcommittee will be staffed by senior personnel with the proper background to carry out this important function from the Participants.

The subcommittee will have as permanent chairman the General Manager of Operations. The subcommittee will select from among its members a vice-chairman who shall be changed annually in rotation among the subcommittee members. The subcommittee will meet at regularly scheduled times and at such other times as the chairman may determine.

- Inserted Paragraph

Rev 2/25/75

5C5.3 Reserve Requirement Subcommittee

The Operating Committee shall establish a Reserve Requirement Subcommittee. The subcommittee shall be responsible for developing and maintaining adequate reserve policies consistent with good reliability and economic operation. The subcommittee will review current reserve requirements and will determine alternative courses of action should a contingency condition develop in the pool facilities. The subcommittee will be staffed with senior personnel with the proper background for this function from the Participants.

The subcommittee shall have as permanent chairman the General Manager of Operations. The subcommittee will select from among its members a vice-chairman who shall be changed annually in rotation among the subcommittee members. The subcommittee shall meet at regularly scheduled times and at such other times as the chairman may determine.

5C5.4 Relay and Control Subcommittee

The Operating Committee shall establish a Relay and Control Subcommittee. The subcommittee will be responsible for developing and maintaining protection and control schemes for pool facilities. This includes installation, checkout, relay settings, relay maintenance, periodic review of coordination and other related control and protection functions for pool facilities. The subcommittee will be staffed with senior personnel with the proper background for this function from the Participants.

The subcommittee will have as permanent chairman the General Manager of Operations. The subcommittee will select from among its members a vice-chairman who shall be changed annually in rotation among the subcommittee members. The subcommittee shall meet at regularly scheduled times and at such other times as the chairman may determine.

5C5.5 Communications Subcommittee

The Operating Committee shall establish a Communications Subcommittee. The subcommittee will be responsible for developing and maintianing an adequate and reliable communications system between the Participants of the pool. The subcommittee will review and recommend the necessary communication systems

for good pool operations. The subcommittee will be staffed with senior personnel with the proper background for this function from the Participants.

The subcommittee will have as permanent chairman the General Manager of Operations. The subcommittee will select from among its members a vice-chairman who shall be changed annually in rotation among the subcommittee members. The subcommittee will meet at regularly scheduled times and at such other times as the chairman may determine.

5C5.6 Computer Coordination Subcommittee

The Operating Committee shall establish a Computer Coordination Subcommittee. This subcommittee will be responsible for developing and maintaining coordination of all pool computer facilities dedicated to day-to-day operation to insure maximum utilization of process control computer applications. This would include system control, system data acquisition, data manipulation, operators log, supervisory control and other such functions as may be allocated to the computer. The subcommittee will be staffed with senior personnel with the proper background for this function from the Participants.

The subcommittee will have as permanent chairman, the General Manager of Operations. The subcommittee will select from among its members a vice-chairman who shall be changed annually in rotation among the subcommittee members. The subcommittee will meet at regularly scheduled times and at such other times as the chairman may determine.

5C5.7 Maintenance and Construction Subcommittee

The Operating Committee shall establish a Maintenance and Construction Subcommittee. The subcommittee will be responsible for developing and maintaining all necessary rules and practices necessary to coordinate the maintenance and construction of the generation and the bulk power supply systems of the pool membership. These rules and practices shall insure reliability of service and economic operation. The subcommittee will be staffed with senior personnel responsible for maintenance and construction from the Participants.

The subcommittee will have as permanent chairman the General Manager of Operations. The subcommittee shall select from among its members a vice-chairman who shall be changed annually in rotation among the

subcommittee members. The subcommittee will meet at regularly scheduled times and at such other times as the chairman may determine.

5C6 Team Pool Environmental Committee

The Executive Committee of FEPP shall establish an Environmental Committee which shall develop and coordinate aspects of environmental protection and enhancement as they pertain to the planning function of FEPP.

Each Party shall designate the senior individual responsible for environmental activities along with an alternate to serve on the Environmental Committee. The expenses of each member on the committee will be borne by the party he represents.

The Environmental Committee shall select from among its members a chairman and vice-chairman. The officers shall be changed annually in rotation among the members of the committee. Each year, the vice-chairman of the committee during the preceding year shall succeed to the chairmanship. The Environmental Committee shall meet at regularly scheduled times and at such other times as the chairman may determine.

5C7 Team Pool Public Relations Committee

The Executive Committee of FEPP shall establish a Public Relations Committee which shall develop and coordinate public relation activities as they apply to FEPP as a whole.

Each Party shall designate the senior individual responsible for public relation activities along with an alternate to serve on the Public Relations Committee. The expenses of each member of the committee will be borne by the party he represents.

The Public Relations Committee shall select from among its members a chairman and vice-chairman. The officers shall be changed annually in rotation among the members of the committee. Each year, the vice-chairman of the committee during the preceding year shall succeed to the chairmanship. The Public Relations Committee shall meet at regularly scheduled times and at such other times as the chairman may determine.

5C8 Team Pool Legislative Committee

The Executive Committee of FEPP shall establish a Legislative Committee which shall develop and coordinate legislative activities as they apply to FEPP as a whole.

Each Party shall designate the senior individual responsible for legislative activities along with an alternte to serve on the Legislative Committee. The expenses of each member of the committee will be borne by the party he represents.

The Legislative Committee shall select from among its members a chairman and vice-chairman. The officers shall be changed annually in rotation among the members of the committee. Each year, the vice-chairman of the committee during the preceding year shall succeed to the chairmanship. The Legislative Committee shall meet at regularly scheduled times and at such other times as the chairman may determine.

5C9 Team Pool Staff

5C9.1 Administrative Director

The Administrative Director shall report to the Executive Committee and shall act as liaison between the Executive Committee and the other Committees; shall attend committee meetings in a non-voting capacity; shall administer and coordinate the activities of FEPP; shall directly supervise the General Manager, Studies and carry out such other duties as may be assigned by the Executive Committee.

5C9.2 General Manager, Planning and Engineering

The General Manager, Planning and Engineering shall report to the Planning and Engineering Committee and shall coordinate and develop plans for the installation of additional generating capability and transmission facilities within the FEPP.

The General Manager, Planning and Engineering shall be the chairman of various subcommittees which will perform the studies necessary for development of the above mentioned plans. The subcommittees will consist of manpower from the Participants represented on the Planning and Engineering Committee and will be activated as necessary by the General Manager, Planning and Engineering.

The General Manager, Plannning and Engineering shall consult periodically with the General Manager, Operations to insure that any extended operating restrictions are considered in any existing or proposed plans.

5C9.3 General Manager, Operations

The General Manager, Operations shall report to the Operating Committee and shall supervise the Managers of Dispatch, Accounting, and Power Supply Coordination. The General Manager, Operations shall establish such rules and practices as are necessary to coordinate the operation of the bulk power supply systems of the members of the FEPP so as to insure reliability of service and economic operation.

The General Manager, Operations shall consult periodically with the General Manager, Planning and Engineering and the General Manager, Studies to insure that any extended operating restrictions or new practices are considered in any existing or proposed plans.

The General Manager, Operations shall be the chairman of various subcommittees which will perform the studies and reviews necessary for the development of the rules and practices necessary to the objectives of good pool operation. The subcommittees will consist of manpower from the Participants represented on the Operating Committee and will be activated as necessary by the General Manager, Operations.

5C9.4 Manager, Dispatch

The Manager, Dispatch shall report to the General Manager, Operations and shall supervise the functions allocated to the dispatching of the FEPP resources consistant with the rules and practices agreed upon by the Participants to maintain the desired level of reliability and economic operation of Pool resources on a day-to-day basis.

The Manager, Dispatch shall consult periodically with the Manager, Accounting and Manager, Power Supply Coordination to insure that the goals of reliable and economic bulk electric service are being maintained within the existing operating constraints for the mutual benefit of the Participants.

5C9.5 Manager, Accounting

The Manager, Accounting shall report to the General Manager, Operations and shall supervise the func-

tions and personnel assigned to accounting for the costs involved with the operation of the FEPP. These costs would be of both an operating and planning nature. The Manager, Accounting shall be responsible for administration of the cost schedules with the pool agreement.

The Manager, Accounting shall be a non-voting member of the Task Force on Pool Cost Allocation and shall act as Secretary responsible for all documentation relating to Cost Allocation and Accounting within the FEPP.

5C9.6 Manager, Power Supply Coordination

The Manager, Power Supply Coordination shall report to the General Manager, Operations and shall supervise the function and personnel assigned to the activity. The functions would consist of establishing the committment schedules for Generating Units on both a day-to-day basis as well as establishing maintenance schedules for the generating units in the Pool.

The Manager, Power Supply and Coordination shall consult periodically with the Manager, Accounting and Manager, Dispatch to insure that the goals of reliable and economic bulk electric service are being maintained within the existing operating constraints for the mutual benefit of the Participants.

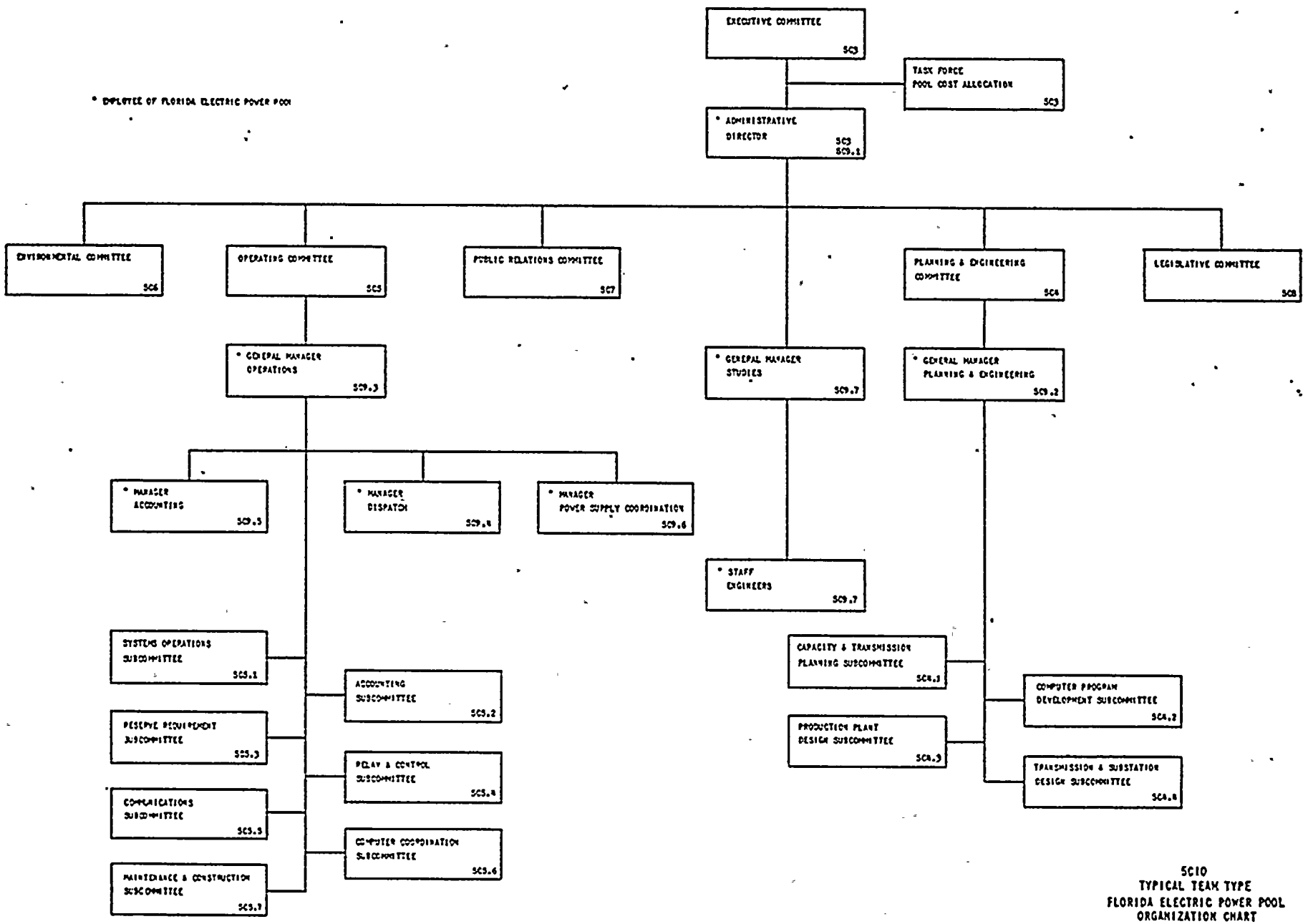
5C9.7 General Manager, Studies

The General Manager, Studies shall report to the Administrative Director and shall supervise the Staff Engineers.

The General Manager, Studies is responsible for providing technical assistance to the subcommittees and arrange for publication of all subcommittee reports and studies. An appropriate Staff Engineer will be assigned to each active subcommittee and will serve as Secretary, Data Coordinator and Report Coordinator of the subcommittee.

The General Manager, Studies shall provide technical study support for the General Manager, Operations in analyzing and reporting system disturbances, reviewing existing system operations for extended restrictions or contingency maintenance and determination of alternative action for these problems.

The General Manager, Studies shall be responsible for all FEPP responses to inquiries, reports, surveys, etc. from Local, State, and Federal Agencies; Regional and National Reliability Councils; and other organizations.



SC10
TYPICAL TEAM TYPE
FLORIDA ELECTRIC POWER POOL
ORGANIZATION CHART

5D Typical Pooling Agreements

5D1 TYPICAL LINK TYPE

FLORIDA ELECTRIC POWER POOL AGREEMENT

This Agreement made this _____ day of _____ between _____ witnesseth:

I. RECITALS

The Companies are engaged in supplying electric utility service to the public in the State of Florida.

Each Company recognized its responsibility to develop and improve its service in every practicable way. All of the Companies now serve areas that are developing rapidly and each is faced with the problem of providing for the most economical development and expansion of its system in order to meet anticipated growth in future loads.

In the past, the Companies have entered into separate, individual contracts with each other and with adjacent electric utility companies for interconnection of transmission facilities to assure emergency sources of power and to provide for the purchase, sale and exchange of firm power and surplus energy. Pursuant to these contracts, extensive physical interconnections of their transmission systems have been constructed and are now in operation. In recent years, advances in engineering technology and manafacturing techniques have produced high voltage transmission equipment capable of transporting greater quantities of electrical energy in an economical and practicable manner. Similarly, improvements in the design of generating facilities make possible the construction and operation of large and more efficient generating units. These technical developments now make possible the pooling of bulk power generating and transmission facilities and their coordinated operation over wide geographic areas and in certain cases savings will result in the cost of providing electric service to the public.

Faced with common needs and problems, the Companies have already undertaken joint action in dealing with the problem of continuing to provide economical and reliable service to the public. As a group, they have jointly sponsored the Florida Electric Power Coordinating Group (FCG). This group operates as an informal pool accomplishing many of the benefits of a formal pool.

In order to utilize the maximum advantages of recent technical developments, the Companies believe it desirable to undertake collaborative effort in the field of the generation and transmission of bulk electrical energy. By planning and coordinating the power production resources of the Companies with a view to common usefulness, the Companies may be able to attain even greater security and economy of service. Nevertheless, each company will retain its separate corporate indentity and individual freedom in rendering service to the public within its respective area. For these purposes, and with these limitations, this Agreement is accordingly made in order to establish a formal contractual coordination to be known as the "Florida Electric Power Pool" (FEPP).

II. UNDERTAKINGS

In consideration of the premises and the mutual undertakings and covenants herein made, it is hereby mutually agreed as follows:

A. Construction, Operation and Maintenance

Each Company shall construct, maintain and operate its generating and transmission systems, including interconnection ties and communication facilities, in a manner consistent with the then current Pool Generation Plan (which shall be a part hereof as Appendix A) and the then current Pool Transmission Plan (which shall be a part hereof as Appendix B). These Plans, which will provide for coordinated construction and operation of the bulk power facilities of the Companies, will be added to this Agreement and may be amended from time to time in accordance with the procedure set forth in Section F below.

B. Benefits

Each Company shall share in the benefits, and pay its share of the costs, of coordinated operations under this Agreement in accordance with the then current Pool Allocation Plan (which shall be a part hereof as Appendix C). This plan will be added to this Agreement and may be amended from time to time in accordance with Section F below.

C. Additional Facilities

Each Company shall construct and pay for all generating stations, transmission lines and other facilities and equipment within its service area, including its portion of interconnection facilities, as may be necessary to attain the full benefits of coordinated operations under this Agreement, and except in any case where otherwise

specifically agreed, shall be the sole owner of such facilities, regardless of the extent used for the purposes of this Agreement.

D. Records and Reports

Each Company shall keep all records that may be necessary for efficient operation under this Agreement. These records shall be kept in such form as the Executive Committee may designate and shall be available to any other Company on request. Each Company shall make all reports requested by the Executive Committee within the time requested.

E. Regulatory Authorization

This Agreement is subject to all requisite governmental approvals, and each Company shall diligently seek all necessary regulatory authorization for this Agreement and the performance hereof, including all its plans, appendices, supplements, and amendments.

F. Executive Committee

Each Company shall appoint one of its officers as its representative on the Executive Committee, and his successor from time to time as appropriate. A member of the Committee may appoint a substitute to act for him at any meeting of the Committee. The Executive Committee shall be responsible for the study of the coordinated operations of the generation and transmission systems of the members and the formulation, as soon as practicable, of a Pool Generation Plan, a Pool Transmission Plan, and a Pool Allocation Plan (hereinafter referred to collectively as the Plans). After the Plans have been unanimously approved by the Executive Committee, the Plans shall be automatically incorporated into this Agreement as Appendices A,B, and C respectively. Any Plans may be amended and supplemented in writing from time to time by the unanimous agreement of the Executive Committee and upon such changes Appendices A, B, or C shall be automatically amended to conform to the then current Plans. The signatures of committeemen to any Plan, supplement or amendment shall be conclusive evidence of approval. The Executive Committee shall meet once each month and at such other times as the Chairman may determine. The Executive Committee may execute such additional appendices and adopt such rules and procedures and establish such additional committees as will assist it in carrying out its responsibilities under this Agreement, which may include an Operating Committee to supervise the day-to-day operations within the framework of the approved Plans.

G. Effect on Other Agreements

(1) Between The Companies

Other agreements between two or more companies relating to the interconnection of systems or to the sale and transfer of electrical energy in effect prior to the approval of initial Plans referred to in Section F above shall remain in full force and effect. Each Company covenants, however, that after the initial Plans referred to in Section F above have been approved, it will not, without the written consent of all the other Companies, enter into any new obligations that would conflict with the obligations under this agreement. Upon written consent of all members, any agreements, whenever executed, may be incorporated into this Agreement as an Appendix and administered by the Executive Committee.

(2) Between a Company and Others Not Parties to This Agreement

This Agreement shall not affect the obligation of any Company under any contract between that Company and others not parties to this Agreement in effect prior to the approval of the initial Plans referred to in Section F above. Each Company covenants, however, that after the initial Plans referred to in Section F above have been approved it will not, without the written consent of all the other Companies, enter into any obligation with others not parties to this Agreement whose individual system capability is in excess of 50 MW that would (a) conflict with its obligations under this Agreement or (b) pass benefits received under this Agreement to such other system in a way that would adversely affect the rights of any other Company under this Agreement.

H. Term

The Effective Date of this Agreement is _____. This Agreement shall terminate on _____, unless terminated earlier by the consent of all parties to this Agreement or unless extended in accordance with Section I below.

I. Extension

This Agreement may be extended for _____ year periods by the unanimous written consent of all parties to the Agreement.

J. Right to Withdraw

Any Company may withdraw from this Agreement at any time

by giving written notice to every other Company at least three years in advance of such withdrawal. After the formulation of the Plans referred to in Section F above, but prior to their approval, if any Company concludes that participation in such Plans is not in its best interests, it may withdraw from this Agreement by giving written notice to every other Company at least sixty days in advance of such withdrawal. Any Company that withdraws from this Agreement in accordance with this section shall not be liable to any other Company for any damages that it may sustain as a result of such withdrawal provided that the withdrawing Company continues to fulfill the obligations incurred by it under this Agreement prior to such notice.

K. Waivers

Any waiver at any time by a Company of its rights with respect to a default by any other Company under this Agreement shall not be deemed a waiver with respect to any subsequent default.

L. Amendment

This Agreement may not be changed, amended, or supplemented except by an instrument in writing signed by all parties to this Agreement or, in case of Appendices, signed by the members of the Executive Committee in accordance with the provisions of Section F above.

M. Independent Contractors

By entering into this Agreement for contractual coordination of power generation and transmission facilities, the Companies shall not become partners, but, as to each other and to third persons, the Companies shall remain independent contractors in all matters relating to this Agreement. This Agreement is not intended to create any liability on the part of any Company to anyone not a party to this Agreement.

N. Assigns

This Agreement shall enure to the benefit of, be binding upon, the successors and assigns of the respective parties hereto, but no assignment (other than one made to a corporation simultaneously acquiring substantially all the assets of the assigning party) shall be made by any party hereto without the written consent of the others.

O. Local Law

This contract shall be deemed a contract made under the laws of the State of Florida.

IN WITNESS WHEREOF each of the parties has caused these presents to be signed in its name and on its behalf by its President, attested by its Secretary, both being duly authorized, all as of the day and year first above written.

This _____ day of _____.

TYPICAL LINK TYPE

FLORIDA ELECTRIC POWER POOL AGREEMENT

APPENDIX A

POOL GENERATION PLAN

A. PURPOSE

The purpose of this Appendix A is to provide a continuing comprehensive plan for providing adequate generating facilities by the Companies and the operation of such facilities to meet the power supply needs of the Companies operating as a Pool.

B. POOL GENERATING FACILITIES

B1. Estimated Requirements

The Executive Committee shall establish the capacity requirements of the Pool for not less than 15 years in the future. These requirements will be based upon recommendations from the Planning and Engineering Committee.

B2. Pool Generation Addition Plan

The Executive Committee shall establish a Pool Generation Addition Plan based upon recommendations from the Planning and Engineering Committee for not less than 15 years in the future and revise and extend it each year so that there is always a current Pool Generation Addition Plan to meet the current 15 year forecast of Pool requirements. In adopting such a plan, the Executive Committee shall follow the basic principle that the installation of additional generating capacity should be related to the combined loads of the interconnected systems of the Companies. Each additional generating unit shall be, insofar as practicable:

(a) The largest size that the existing circumstances can justify,

(b) Timed to meet the requirements of the combined loads, and

(c) Scheduled, located and owned in accordance with two factors:

(i) The preferred location of the owning Company to serve the prospective combined loads, either in an existing or new site, and

(ii) Staggering installations so that in the long run no one Company will have an unreasonable capital investment

made for the benefit of others and no one Company will be dependent on other Companies for disproportionate amount of its capacity requirements.

The Plan, among other things, shall set forth, for each of the years covered, the Participation Units to be constructed.

B3. Notice of Obligations

The Executive Committee shall notify each Company promptly of the obligations of all Companies under the current Pool Generation Addition Plan. The notice shall:

(a) Specify the Participation Unit or Units, if any, each Company is obligated to construct, including (i) approximate size, (ii) location, (iii) date that the Participation Unit or Units shall be scheduled for Commercial Operation, (iv) approximate cost, and (v) expected performance, and

(b) Inform each Company of its (i) approximate capacity allocation and charge in each Participation Unit, and (ii) the amount of the reserve, upon which the allocation was based.

B4. Completion of Unit

Upon receipt of such notice of obligation, the owning Company shall proceed promptly to design and construct the required facilities in accordance with the notice of obligation. The owning Company will immediately notify the Executive Committee of any change in construction schedule and when the new generating unit is placed in Commercial Operation. After the unit is placed in Commercial Operation, capacity and energy will be available to participating Companies in accordance with the previously determined Pool Allocation Plan. Thereafter, appropriate initial payments of Annual Fixed Capital Charges shall be made on an estimated basis until the capability of the Participation Unit is established. As soon as practicable the owning Company will determine the actual capability of such unit and notify the Executive Committee in writing. The Executive Committee shall then notify each Company of the change, if any, in allocations of its costs and capacity, together with such retroactive adjustments as are required for payments made during the interim period.

B5. Participation Unit

A generating unit installed in accordance with the Pool Generation Addition Plan shall be owned, subject to the lien of any mortgage, by the Company on whose system it is installed and shall be designated as a Participation Unit during any period when portions of

its capacity are allocated to a Company (or Companies) other than the owning Company. A unit shall cease to be a Participation Unit when its entire capacity is allocated by the Executive Committee to satisfy the reserve requirements of the owning Company.

C. Operations

C1. The Company owning a Participation Unit shall deliver full contracted capacity and energy, as scheduled by the purchasing Company, subject to the provisions of Appendix C, at interconnection point or points of the owning Company's system. The owning Company shall be compensated for losses, as provided in Appendix B.

The owning Company shall:

(a) Operate and maintain the Participation Unit at all times in accordance with good utility operating practice, and

(b) Cooperate, when practicable, with Companies participating in such unit with respect to the operation and scheduling of maintenance on the unit, provided, however, that the Company owning the unit shall have the final responsibility for and control over its operation and maintenance.

C2. The Companies participating in a Participation Unit shall furnish the owning Company a schedule of a capacity to be made available and energy to be delivered in such manner as may be agreed upon from time to time, except that such schedules may be changed under procedures established by the Operating Committee.

C3. The owning Company may utilize any unscheduled capacity in the Participation Unit until such allocated capacity is called for by the participating Companies.

C4. Capacity and energy generated by the owning Company may be produced by the recognized method of incremental loading within such procedures as established by the Operating Committee.

C5. It is the intent of this Agreement that no Company shall be obligated to deliver kilovars for the benefit of another Company; also that no Company shall be obligated to receive kilovars when to do so might intoduce objectionable operating conditions on its system. The Operating Committee shall be responsible for establishing and maintaining current operating procedures and schedules in respect to carrying kilovar loads by one system for the others in order to secure adequate service and economical use of the facilities in carrying kilovar loads. In discharging such duties, the Operating Committee shall recognize that in the transmission or delivery of power and energy hereunder, the carrying of kilovar loads by any of the members of the Pool, in harmony with sound

engineering principles of transmission operation with the systems interconnected, is subject to numerous variables contingent upon loading and operating conditions existing simultaneously on the systems of the Companies. The current operating procedures and schedules for kilovar exchange shall be in accord with such principles and shall require each of the Companies to carry kilovar loads at such times and in such amounts as will be equitable to all Companies.

D. Pool Reserve Capacity

D1. Each Company may utilize reserve capacity of the Pool for scheduled maintenance outages that create a deficiency of reserves within the Company. Such outages shall be scheduled in accordance with provisions of Section I of this Appendix A. The Pool obligation to supply such reserve to a Company shall be divided equitably among the other Companies in accordance with criteria established by the Operating Committee.

D2. Each Company may utilize any available reserve capacity of the Pool in an emergency. The Pool obligation to supply such reserve to a Company suffering an emergency shall be divided equitably among the other Companies in accordance with criteria established by the Operating Committee. If more than one Company is suffering an emergency, the available Pool reserve capacity will be divided among such Companies in accordance with such criteria.

If any Company (or Companies) suffers an emergency (or emergencies) of such magnitude or duration that service reliability of the Pool as a whole, or of any of the Companies, is placed in jepoardy and relief connot be obtained from within the Pool, then each Company suffering the emergency shall act immediately to restore service reliability by, directly or indirectly, arranging for additional capacity from sources outside the Pool. When conditions are such that load must be reduced, reduction shall be made on the system (or systems) of the Company (or Companies) suffering the emergency (or emergencies).

D3. Payment for reserve capacity supplied beyond a 24-hour period by one company for another Company shall be as set forth in Appendix C. Energy associated with pool reserve capacity supplied by one Company for another Company at any time shall be paid for by the receiving Company at the rates set forth in Appendix C.

E. Spinning Reserve

Spinning Reserve shall be allocated among the Companies in an equitable manner. New or revised plans or schedules for Spinning Reserve allocation shall be prepared as required in recognition of changed conditions in the Pool. The Spinning Reserve plan shall provide for adequate protection to service reliability. To this end, full recognition shall be given to existing emergency agreements between Companies and others not members of the Pool and to

any future emergency arrangements that may develop between Companies and other companies or pools. The plan shall authorize deviations under emergency or unusual conditions, providing said deviations are within limitations set by the Executive Committee. Any Company may, for reasons of economy or for other reasons, arrange for another Company or a company not a Pool member to provide all or any part of such Company's Spinning Reserve quota, provided that the Spinning Reserve so arranged for will satisfy the Pool's Spinning Reserve requirements, as determined by the Operating Committee, as if it were available from such Company's own capacity resources. Payment for Spinning Reserve capacity supplied by one Company for another shall be as set forth in Appendix C.

F. Economy Interchange

F1. It is recognized that from time to time each of the Companies will have electric energy available from surplus capacity on its own system and from sources outside its own system, hereinafter called Economy Energy, and that such Economy Energy can be supplied to other Companies at a cost that will result in operating savings. To promote the economy of electric power supply and to achieve efficient utilization of generating capacity, any Company, whenever it in its own judgment determines Economy Energy is available, shall offer Economy Energy to one or more of the other Companies Promptly upon receipt of any such offer, any Company which can make use of Economy Energy shall notify the offering Company of the extent to which it desires to use such Economy Energy, and schedules providing the periods and extent of use shall be mutually agreed upon.

F2. Economy Energy supplied hereunder shall be considered as displacing electric energy that otherwise would have been generated by the receiving Company at its own electric generating stations or any electric energy received from sources subject to displacement as agreed to by the Companies. It may be interrupted at any time. Economy Energy shall be settled for at rates which shall be predicated upon the principle that savings resulting from the use of Economy Energy shall be divided between the Companies as equally as is practicable. Prior to any transaction involving the sale and purchase of Economy Energy, authorized representatives of the Companies shall determine and agree upon the rate applicable to such transaction.

G. Nondisplacement Energy

G1. It is further recognized that from time to time occasions will arise when transactions under Section F above will be impracticable, but at the same time one of the companies may have electric energy (hereinafter called Nondisplacement Energy) which it is willing to make available from surplus capacity on its own system and/or from sources outside its own system that can be utilized advantageously for specified intervals by the other Companies. It

shall be the responsibility of the Company desiring the receipt of Nondisplacement Energy to initiate the receipt and delivery of such energy. The Company desiring such receipt of energy shall inform the other Company of the extent to which it desires to use Nondisplacement Energy, and, whenever in its own judgment such other Company determines that it has Nondisplacement Energy available, schedules providing the periods and extent of use shall be mutually agreed upon.

G2. Nondisplacement Energy delivered hereunder shall be settled for by either of the following methods, at the option of the delivering Company:

(a) At a rate per kilowatt-hour equal to the calculated average production cost of the highest cost generating units being used to produce the energy required to make the delivery - such cost being as of the delivery points, plus costs incurred in starting additional units if same are required to make the delivery, plus 10% of the above kilowatt-hour and starting costs; or

(b) By the return of equivalent energy.

H. Dispatching

The dispatching or system operating groups will each continue to operate their respective systems in accordance with sound operating practices providing for maximum continuity of service and economy of operation. Each group will, however, recognize the importance of service requirements of the Pool as a whole and will cooperate on a Pool basis voluntarily and also in accordance with instructions issued from time to time by the Operating Committee.

I. Coordinated Maintenance and Scheduled Unit Outages

For the most efficient operation under this Agreement maintenance and other scheduled outages for generating units of the Companies shall be coordinated to the fullest extent practical. To accomplish this it shall be the duty of the Operating Committee to prepare, not later than October 1 of each year, an annual schedule of maintenance outages for the generaring units of the Companies for the next year and a tentative schedule for the succeeding four years using the principle that adequate reserves will be maintained at all times. When prepared, such schedules shall be adhered to by all Companies except as altered by the Operating Committee for emergency outages of equipment or other reason justifiable to the Operating Committee.

J. Effective Date

For purposes of Section G of the Florida Electric Power Pool Agreement dated _____, the date of the approval of this Appendix is _____. It is intended that the provisions of this Appendix shall be placed in effect as soon as practical, and the determination of such effective dates shall be made by the Executive Committee, provided, however, that all provisions shall be placed in effect not later than _____.

(Note: Refer to Appendix E for defined terms)

TYPICAL LINK TYPE

FLORIDA ELECTRIC POWER POOL AGREEMENT

APPENDIX B

POOL TRANSMISSION PLAN

A. Purpose

The Purpose of this Appendix B is to provide a continuing comprehensive plan for providing and operating adequate transmission facilities, interconnection ties, communication facilities and other facilities necessary or desirable to enable the Companies to meet their obligations and share in the benefits of operations under Appendix A.

B. Pool Transmission Facilities

B1. Estimated Requirements

The Executive Committee shall establish the requirements for transmission facilities, interconnection ties, communication facilities and other facilities required for successful operation of the Pool These requirements will be based on recommendations of the Planning and Engineering Committee.

B2. Pool Transmission Addition Plan

The Executive Committee shall establish a Pool Transmission Addition Plan based upon recommendations of the Planning and Engineering Committee for not less than 15 years in the future and revise and extend it each year so that there is always a current Pool Transmission Addition Plan to meet the current 15 year forecast of Pool requirements.

In adopting such plan the Executive Committee shall follow the basic principle that facilities will be installed at the locations and at the times that will best enable the Companies to meet their obligations and share equitably in the Pool benefits. The Executive Committee shall also recognize as basic the principle that any Company which builds a transmission facility classified either wholly or partially as a Pool Transmission Facility shall be reimbursed for a fair proportion of the Annual Fixed Capital Charges and operation and maintenance expenses of that facility by other Companies until such time as the Executive Committee determines that the owning Company would otherwise have required the same equivalent facility.

C. Pool Transmission Facilities

Pool Transmission Facilities are those transmission facilities

designated as such by the Executive Committee. The Executive Committee may designate as Pool Transmission Facilities interconnections with companies outside the Pool constructed for the benefit of the Pool.

The owning Company may make use of a Pool Transmission Facility for other than Pool transactions with prior approval of the Executive Committee.

Should the owning Company make use of such facility for such purpose, the Executive Committee shall establish what part, if any, should no longer be classified as a Pool Transmission Facility.

Additional Pool Transmission Facilities shall be provided by each Company in accordance with the then current Pool Transmission Addition Plan and notice of obligations shall be given to each Company by the Executive Committee, pursuant to Section D below. The Pool Transmission Facilities are to be owned, subject to the lien of any mortgage, by the Companies in whose systems they are installed.

Annual Fixed Capital Charges (Supplement 1, Appendix C) plus operation and maintenance expenses associated with Pool Transmission Facilities, or portions thereof, shall be allocated among the Companies as provided for in Appendix C.

D. Notice of Obligations

D1. The Executive Committee shall notify the Companies of their respective obligations under the Pool Transmission Addition Plan. The notices to the Companies shall be made at such times as:

(a) the Pool Transmission Addition Plan shall have been adopted or revised, and

(b) changes in Pool Transmission Facilities previously designated become effective.

D2. Notices pursuant to paragraph (a) of Section D1 shall specify the lines and other facilities, if any, including existing facilities, which each Company is obligated to construct and/or maintain and operate as designated Pool Transmission Facilities.

D2.1 For facilities to be constructed the notice shall specify:

(a) Location

(b) Design voltage, transformer capacity, line capacity, metering, and other important design considerations,

(c) Date to be available for service,

(d) Estimated cost,

(e) The estimated portion or proportion of each facility which will be designated as a Pool Transmission Facility, and,

(f) The estimated cost to each Company of Annual Fixed Capital Charges and expenses of that portion or proportion of the Transmission facility designated as a Pool Transmission Facility.

D2.2 For existing facilities, the notice shall specify:

(a) The portion or proportion of each facility designated as a Pool Transmission Facility, and

(b) The cost to each Company of the Annual Fixed Capital Charges and expenses of the allocable portion or proportion of each facility as determined by application of the provisions of Appendix C.

D3. Notices pursuant to paragraph (b) in Section D1 shall specify:

(a) The portion or proportion of each facility designated as a Pool Transmission Facility, and

(b) The participation by each Company in the Annual Fixed Capital Charges and expenses of the allocable portion or proportion of each facility as determined by application of the provisions of Appendix C.

E. Completion of Facilities

Upon receipt of such notice of obligation, the owning Company (or Companies) shall proceed promptly to design and construct the required facilities in accordance with the notice of obligation. The owning Company (or Companies) will immediately notify the Executive Committee of any changes in construction schedule and when Pool Transmission Facilities are placed in Commercial Operation. When such facility is placed in Commercial Operation, it shall be available for Pool service.

Thereafter, appropriate initial payments of Annual Fixed Capital Charges shall be made on an estimated basis until the actual cost data is available. The owning Company (or Companies) shall prepare a cost completion report, together with a calculation of the Annual Fixed Capital charges which are applicable thereto, and shall file this information with the Executive Committee as soon as practicable.

After the Executive Committee approves the calculation of the Annual Fixed Capital Charges, it shall allocate them among the Companies in accordance with Appendix C, together with such retroactive adjustments as are required for payments made during the interim period.

F. Operation and Maintenance

Each Company shall operate and maintain the Pool Transmission Facilities, and other lines, interconnection ties, and communication facilities in its system in a manner consistent with good utility operating practice.

Separate records will be kept by each Company of operating and maintenance expenses of individual Pool Transmission Facilities in its system. These records shall be submitted to the Executive Committee to be used in determining payments to be made by the Companies.

Maintenance and other scheduled outages of Pool Transmission Facilities shall be specified by the Operating Committee upon application of the owning Company.

Notwithstanding other provisions, the Company owning such facilities shall have the final responsibility for and control over the operation and maintenance.

G. Sharing of Costs

Each Company that owns Pool Transmission facilities shall be reimbursed in accordance with Appendix C for a proportionate part of the Annual Fixed Capital Charges and operating and maintenance expenses on the portions or proportions of those facilities which are designated as Pool Transmission Facilities. In determining each Company's part of such Annual Fixed Capital Charges, operation expenses and maintenance expenses, the owning Company shall bear its proportionate part.

H. Capacity and Energy Loss Compensation

The losses associated with the transmission of capacity and energy either within the system of the sending Company or in the system of an intermediate Company, will be borne by the receiving Company. Compensation for such losses will be accomplished by scheduling coincidental delivery of loss compensation.

I. Effective Date

For purposes of Section G of the Florida Electric Power Pool Agreement dated _____, the date of the approval of this Appendix is _____. It is intended that the provisions of this Appendix shall be placed in effect as soon as practical, and the determination of such effective dates shall be made by the Executive Committee, provided, however, that all provisions shall be placed in effect not later than_____.

(Note: Refer to Appendix E for defined terms)

TYPICAL LINK TYPE

FLORIDA ELECTRIC POWER POOL AGREEMENT

APPENDIX C

POOL ALLOCATION PLAN

A. Purpose

The purpose of this Appendix C is to set forth the allocation of costs of operation under the Pool Generation Plan, Appendix A, and the Pool Transmission Plan, Appendix B, in order that the Companies will equitably share the benefits from the Pool.

B. APPENDIX A Allocations

B1. Capacity Allocation

B1.1 Capacity allocation to each Company in all Participation Units shall be on an equitable basis of reserve as determined by the Executive Committee.

B1.2 If, at any time, the Executive Committee ascertains that the then current Pool Generation Addition Plan has provided or will provide reserve capacity substantially above or below the actual requirements of the Pool, it may adjust capacity allocations in Participation Units and/or authorize one or more Companies to make arrangements with companies not members of the Florida Electric Power Pool or with other power pools for the purchase or sale of capacity. The expenses and benefits of such transactions shall be shared equitably among the Companies.

B1.3 If, at any time, the Executive Committee ascertains that capacity allocation among the Companies is inequitable, in cases such as a Company's errors in load forecoasts, capability forecasts, or any similar reasons, the Executive Committee may make such adjustments, including retroactive allocations (not to exceed 24 months) and/or payments, as it deems equitable.

B1.4 If the net capability of a Participation Unit is reduced below the scheduled allocation of the participating Companies because of failure of facilities or other valid reasons, the reduced output shall be prorated among the participating Companies on the ratio of each Company's allocated participation to the sum of such allocations.

B1.5 During light load periods on the system of the owning Company when the Participation Unit is loaded at or near its minimum load, each participating Company shall, if requested

to do so by the owning Company, schedule not less than its pro rata share of the minimum load of such Participation Unit. At the request of a participating Company, the owning Company may at its discretion reduce or relieve the participating Company (or Companies) of this obligation at any time.

B2. Participation Unit Capacity Charges

B2.1 The purchasing Company shall pay the owning Company at a rate per kilowatt equal to the weighted average of the Annual Fixed Capital Charges per kilowatt on the most recent participating steam electric generating unit previously installed on each of the Companies systems except that prior to the initial installation of a Participation Unit on the system of a Company, the unit of such Company to be used in this calculation shall be designated by the Executive Committee. The formula to be used for this computation is shown in Supplement 1 of this Appendix C. In calculating such charges of each such unit the total investment of such unit shall include all charges made to the present Federal Power Commission (FPC) capital accounts 310, 311, 312, 314,315, and 316 for steam stations, or similar FPC accounts for nuclear stations. In addition to the above accounts, the investment shall include the cost of the main power transformers and associated equipment necessary to deliver the unit's output to the high voltage bus (FPC capital account 353). The charges made to these accounts shall include general overhead and administrative costs, any local charges made in addition to the engineering contractor or sub-contractors charges on the project, interest during construction and all other charges properly classified to the above FPC accounts.

To obtain the corrected total cost of a Participation Unit, adjustments shall be made, if required, to reflect the unit's proportionate share of expenditures made for more than one unit at that site. The costs associated with land, land rights, landscaping, site preparation, roads, administration building, including laboratory, shops and equipment, railroad facilities, cooling pond (if built for this purpose), coal conveying equipment, ash handling equipment, or any other items common to more than one unit shall be adjusted in the ratio that the capability of the unit bears to the total capability for which the investment was made.

The computation of the capacity charges shall be subject to review and approval of the Executive Committee and final determination shall include considerations which will equitably share with all participating Companies the benefits from the Pool.

B2.2 Capacity charges shall become effective on the date of Commercial Operation of the Participation Unit.

B2.3 Prior to the initial installation of a Participation Unit on the system of a Company, capacity sold by such Company

to other Companies pursuant to the Executive Committee's plan for equitable reserve shall be from the steam electric unit installed on the selling Company's system designated as a Participation Unit by the Executive Committee. In applying the formula for determining the rate for the capacity allocated. (Supplement 1 to Appendix C) actual costs of the unit, or units, from which capacity is then being sold shall be used.

B3. Participation Unit Energy Allocation

Each Company shall be entitled to the engery associated with its capacity allocation from each Participation Unit, subject to transmission loss adjustments, if any.

B4. Participation Unit Energy Charges

The purchasing Company shall pay the owning Company a rate per kilowatt-hour equal to the average fuel cost per net kilowatt-hour of all energy produced by the Participation Unit during the month excluding energy produced when the Participation Unit is operated with one or more heaters cut out of service in order to obtain capacity for the owning Company. This shall be determined by use of FPC Account 501.

B5. Reserve Capacity and Energy Charges From Other Than Participation Units

B5.1 Capacity

The charge for reserve capacity between the Companies shall be _____ cents per kilowatt for each calendar day or portion thereof, plus additional "out of pocket" expenses, if any, except fuel costs. The determination of additional "out of pocket" costs shall be the sole prerogative of the seller; however, the Operating Committee will periodically review the transactions and endeavor to standardize billing procedures.

B5.2 Energy

Energy supplied with reserve capacity will be settled for at a rate per kilowatt-hour equal to the calculated average fuel cost of the highest cost generating units being used to produce the energy required to make the delivery, such cost being as of the delivery points taking into account electrical losses incurred from the source of such energy to the delivery points, plus ten percent of the above kilowatt-hour cost.

B6. Extra Tax Charges or Credits

To the capacity and energy charges set forth in Sections B2, B4, and B5 above will be added or subtracted, where applicable, an extra charge or credit to compensate for any taxes levied directly or indirectly on the capacity or energy con-

tracted for, where such taxes are based upon capacity or energy allocated in Sections B1, B3, and B5 above or upon monetary receipts associated therewith, except to the extent that such extra charges or credits are included in Participation Unit Annual Fixed Capital Charge as determined in Supplement 1 to this Appendix C. Without in any way limiting the foregoing, it is further agreed that such taxes shall include but not be limited to the following taxes:

(a) Gross Receipts Taxes,

(b) Sales Tax on Energy,

(c) Sales Tax or Use Tax on Fuel,

(d) Generating Tax.

The owning Company shall notify the purchasing Companies of any such new tax or of any increase or decrease in such taxes. The word "taxes" as used in this paragraph shall not be construed to mean Federal or State taxes on net income.

B7. Operating and Maintenance Expenses for Participation Units

B7.1 From a Plant Containing Participation Units Only:

The purchasing Company shall pay the owning Company monthly its pro rata portion, based on its percentage of capacity participation, of the operating and maintenance expenses as listed in the following present FPC Accounts for fossil fuel fired stations or their equivalent for nuclear stations: 500, 502, 503, 504, 505, 506, 507, 510, 511, 512, 513, and 514.

B7.2 From a Plant in Which There Are Other Units In Addition to The Participation Unit or Units:

(a) The purchasing Company shall pay the owning Company monthly its pro rata portion, based on its percentage of capacity participation, and maintenance expenses for the Participation Unit (or Units) as listed in the FPC Accounts in Section B7.1 above. The owning Company shall set up appropriate accounting procedures so that maintenance expenses for the Participation Unit (or Units) can be maintained. To the extent that unit maintenance costs cannot be identified, estimates approved by the Executive Committee shall be used.

(b) The purchasing Company shall pay the owning Company monthly the operating expenses for the plant as listed in the FPC Accounts in Section B7.1 above multiplied by its percentage of capacity participation and further multiplied by the ratio of the number of Participation Units in the plant to the

total number of active units in the plant. Active units shall mean any unit operating during any part of six or more days during the month except that a normally active unit out of service for maintenance or repair will be considered an active unit.

B7.3 If retroactive credits occur in connection with the expense charges provided for in Section B7.1 and B7.2, the Executive Committee may provide for equitable retroactive adjustment of these charges.

C. APPENDIX B Allocations

C1. Annual Fixed Capital Charges and Expenses

A common formula (Appendix C Supplement 1) shall be used by all Companies in determining the Annual Fixed Capital Charges expressed as a decimal fraction of investment for Pool Transmission Facilities installed in a Company's system. This decimal fraction when multiplied by the cost of Pool Transmission Facilities installed in a Company's system determines the Annual Fixed Capital Charges. In calculating such charges for Pool Transmission Facilities the total investment in such facilities shall include all charges made to the present FPC capital accounts, 350, 351, 352, 353, 354, 355, 356, 357, 358 and 359 and land rights and other Nondepreciable Investments shall be included. Operation and maintenance expenses applicable to Pool Transmission Facilities shall be those included in the present FPC accounts 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, and 573. To the extent that costs cannot be identified, estimates approved by the Executive Committee may be used. The charges and expenses so determined shall be subject to review and approval by the Executive Committee.

C2. Allocation of Annual Fixed Capital Charges and Operating and Maintenance Expenses

The Annual Fixed Capital Charges and the operation and maintenance expenses for Pool Transmission Facilities shall be distributed among the Companies in the ratio of each Company's estimated peak net territorial load, plus sales to non-member companies, to the sum of all the Companies estimated peak net territorial loads, plus firm sales to non-member companies and shall be subject to review from time to time by the Executive Committee.

C3. Retroactive Credits

If retroactive credits occur in connection with the expense charges provided for in Section C1. or C2., the Executive Committee may provide for equitable retroactive adjustment of these charges.

D. Force Majeure

In the event that a Participation Unit or a Pool Transmission Facility is damaged, destroyed or rendered inoperable by explosion, fire, riot, strike, act of negligence, act of sabotage, act of war, act of God or other cause beyond the control of the owning Company, the participating Companies shall continue to pay to the owning Company their respective shares of Annual Fixed Capital Charges on the inoperable Participation Unit or Pool Transmission Facility to the same extent as if the Unit or Facility had remained in operation, subject to equitable adjustment of such charges by the Executive Committee to reflect any resulting reduction in the costs of the owning Company, but the participating Companies shall not be liable for Operating and Maintenance Expenses of the inoperable Unit or Facility, or the cost of repairing or restoring same. The Executive Committee shall determine whether any outage is of sufficient magnitude and duration to constitute a Force Majeure pursuant to this section.

E. Federal Tax Adjustment

If at any time in the future the Federal Income, excess profits or other Federal tax laws change in a manner that would adversely affect the relative economic interest of any party to this Agreement, the Executive Committee shall review those provisions of this Agreement relating to costs to be paid by each party hereto and make such adjustments that will protect the interest of the respective Companies hereto so far as that may be possible.

F. Effective Date

For purposes of Section G of the Florida Electric Power Pool Agreement dated _____, the date of the approval of this Appendix is _____. It is intended that the provisions of this Appendix shall be placed in effect as soon as practical, and the determination of such effective dates shall be made by the Executive Committee, provided, however, that all provisions shall be placed in effect not later than _____ _____.

(Note: Refer to Appendix E for defined terms)

TYPICAL LINK TYPE

FLORIDA ELECTRIC POWER POOL AGREEMENT

APPENDIX C SUPPLEMENT 1

POOL ALLOCATION PLAN FORMULAE

A. PARTICIPATION UNIT CAPACITY CHARGE

The Annual Fixed Capital Charge in dollars per kilowatt-year, "FC", for participation capacity is determined by the following formula:

$$FC = \sum_{i=1}^{k} \frac{D_i P_i + ND_i R_i}{M_i}$$

Where the subscript "i" refers to the ownership of the unit and "k" is the number of owners in the Pool.

P = Investment (original cost), exclusive of non-depreciable investment, in the most recent steam-electric participation unit previously installed on the company's system (or prior to the initial installation of a participation unit, the unit designated by the Executive Committee).

R = Non-depreciable investment in the same generating unit for which "P" is the depreciable investment.

M = Net capability of the unit in kilowatts.

D and ND = Annual Fixed Capital Charges on depreciable and non-depreciable property respectively, expressed as decimal fractions of investment in such property. They are determined by the formulae of Section B below.

B. ANNUAL FIXED CAPITAL CHARGES ON DEPRECIABLE AND NON-DEPRECIABLE PROPERTY (APPLICABLE TO BOTH GENERATION AND TRANSMISSION FACILITIES)

The Annual Fixed Capital Charge on property expressed as a decimal fraction of investment in such property is:

D or ND = I + F + T

where

I = The annual amount for return on and amortization of the investment. It is the capital recovery factor obtainable from standard interest tables for the applicable rate of return "r" and amortization period "n". The life "n" of non-depreciable property is infinity and its capital recovery factor "I" is equal to "r". The Executive Committee may direct that specific

additional factors to compensate for interim replacements of major components be included in the computation of "I".

F = Composite Income tax applicable to return on investment.

$$F = \frac{H}{1 - H} \quad (I - A) \quad \frac{(r - BG)}{r}$$

in which

I = Capital recovery factor as defined above.

A = Annual straight-line depreciation expressed as a decimal fraction of original investment. It is 1/n where "n" is the amortization period of the investment in depreciable property. It is zero (0) for non-depreciable property.

r = Rate of Return.

B = Ratio of debt to total capitalization.

G = Interest rate on debt.

H = f + s - fs if State income tax is deductible in computing Federal income tax, but Federal income tax is not deductible in computing state income tax, or

H = $\frac{f + s - 2fs}{1 - fs}$ if Federal income tax is also deductible in computing State income tax.

In these formulae

f = Federal income tax rate
s = State income tax rate

T = Annual taxes (other than income) and insurance when applicable.

$$T = K + X$$

where

K = Property taxes as a decimal fraction of original investment.

X = Other taxes or insurance which the Executive Committee approves as applicable to original investment.

TYPICAL LINK TYPE

FLORIDA ELECTRIC POWER POOL AGREEMENT

APPENDIX D

POOL ADMINISTRATIVE AND GENERAL PROCEDURES

A. Purpose

The purpose of this Appendix D is to provide for general administrative procedures for Pool operation under the Agreement.

B. Procedures

B1. The Executive Committee at its option may establish a separate Pool administrative organization or may select from time to time one Company to serve as a clearing house for monthly Pool transactions. These monthly transactions will specify payments, if any, due owning Companies by participating Companies for:

(a) Capacity charges,

(b) Energy charges,

(c) Participation Units operating and maintenance expenses,

(d) Pool Transmission Facilities Annual Fixed Capital Charges,

(e) Pool Transmission Facilities operating and maintenance expenses,

(f) Compensation, where applicable, for taxes,

(g) Other services furnished under the terms of the Appendices.

Each Company shall be sent a copy of the balancing of Pool transactions each month, together with a statement of payments, if any, due by each Company to any other Company (or Companies). Such payments shall be made directly between Companies.

B2. The Companies shall render, on or about the tenth day of each month, bills for the amounts due under the terms of this Agreement for the preceding calendar month. All bills shall be due and payable within ten days after receipt. Interest on unpaid amounts shall accure at the rate of ten per cent per annum from date due until the date upon which payment is made. The calendar month shall be the standard monthly period for the purpose of settlements under this Agreement. Where exact figures are not known by the time for the bill, estimates may be used subject to readjustment. Where any of the provisions of this Section B2. are impractical, the Executive Committee shall provide alternate billing procedures.

B3. The Executive Committee hereby establishes a Planning and Engineering Committee. Each member Company appointed shall designate the senior individual responsible for electric system planning and engineering along with an alternate to serve on the Planning and Engineering Committee. The Planning Committee shall be responsible to the Executive Committee for projecting Pool resources and requirements for at least 15 years into the future, using data provided by the Companies, and shall submit such studies to the Executive Committee as directed and shall perform such other duties as the Executive Committee may direct.

B4. The Executive Committee hereby establishes an Operating Committee. Each member Company appointed shall designate the senior individual responsible for electric system operation along with an alternate to serve on the Operating Committee. The Operating Committee shall be responsible to the Executive Committee for performing such duties and functions as may be required in the day-to-day operation of the Pool, including but not limited to:

(a) The preparation of such operating procedures as may be required for Pool operation.

(b) All matters pertaining to operating data and records applying to Pool operation.

(c) All matters pertaining to the control of frequency, energy flow, kilovar flow, voltage and other similar matters bearing upon satisfactory Pool operation of the Companies,

(d) All matters pertaining to maintaining the proper level of operating reserve capacity in the Pool,

(e) All matters pertaining to the coordination of maintenance of the generating capacity and transmission facilities of the Companies.

B5. The Executive Committee shall furnish the Companies a record of all official actions taken by the Committee.

B6. Should the Executive Committee establish a separate Pool administrative organization, as provided in Section B1. above, the expenses of such organization shall be prorated among the Companies on the basis of allocation of Pool transmission charges as provided in Appendix C.

C. Effective Date

For purposes of Section G of the Florida Electric Power Pool Agreement dated _____, the date of the approval of this Appendix is _____. It is intended that the provisions of this Appendix shall be placed in effect as soon as practical, and the determination of such effective dates shall be made by the Executive Committee, provided, however, that all provisions shall be placed in effect not later than _____.

(Note: Refer to Appendix E for defined terms.)

TYPICAL LINK TYPE

FLORIDA ELECTRIC POWER POOL AGREEMENT

APPENDIX E

DEFINED TERMS

A. Purpose

The purpose of this Appendix E is to define certain words and phrases used in the Appendices to the Florida Electric Power Pool Agreement.

B. Definitions

B1. "Adjusted System Capability" of a Company is the sum of the net generating capability installed on its system (a Participation Unit shall be included 100% in the capability of the owning Company), plus firm capability (other than from Participation Units) purchased from others where the reserve responsibility is that of the purchaser.

B2. "Adjusted System Load" of a Company is its peak net territorial load for an ending clock-hour, adjusted in three ways:

(a) By adding firm power sales to other companies (other than from Participation Units) when the reserve responsibility is that of the seller;

(b) By subtracting firm power purchases from other companies (other than from Participation Units) when the reserve responsibility is that of the seller; and

(c) By subtracting Interruptible Power Sales.

B3. "Agreement" is the Florida Electric Power Pool Agreement dated _____ _____, as supplemented, and all of the Appendices and Amendments thereto, together with their attached Exhibits and Schedules.

B4. "Annual Fixed Capital Charges" are those costs relating to a particular item or unit of investment that accrue each year whether or not the equipment is in operation. Such charges shall include depreciation, return on investment, income taxes, ad valorem taxes, insurance, and all other applicable fixed charges expressed as decimal fraction of investment. They do not include operation and maintenace expenses.

B5. "Assigned Capacity" of a Company is that Company's Adjusted System Capability plus capacity allocations, if any, assigned to it from Participation Units installed on other Companies' systems, and

minus capacity allocations, if any, to other Companies from Participation Units installed on its system.

B6. "Commercial Operation" is the time when a facility (Participation Unit, Pool Transmission Facility, etc.) is declared by the owning Company to be ready for use in accordance with the needs of the Companies.

B7. "Company" is a company which is a party to the Agreement.

B8. "Equitable Reserve" is the excess of Assigned Capacity over Adjusted System Load, expressed as a percent of Adjusted System Load, that each Company is expected to have at the time of its Adjusted System Load and such percentage shall be as determined by the Executive Committee.

B9. "Gas Turbine Generator Unit Capability" is the maximum net output that the unit can deliver at the altitude of the installation, when operating within design conditions, with the inlet air temperature corrected to the maximum temperature expected during the period being considered. This capability for a given unit may be certified by an actual test run, and shall be recertified upon request of the Executive Committee.

B10. "Pool Generation Additon Plan" is the current plan adopted by the Executive Committee setting forth each year for not less than 15 years in the future the schedule for generating units to be constructed.

B11. "Installed Reserve" is the amount of generating capacity remaining after the Adjusted System Load is subtracted from the Adjusted System Capability.

B12. "Interruptible Power Sales" is power being sold to a customer (or customers) which may be interrupted instantaneously; this power may be considered a part of a Company's (or Companies') available Spinning Reserve up to a maximum of 75% of the Sprinning Reserve Requirement.

B13. "Participation Unit" is a generating unit, the capacity of which is allocated to two or more Companies, and which is designated as a Participation Unit by the Executive Committee.

B14. "Pool Reserve Capacity" is the total firm power reserves for carrying load above the sum of the estimated maximum coincident Adjusted System Loads of the Companies, the percentage of which shall be established by the Executive Committee as a part of the Pool Generation Addition Plan.

B15. "Pool Transmission Facilities" are transmission facilities, interconnection ties, communication facilities and other facilities associated therewith which are so designated by the Executive Committee.

B16. "Pool Transmission Addition Plan" is the current plan adopted by the Executive Committee, setting forth each year for not less than 15 years in the future the schedule of Pool Transmission Facilities to be constructed.

B17. "Spinning Reserve" is the sum of (i) the unloaded generating capacity resources of a Company which are connected and ready to supply power upon demand, and (ii) generating capacity which can be made available upon demand from interruptible or other contracts.

B18. "Steam Turbine Generator Unit Capability" is the maximum continuous net output that a unit can deliver when operating within design conditions, with back pressure corrected to maximum cooling water temperature expected during the period being considered. This capability for a given unit may be certified by an actual test run (maximum of 24 hours), with no alterations to the design cycle. The established capability of a unit shall be recertified upon request of the Executive Committee. The capacity of steam turbine generator units installed on a Company's system prior to the initial installation of a participation Unit on that Company's system will be as certified to the Executive Committee by the owning Company (such certification shall be accompanied by a statement of conditions under which the unit was rated).

C. Effective Date

For purposes of Section G of the Florida Electric Power Pool Agreement dated _____, the date of the approval of this Appendix is _____. It is intended that the provisions of this Appendix shall be placed in effect as soon as practical, and the determination of such effective dates shall be made by the Executive Committee, provided, however, that all provisions shall be placed in effect not later than _____.

5D2 Typical Team Type Florida Electric Power Pool Agreement

AGREEMENT made as of the _____ day of _____, by and among the electric utilities in the State of Florida.

I. Witnesseth

WHEREAS, the parties own and operate electric generating, transmission and distribution facilities and are engaged, among other things, in the business of producing and selling electric energy to other distributors of electric energy and to the general public in the State of Florida.

WHEREAS, the parties believe that substantial mutual benefits may be obtained through the coordinated operation of their electric systems including increased reliability of service and reduced capital costs made possible by coordinated system planning, and reduced operating costs made possible by the interchange of electric energy for economy purposes; and

WHEREAS, the parties desire to achieve optimum coordination in the planning and operation of their electric systems and to provide a means whereby all parties may realize and share in the mutual benefits which can be obtained thereby; and

WHEREAS, the parties established the Florida Electric Power Pool (FEPP) by agreement made as of the _____ day of _____; and

WHEREAS, the parties have established and staffed a pool control center facility located near _____, FLORIDA, for the principal purposes of (1) coordinating the operations of the member companies of FEPP insofar as may affect the reliability of the bulk power supply on the interconnected systems in Florida; (2) dispatching energy requirements on an economy basis; and (3) monitoring the internal and external operations of the FEPP to insure unimpaired overall security of bulk power supply at all times;

Now, THEREFORE, in consideration of the premises and of the mutual covenants and agreements herein set forth, the parties hereto do hereby agree with each other, for themselves and for their successors and assigns, to operate the FEPP in accordance herewith.

II. Definitions

For the Purpose of this Agreement, certain terms used herein are defined as follows:

1. Maximum One Hour Independent Net Load. The Maximum One Hour Independent Net Load of any party for any period shall be the electric energy used to supply the load on that party's system during the clock hour when such usage is greatest in such period. Such usage shall include electric energy delivered to or for the

account of other utilities under firm load contracts (i.e., where the supplier is obligated to back up the load covered by the contract with reserve capability) but shall exclude:

(a) electric energy delivered within the amounts of generating capability sold to other utilities (including parties to this Agreement) under separate contracts, deliveries of emergency and economy energy, any other deliveries of electric energy to other utilities for other than firm load, and the internal system losses in connection with such deliveries;

(b) loads which are not supplied from the party's Net System Capability;

(c) internal system losses incurred in the through transmisson of energy for others; and

(d) interruptible power sales.

2. Capability Period. Capability Periods of approximately six months each are established, as follows: (1) From the last Sunday in April up to but not including the last Sunday in October; and (2) from the last Sunday in October up to but not including the last Sunday in April of the following year, or such other dates as may be determined by the Operating Committee.

3. Firm Capability. Firm Capability, purchased or sold under separate contract, is gnerating capability which has substantially the same availability to buyer as the buyer's own generating capability.

4. Net System Capability. The Net System Capability of each party hereto in any Capability Period shall be the following:

(a) the dependable net maximum generating capability of installations on its own system; plus

(b) Firm Capability purchases and any reserve generating capability which is made available to the buyer by contract to back up such Firm Capability purchases; less

(c) Firm Capability sales and any reserve generating capability which is made available by the seller by contract to back up such Firm Capability sales.

5. Capability Margin. The Capability Margin of each party hereto, expressed as a percentage of the Maximum One Hour Independent Net Load of such party, shall be the amount by which such party's Net System Capability exceeds its Maximum One Hour Independent Net Load in any Capability Period.

6. Required Capability Margin. The Required Capability Margin for each party hereto, expressed as a percentage of the Maximum One Hour Independent Net Load of such party, shall be the Capability Margin as determined by the Executive Committee, or such lesser percentage as may be determined under provisions of Section X. 2.

7. Pool Capability Margin. The Pool Capability Margin, expressed in kilowatts, shall be the amount by which the aggregate of each party's Net System Capability exceeds the aggregate of each party's Maximum One Hour Independent Net Load in any Capability Period.

8. Required Pool Capability Margin. The Required Pool Capability Margin, expressed in kilowatts, shall be the aggregate of the amounts, expressed in kilowatts, determined for each party hereto by the Executive Committee in any Capability Period.

9. Required System Capability. The Required System Capability of each party hereto for any Capability Period shall be its Maximum One Hour Independent Net Load in such Capability Period multiplied by 1.0 plus its Required Capability Margin expressed as a decimal.

10. Surplus Capability. The Surplus Capability of each party hereto in each Capability Period shall be the amount, if any, by which its Net System Capability exceeds its Required System Capability.

11. Capability Deficiency. The Capability Deficiency of each party hereto in each Capability Period shall be the amount, if any, by which its Required System Capability exceeds its Net System Capability.

12. Committees.

	Section
(a) Executive	IV
(b) Planning and Engineering	V
(c) Operating	VI
(d) Environmental	VII
(e) Legislative	VIII
(f) Public Relations	IX

13. Operating Capability. The dependable net capability of generating equipment carrying load or ready to take load within time limits determined by the Operating Committee.

14. Operating Reserve Capability. The excess of Operating Capability over load, and firm sales requirements, at any time.

15. Required Minimum Pool Operating Reserve Capability. The minimum Operating Reserve Capability which must be provided on the interconnected systems of the parties hereto, as determined by the Executive Committee.

16. Required Minimum Operating Reserve Capability. Each party's allocated share of Required Minimum Pool Operating Reserve Capability.

17. Operating Capability Requirements. The amount of Operating Capability required to supply a party's load, firm sales and its Required Minimum Operating Reserve Capability.

18. Emergency Capability and Energy. The Emergency Capability and Energy supplied from the seller's Operating Reserve Capability in excess of its load and firm commitments to others and purchased during periods when buyer experiences an outage and buyer has insufficient Operating Capability to supply its load and firm commitments to others. A buyer shall be entitled to Emergency Capability and Energy only for the period and under the conditions specified in Section XI. 6. hereof.

19. Supplemental Capability. Operating Capability, other than Firm Capability or Assured Economy Capability, required to meet Operating Capability Requirements.

20. Supplemental Energy. Energy scheduled within the limits of Supplemental Capability purchased.

21. Assured Economy Capability. Operating Capability purchased for a mutually agreed-upon period when, for economy purposes, the buyer withholds specified generating facilities from service or schedules less than maximum quantities of Operating Capability available under contracts in effect during such periods.

22. Assured Economy Energy. Electric energy scheduled for an agreed-upon period within the limits of Assured Economy Capability purchased.

23. Economy Energy. Electric Energy purchased on an hourly basis during periods when, for economy purposes, the buyer restricts the generation of energy from its Operating Capability or restricts the purchase of energy available under contracts in effect during such periods.

24. Buyer's Value for Energy. The estimated decremental fuel and maintenance cost or purchased energy cost, adjusted for losses on the buyer's transmission system, which a buyer will avoid by restricting the generation of energy from its own Operating Capability or by restricting the purchase of energy under contracts for the purchase of capability, and by purchasing instead the equivalent quantity of Assured Economy Energy or Economy Energy.

25. Buyer's Value for Operating Capability. The estimated aggregate of all applicable costs, such as start-up and shut-down costs and hourly operating costs, including labor costs, which a buyer

will avoid by withholding operable generating facilities from operation or by restricting the purchase of Operating Capability under contracts for the purchase of Firm Capability, and by purchasing instead the equivalent quantity of Assured Economy Capability hereunder.

26. Seller's Cost for Energy. The estimated incremental fuel and maintenance cost or purchased energy cost, adjusted for losses on the seller's transmission system, which a seller incurs in order to generate energy or purchase energy for resale hereunder.

27. Seller's Cost for Operating Capability. The estimated aggregate of all applicable additional costs, such as start-up and shut-down costs, and hourly operating costs, including labor costs, incurred by a sellr to provide Operating Capability or to purchase from other than Pool members Operating Capability for resale.

28. Energy Savings. The difference between Buyer's Value for Energy and Seller's Cost for Energy after both are adjusted for losses, if any, to the point of receipt on the buyer's system.

29. Operating Capability Savings. The difference between Buyer's Value for Operating Capability and Seller's Cost for Operating Capability.

30. Party. A signatory to this Agreement.

31. Intervening Party(ies). Any party or parties whose transmission facilities are required by other parties hereto to accommodate any of the Operating Capability or energy transactions provided for under Section XI. hereof.

III. Scope

1. The parties agree to coordinate the development and operation of their respective electric production and transmission facilities in order to obtain optimum reliability of service and efficiency upon the interconnected systems of the parties hereto.

2. The parties in accordance with the terms and conditions hereinafter specified agree to (1) provide and maintain Required System Capability and Operating Capability Requiements; (2) purchase and sell Firm Capability and transmit the energy associated therewith under separate contract with any of the other parties hereto upon mutually satisfactory terms and conditions; (3) purchase and sell Operating Capability and energy for the purposes and under the conditions set forth herein; and (4) make the capacity of its transmission facilities not otherwise committed available for transactions involving the purchase and sale of Operating Capability and energy.

3. The parties in accordance with the terms and conditions hereinafter specified agree to (1) coordinate the maintenance of generating facilities with the maintenance schedules of all other parties hereto; and (2) coordinate planning with that of the other parties hereto with respect to the nature, location, and date of installation of additional generating and interconnection transmission facilities.

4. Transactions involving sales of Operating Capability or energy, and the transmission of energy, shall be made with due recognition of each party's responsibility for the supply of its own load, as well as its cooperative responsibility to the FEPP, as provided for hereinafter in Sections XI. 1. and XI. 5.

5. Any party may enter into emergency and economy interchange arrangements with others who are not parties hereto with respect to the purchase or sale of Operating Capability and energy. The parties hereto may contract with each other or with others who are not parties hereto for the purchase or sale of generating capability to the extent that such contract may be performed without impairing the ability of any party hereto to fulfill its obligations under Sections X. and XI. hereof.

6. Sections IV. through IX. establish an Executive Committee, Planning and Engineering Committee, Operating Committee, Environmental Committee, Legislative Committee and Public Relations Committee to permit the parties to effectively administer this agreement.

IV. Executive Committee

1. The parties shall establish an Executive Committee to determine policy with respect to all matters within the scope of this Agreement and to arrange for the administering of this Agreement and the carrying out of its provisions. The Executive Committee shall provide for the coordination of the planning and operating functions of the members of the FEPP in order that, to the greatest extent possible, such coordination will be directed to providing for the electric power needs of the State of Florida (excluding Gulf Power Company) as a whole.

2. Each party to this Agreement shall designate a senior officer, and as an alternate, a second officer authorized to act on his behalf, to serve on the Executive Committee. The expenses of each member of the Executive Committee shall be borne by the party he represents.

3. At its first meeting, the Executive Committee shall select from among its members a chairman and a vice-chairman to serve for one year from such first meeting; and for each year thereafter the chairman shall be the member of the Committee who served

as vice-chairman during the preceding year, and the vice-chairman shall be a member selected by the Committee. The Executive Committee shall meet once each month and at such other times as the chairman may determine.

4. The Executive Committee shall review and direct the activities of the Committees established hereunder. The Executive Committee shall arrange for the services of an Administrative Director of the Pool, and sufficient clerical and technical staff and consultants to permit the Committees to fulfill their responsibilities hereunder. The Administrative Director shall as as liaison between the Executive Committee and the other Committees; shall attend committee meetings in a non-voting capacity; shall administer and coordinate the activities of the Committees of the FEPP; and carry out such other duties as may be assigned by the Executive Committee. The General Manager of Operations, under the direction of the Operating Committee, shall supervise the operation of the FEPP Control Center.

5. All expenses arising out of the administration of this Agreement, other than the expenses incurred by each member or alternate member of the Executive Committee, Operating Committee, or Planning Committee, shall be subject to the approval of the Executive Committee, in accordance with procedures to be established by the Executive Committee, and shall be allocated among the parties hereto in accordance with the formula which may be in effect at the time such expenses are incurred.

6. The Chairman of the Executive Committee is hereby designated the agent of each of the parties hereto for the purpose of filing changes in, or supplements to, this Agreement with the Federal Power Commission or other regulatory agencies.

V. Planning and Engineering Committee

1. The Executive Committee shall establish a Planning and Engineering Committee to coordinate and develop plans for the installation of additional generating capability and interconnecting transmission facilities within the Pool. The Planning and Engineering Committee shall coordinate planning between the Pool and adjoining Pools and with other regional power coordinating agencies to the extent appropriate. The Planning and Engineering Committee shall also direct the activities of the General Manager of Planning.

2. Each party shall designate a senior individual responsible for electric system planning and engineering and an alternate to serve on the Planning and Engineering Committee. The expenses of each member of the Committee shall be borne by the party he represents.

• Deleted: "If the Committee has serious disagreement on any matter, then that matter shall be referred to the Executive Committee for resolution."

Rev 2/3-15

3. The Planning and Engineering Committee shall select members to act as chairman and vice-chairman. The offices of chairman and vice-chairman shall be changed annually in rotation among the members of the Committee. Each year the vice-chairman of the Committee during the preceding year shall succeed to the chairmanship. The Committee shall meet at regularly scheduled times and at such other times as the chairman may determine.

4. The Planning and Engineering Committee shall study the need for additional generating and transmission facilities to best implement the purposes of the FEPP and shall submit regular reports thereon to the Executive Committee, the Administrative Director, and the Operating Committee. These studies, which shall be made in consultation with the Operating Committee, will include such transmission network studies of the systems of the parties hereto as may be required to determine the need for and the best location of additional generating equipment and transmission facilities, additional interconnections with other electric systems, and any other matters of a similar or related nature which will aid in achieving the purposes of this Agreement.

5. The parties hereto shall furnish the Planning and Engineering Committee system load and capability forecasts, statistical data, and any other information which may reasonably be required in the course of the studies undertaken by the Committee.

VI. Operating Committee

1. The Executive Committee shall establish an Operating Committee to coordinate the operations of the parties hereunder. Each party shall designate a senior individual responsible for electric system operations and an alternative to serve on the Operating Committee. The expenses of each member of the Operating Committee shall be borne by the party he represents.

2. The Operating Committee shall select members to act as chairman and vice-chairman. The offices of chairman and vice-chairman shall be changed annually in rotation among members of the Committee. Each year the vice-chairman of the Committee during the preceding year shall succeed to the chairmanship. The Operating Committee shall meet at regularly scheduled times and at such other times as the chairman may determine.

3. The Operating Committee shall direct the activities of the General Manager of Operations and shall establish such rules and practices as may be required to coordinate the operation of the bulk power supply systems of the parties hereto so as to insure reliability of service and economic operation.

• Deleted:

Rev. 2/25/75

4. The Operating Committee shall be responsible for modifications to, maintenance, and operation of the physical facilities at the FEPP Control Center.

5. The Operating Committee shall establish and coordinate maintenance schedules for the Pool.

6. The Operating Committee shall review the Required Capability Margin of the parties hereto periodically in cooperation with the Planning and Engineering Committee, and if experience or the results of studies indicate the desirability of change, shall recommend changes thereto to the Executive Committee.

7. The Operating Committee through its chairman shall submit regular reports of its activities to the Executive Committee, the Administrative Director, and the Planning and Engineering Committee.

VII. Environmental Committee

1. The Executive Committee of FEPP shall establish an Environmental Committee which shall develop and coordinate aspects of environmental protection and enhancement as they pertain to the planning function of FEPP.

2. Each party shall designate the senior individual responsible for environmental activities along with an alternate to serve on the Environmental Committee. The expenses of each member on the committee will be borne by the party he represents.

• Deleted 2/25/75

3. The Environmental Committee shall select members to act as chairman and vice-chairman. The offices of chairman and vice-chairman shall be changed annually in rotation among the members of the committee. Each year, the vice-chairman of the committee during the preceding year shall succeed to the chairmanship. The Environmental Committee shall meet at regularly scheduled times and at such other times as the chairman may determine.

VIII. Legislative Committee

1. The Executive Committee of FEPP shall establish a Legislative Committee which shall develop and coordinate legislative activities as they apply to FEPP as a whole.

2. Each party shall designate the senior individual responsible for legislative activities along with an alternate to serve on the Legislative Committee. The expenses of each member of the committee will be borne by the party he represents.

• Deleted 2/25/75

Rev 2/25/75

3. The Legislative Committee shall select members to act as chairman and vice-chairman. The offices of chairman and vice-chairman shall be changed annually in rotation among the members of the committee. Each year, the vice-chairman of the committee during the preceding year shall succeed to the chairmanship. The Legislative Committee shall meet at regularly scheduled times and at such other times as the chairman may determine.

IX. Public Relations Committee

1. The Executive Committee of FEPP shall establish a Public Relations Committe which shall develop and coordinate public relation activities as they apply to FEPP as a whole.

2. Each party shall designate the senior individual responsible for public relation activities along with an alternate to serve on the Public Relations Committee. The expenses of each member of the committee will be borne by the party he represents.

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3. The Public Relations Committee shall select members to act as chairman and vice-chairman. The offices of chairman and vice-chairman shall be changed annually in rotation among the members of the committee. Each year, the vicechairman of the committee during the preceding year shall succeed to the chairmanship. The Public Relations Committee shall meet at regularly scheduled times and at such other times as the chairman may determine.

X. Installed Capability

1. Prior to the commencement of each Capability Period, each party hereto shall estimate its Required System Capability for the ensuing Capability Period and shall provide and maintain a Net System Capability at least equal to such estimated Required System Capability throughout the ensuing Capability Period.

2. If, in any Capability Period, the Pool Capability Margin is less than the Required Pool Capability Margin, the Required Capability Margin of each of the parties hereto shall be reduced proportionately in the ratio of the Pool Capability Margin to the Required Pool Capability Margin.

3. At the end of each Capability Period after the effective date hereof, the Maximum One Hour Independent Net Load actually experienced by each party hereto during the preceding Capability Period, the Required Capability Margin, and the Net System Capability of each party hereto, adjusted, if appropriate, pursuant to Section 4. below, shall be used to determine the actual Required System Capability and the Surplus Capability or Capability Deficiency of each party during the preceding Capability Period.

Rev 2/25/75

4. In the event the generating capability available to a party changes during a Capability Period due to a change in the capability of generating installations on its own system or on another system from which it is purchasing Firm Capability, the party's Net System Capability shall reflect the change as of the nearest first day of the month to the actual date upon which the change occurs. If the change occurs on the sixteenth day of a thirty-one day month, the adjustment shall become effective as of the first day of the month in which the change occurs.

A party changing its Net System Capability during a Capability Period shall have its Required System Capability determined as follows:

(a) For the months of the Capability Period prior to a change in Net System Capability, a party's Required System Capability shall be determined on the basis of its Maximum One Hour Independent Net Load experienced in those months.

(b) For the months of the Capability Period after a change in Net System Capability, a party's Required System Capability shall be determined on the basis of its Maximum One Hour Independent Net Load experienced in those months.

5. In the event of an extended outage of generating equipment or directly related equipment due to any of the circumstances stated in Section XVI. hereof, the following shall occur:

(a) If it is determined that the generating equipment subject to such outage is reparable, and if the person or persons owning such equipment proceeds with due diligence to effect the repairs necessary to restore such equipment to service, the capability of the generating equipment subject to such outrage shall continue to be included, without diminution, as a component of a party's Net System Capability pending resoration of such equipment to service. The Net System Capability of other parties purchasing capability from the party sustaining such outage shall not be subject to adjustment.

(b) Notwithstanding the provisions of Section XVI, if it is determined that the generating equipment subject to such outage is damaged beyond repair, the capability of such equipment shall be deemed to be unavailable to any party for any purpose from and after the first day of the month in which such determination is made, and the obligations of the parties hereto shall be redetermined to reflect such determination.

(c) The determination of whether or not generating equipment is repairable shall be made by the person or persons owning such equipment.

XI. Operating Capability and Energy

1. FEPP Control Center personnel shall schedule and dispatch, pursuant to information supplied by the parties, Operating Capability and energy to meet the Pool load and operating reserve requirements in a reliable and economical manner.

2. FEEP Control Center personnel shall coordinate the operation of the Pool with other systems or pools.

3. The Required Minimum Operating Reserve Capability to be operated by each party hereto shall be determined by the FEPP Control Center personnel in accordance with the method of allocating Required Minimum Pool Operating Reserve Capability established by the Operating Committee.

4. Each party agrees to provide either from its own resources or through purchase from others its Required Minimum Operating Reserve Capability.

5. All transactions for the purchase or sale of Operating Capability or energy hereunder shall be scheduled by FEPP Control Center personnel, acting within the limits of the rules, practices and procedures established by the Operating Committee.

6. Any party, when called upon to do so, subject to the provisions of Section III. 4., shall supply Emergency Capability and Energy to any other party requesting such service. Such service shall be billed as Emergency Capability and Energy to the extent that the following conditions are met:

(a) Buyer's schedule for the day has provided for sufficient Operating Capability to meet its Operating Capability Requirements.

(b) The period of such purchase shall be limited to the time required for buyer expeditiously to start additional generation on its own system, to schedule Firm Capability to which it is entitled by contract or to purchase Supplemental Capability.

To the extent that the foregoing conditions are not met, the service rendered shall be billed as Supplemental Capability and Energy.

7. Subject to the provisions of Sections III. 4., any party when called upon to do so, shall supply Supplemental Capability, if available, to any other party requesting such service. Supplemental Capability is not to be purchased to avoid Capability Deficiency payments.

8. The purchase of Supplemental Capability or of Assured Economy Capability shall entitle the buyer to schedule receipt of all or any part of the energy associated therewith, for the period of the capability purchase, in maximum hourly quantities not exceeding the quantity of such capability purchased. Subject to the provisions of Section III. 4., service shall not be terminated during such period without the buyer's consent.

9. Supplemental Capability or Assured Economy Capability sold hereunder shall be provided by the seller in addition to the seller's own Operating Capability Requirements.

10. No party shall at any time remove capability from service for scheduled maintenance purposes unless the Operating Capability available to it from its own or purchased generating sources, is for the expected duration of the outage, sufficient to carry its Operating Capability Requirements.

11. In order to facilitate the coordinated, economic operation of the generating equipment of the parties hereto, generating equipment shall be withdrawn from service for maintenance in accordance with schedules established by the Operating Committee.

12. All electric energy purchased and sold hereunder shall be three-phase, 60 cycle, alternating current. Suitable equipment for controlling frequency and inter-company tie-line loading shall be provided and maintained by each of the parties hereto. The parties agree to operate such equipment in a manner consistent with the coordinated intersystem operation which is the objective of this Agreement.

13. Each party will endeavor to control the flow of reactive kilovolt-amperes upon its system so as not to affect adversely the systems of the other parties hereto.

XII. Charges

1. Each party incurring a Capability Deficiency in any Capability Period shall pay the parties having Surplus Capability during such Capability Period their proportional share of the Capability Deficiency Charge specified in Schedule B, attached hereto and made a part hereof. Payments shall be apportioned among the parties having Surplus Capability in proportion to each party's contribution to the total Surplus Capability available.

In the event that a party increases or decreases its Net System Capability during a Capability Period, the extent to which parties having Capability Deficiencies are obligated to make Capability Deficiency payments and the allocation of Capability Deficiency payments to parties having Surplus Capability shall then be determined from the Capability Deficiencies and Surplus Capabilities of

each party during the months of the Capability Period prior to and following the change in Net System Capability.

2. Emergency Capability and Energy purchased hereunder shall be paid for on the basis of scheduled deliveries at the aggregate of Seller's Cost of Operating Capability and Energy, as defined in Sections II. 27. and 26., plus ten per cent. The buyer shall compensate any Intervening Party for losses incurred.

3. Supplemental Capability and Supplemental Energy purchased hereunder shall be paid for at the rates set forth in Schedule C-1, attached hereto and made a part hereof. The buyer shall compensate each Intervening Party for losses incurred and shall pay each Intervening Party the transmission facility charge set forth in Schedule C-2, attached hereto and made a part hereof.

4. Supplemental Capability Without Energy purchased hereunder shall be paid for at the rate set forth in Schedule C-3, attached hereto and made a part hereof. The buyer shall pay each Intervening Party the transmission facility charge set forth in Schedule C-2.

5. Assured Economy Capability purchased hereunder shall be paid for on the basis of scheduled deliveries as follows:

(a) The buyer shall pay the seller Seller's Cost for Operating Capability plus the seller's share of the Operating Capability Savings resulting from such purchase.

(b) The buyer and seller shall each receive one-half of the Operating Capability Savings resulting from the purchase of Assured Economy Capability unless one or more Intervening Parties participate in the transaction, in which event the buyer and seller shall each receive one-third of the Operating Capability Savings and the Intervening Party or Parties, collectively, shall receive one-third.

(c) When Assured Economy Capability is purchased or sold on a share-the-savings basis from or to a source outside the Pool, one-half of the share of the savings accruing to the parties within the Pool shall be retained by the buyer or seller and the remainder divided equally among the Intervening Parties within the Power Pool participating in the transaction.

(d) The buyer shall make payment directly to the seller and to any Intervening Party, unless the seller is a source outside the Pool, in which event payment for capability and the seller's and Intervening Party's share of the savings shall be made to the party directly interconnected with the source outside the Pool.

6. Assured Economy Energy purchased hereunder shall be paid for on the basis of scheduled deliveries at the following rates:

(a) The buyer shall pay the seller Seller's Cost for Energy plus the seller's share of the Energy Savings resulting from the purchase.

(b) If Assured Economy Energy is delivered to a buyer over the transmission system of an Intervening Party, the buyer shall pay such Intervening Party the Intervening Party's share of the Energy Savings resulting from the transaction plus losses attributable to transmission over the Intervening Party's system.

(c) The buyer and seller shall each receive one-half of the Energy Savings resulting from the purchase of Assured Economy Energy unless one or more Intervening Parties participate in the transaction, in which event the buyer and seller shall each receive one-third of the Energy Savings and the Intervening Party or Parties, collectively, shall receive one-third.

(d) When Assured Economy Energy is purchased or sold on a share-the-savings basis from or to a source outside the Pool, one-half of the share of the savings accruing to parties within the Pool shall be retained by the buyer or seller and the remainder divided equally among the Intervening Parties within the Pool participating in the transaction.

(e) The buyer shall make payment directly to the seller and to any Intervening Party, unless the seller is a source outside the Pool, in which event payment for energy and the seller's and the Intervening Party's share of the savings shall be made to the party directly interconnected with the source outside the Pool.

7. Economy Energy purchased hereunder shall be paid for on the basis of scheduled deliveries at the following rates:

(a) The buyer shall pay the seller Seller's Cost for Energy plus the seller's share of the Energy Savings resulting from the purchase.

(b) If Economy Energy is delivered to a buyer over the transmission system of an Intervening Party, the buyer shall pay such Intervening Party the Intervening Party's share of the Energy Savings resulting from the transaction, plus losses attributable to transmission over the Intervening Party's system.

(c) The buyer and seller shall each receive one-half of the Energy Savings resulting from the purchase of Economy Energy unless one or more Intervening Parties participate in the

transaction, in which event the buyer and seller shall each receive one-third of the Energy Savings and the Intervening Party or Parties, collectively, shall receive one-third.

(d) When Economy Energy is purchased or sold on a share-the-savings basis from or to a source outside the Pool, one-half of the share of the savings accruing to parties within the Pool shall be retained by the buyer or seller and the remainder divided equally among the Intervening Parties within the Pool participating in such transaction.

(e) The buyer shall make payment directly to the seller and to any Intervening Party, unless the seller is a source outside the Pool, in which event payment for energy and the seller's and Intervening Party's share of the savings shall be made to the party directly interconnected with the source outside the Pool.

8. Any energy inadvertently interchanged (that is, the difference between net energy import or export as scheduled and as metered) shall be returned to the supplying parties by the receiving parties as soon as practicable after receipt under load conditions reasonably equivalent to those under which it was received and in such quantities and at such times as may be mutually agreeable.

XIII. Intercompany Billing

1. The FEPP Control Center personnel shall collect, prepare and disseminate all data required for billing for Operating Capability and Energy transactions hereunder.

2. Bills for transactions hereunder shall be rendered by the party providing service as soon as practicable after the first day, but not later than the twentieth day of each calendar month. Payment of the amount so billed shall be made within ten days after presentation of the bills.

3. Billing data upon which Capability Deficiency charges are based together with a summary of payment due after each Capability Period to each party having Surplus Capability in any Capability Period shall be prepared by the Control Center personnel in conjunction with the Operating Committee and furnished to each party hereto as soon as practicable after the end of each Capability Period. Bills based upon such data shall be rendered by parties having Surplus Capability not later than the twentieth day of the month following the end of the Capability Period in question. Payment of amounts so billed shall be made within ten days after presentation of the bill.

4. Billing for all energy transacitons shall be based upon scheduled deliveries. The subdivision of the net import or export of energy into the various classifications of energy utilized

hereunder shall be determined as the algebraic summation of the hourly amounts of each of the various classifications of energy scheduled for purchase or sale by each party.

XIV. Points of Delivery and Metering

1. Electric energy will be delivered and received at the several points of interconnection between the systems of the parties hereto and at such other points of interconnection as may from time to time be established. Appropriate metering devices shall be installed as required to measure the energy flow at each point of interconnection.

2. All metering equipment used to record transactions hereunder shall be read and maintained by the respective owners thereof. Procedures with respect to maintenance, testing, calibration, correction and registration records, and presumed tolerances of all metering equipment shall be in accordance with good operating practice and with standards which may be established by the Operating Committee.

XV. Records

Each party hereto and the FEPP Control Center shall keep complete and accurate records, meter readings, and memoranda of its operations hereunder and shall maintain such data as may be necessary to determine with reasonable accuracy any item required to be estimated hereunder. The Executive Committee and the FEPP Control Center personnel shall have the right to call for and examine all such records, meter readings and memoranda insofar as may be necessary for the purpose of ascertaining the reasonableness and accuracy of any estimates or statements of costs relating to transactions hereunder.

XVI. Uncontrollable Forces

A party hereto shall not be considered to be in default in respect of any obligation hereunder if prevented from fulfilling such obligation by reason of storm, flood, lightning, earthquake, fire, explosion, equipment failure, civil disturbance, labor dispute, act of God or the public enemy, restraint by a court or other public authority, negligence on the part of any employee, servant or agent, or any cause beyond the control of the party affected. Any party unable to fulfill its obligations by reason of any of the foregoing shall exercise due diligence to remove the disability incurred.

XVIII. Liability

Each party agrees that it will indemnify, protect, and save the other parties harmless from and against any and all loss or lia-

bility for or on account of any injury (including death) or damage to any person or property, due to the negligence or misconduct of itself or any of its officers, agents, or employees in or about the performance of this Agreement.

XVIII. Waiver

Any waiver at any time of the rights of any party as to any default on the part of any other party or parties to this Agreement or as to any other matter arising hereunder shall not be deemed a waiver as to any default or other matter subsequently occurring.

XIX. Assignment

The written consent of all other parties hereto shall be required to effect an assignment of the rights or obligations of any party to this Agreement.

XX. Effective Date and Termination

1. This Agreement shall become effective as of the date it is accepted for filing as a rate schedule by the Federal Power Commission, and it shall continue in effect until terminated as of the close of any Capability Period by the unanimous agreement of all persons then parties hereto.

2. Any party may withdraw from this Agreement effective as of the close of any Capability Period upon three years' written notice to each other party; provided, however, that any party submitting notice of intent to withdraw shall be obligated to pay its allocated share of the administrative expenses of the FEPP for the full calendar year within which such termination shall become effective.

XXI. Supression of Prior Agreements

The Agreements among the parties are superseded in their entirety by this Agreement.

XXII. Short Title

This Agreement shall be known as the Florida Electric Power Pool (FEPP) Agreement.

IN WITNESS WHEREOF, each of the parties hereto has caused this Agreement to be executed in its corporate name by its proper officers, and its corporate seal to be affixed hereunto, as of the day and year first above written.

TYPICAL TEAM TYPE

FLORIDA ELECTRIC POWER POOL AGREEMENT

SCHEDULES

A, B, C-1, C-2, C-3

The above schedules will be determined by the Task Force on Cost Allocation and approved by the Executive Committee. These schedules will be similar in content to the ones illustrated in the Appendices of the Link Type Agreement in Subsection 5D1.

SECTION 6

TECHNICAL

A. INTRODUCTION

The prime goal of any power pooling arrangement is to attain a more economical operation for all pool members with a secondary goal of increased reliability. A methodology has therefore been included which has the capability of addressing the question of whether economic benefits do in fact exist, and if so, whether these economic benefits are of a suitable magnitude to justify the existence of a power pool.

Due to the exploratory nature of this report, initial efforts were focused on a means of indicating the economic strengths or weaknesses in power pooling through statewide economic dispatch. The economies to be realized by pool operations are difficult to quantify but they do include positive aspects such as:

Fuel savings.
Lowering of reserve requirements and attendant lower investments in production facilities.
Investment economies of scale for production and transmission plant.
Reduced expenditures in the site approval processes.

Offsetting these economies are cost increases such as:

Increased investments in intercompany transmission facilities.
Additional costs of pool staffing.
Centralized LDO facilities and individual interface equipments.

B. OPERATIONS

1. State-wide Dispatch Studies.

A review of available methods to analyze the operation of 10 of the largest utilities in Peninsular Florida resulted in use of a computer load dispatch program which has output capability in fuel consumption (Million BTU) as well as monetary terms, when an assumed fuel cost and availability are input. Initial conditions were chosen for a peak month of the year, using a peak day and an off-peak day, which include each hourly interval of the day. Further, various combinations of fuel availability, size of units treated as mid-range, and

capacity factors were considered in the analysis of the State-wide Economic Dispatch (SWED) on the bus-bar basis.

An in-depth review of these cases, of which 13 major cases were considered (See Table I for detail), resulted in the identification of many areas of concern which will be discussed in detail. In an effort to identify the basic implication of these studies, comparisons were made on a basis of minimum fuel input (Million BTU). One case, using a unit commitment type program, verified the magnitude of possible savings for pool dispatching versus individual dispatching. Copies of the output of all SWED cases are available for review upon request.

II. Analysis

From the above 13 cases analyzed (See Table I), economies can be obtained by SWED as compared to dispatch on an individual basis, as would be classically expected. Parameters that would effect the magnitude of these savings, are as follows:

(a) Transmission system capacity and losses.

The cases, as studied on a bus-bar criteria, imply the assumption that all the necessary transmission facilities exist, and that optimum operation on a heat rate basis is also optimum on a transmission loss basis. Since neither implied assumption is correct, means must be developed to identify where additional transmission facilities may be required, and what the system losses are under each dispatch configuration. This results in the need for multiple load flow cases to answer and quantify these questions, as well as the ultimate need to include a suitable loss matrix with any computer program used for statewide economic dispatch.

(b) Fuel type and availability.

Constraints concerning fossil fuels are typically: (1) Availability in that only a limited amount of natural

gas is obtainable, and often on a "take or pay" basis; (2) Under fuel shortages, dispatch may be by fuel availability and not economy; (3) Dual fuel plants (gas/oil) can shift their relative economic position dramatically when changing fuels; (4) Fuel costs at each individual plant must be considered to reflect all costs sustained by each utility, whether by pipeline or barge, from a bulk terminal point; (5) Ecological constraints as to the time and amount of fuel that can be used at any particular plant; and (6) Only one utility has coal available and is limited by supply.

(c) Dispatch considerations

Suitable dispatch programs will be required which recognize the cost of transmission losses, costs of start-up, hot stand-by, shut-down, minimum load, as well as which units are base load type, are swing type, or are in a "must run" commitment.

Table I is a summary of the 13 SWED cases studied for varying constraints on (1) available fuels, (2) capacity factors, and (3) units used as base load or for mid-range loading. Cases 4a and 4b were selected for analysis because all fossil fired steam units were constrained to oil usage, which resulted in allowing only one parameter of the dispatch model to vary. By use of this input constraint, a direct comparison of the economies to be obtained in the use of SWED could be defined.

Table II is a summary of the results of the economic dispatch calculations for a peak day. The assumptions of Table II are important because of the implications of the results. Meaningful numbers are presented which demonstrate the possible magnitude of savings for bus bar dispatching when all generating resources in the 10 Florida Utilities are treated as "one system". When "one system" dispatch is compared with an individual system approach to meeting the same load, a decrease of 65,759 million BTUs resulted for this typical day. Also the average daily heat rate improved 2.5% from 10,348 to 10,085 BTU/KWH for "one system" dispatch.

Table III is a summary of the results when units of 100 MW or less are allowed to cycle when necessary to meet the load and is an additional constraint for the case analyzed above in Table II. On a relative basis an increase of 108,697 million BTUs was observed when the Florida Group individually

dispatches as compared to the "one system" type of operation. It is also to be noted that the average daily heat rate improved 4.0% from 10,348 to 9,933 BTUs/KWH for a "one system" dispatch.

A study of what effect transmission losses have on the individual versus "one system" concept was performed for the two cases described above. Load Flow cases for 6:00 A. M. and 6:00 P. M. were simulated, both for individual system dispatch and for statewide dispatch. Under the 6:00 A. M. light load conditions, power losses increased 20% under the statewide dispatch. However, under 6:00 P. M. heavy load conditions, power losses decreased 6% under statewide dispatch. Studies of typical load cycles would be necessary to document the effect of these transmission system losses.

III. Conclusions

There are probable savings in fuel for the "one system" dispatch of the 10 Florida Utilities. These studies indicate great economic opportunities for Florida Utilities if they choose to pursue Formal pooling. If further studies are required, it is suggested that these studies be implemented by an Ad Hoc committee with adequate budget and staff to accomplish the scope of work within a reasonable period of time.

C. PLANNING

I. Generation Planning

The "one system" concept in the generation planning area shows obvious benefits in the sharing of installed generating reserves. To illustrate this effect an example of five (5) individually planned systems combined into a formal pool is presented. Figure 1 and Table IV are the illustrations supporting the following discussion.

Table IV is the reserve requirements for the 5 systems when they are planned on an individual basis. With a total system peak load of 20,000 MW, the installed reserves would be 6,400 MW, with an effective reserve of 32.0%.

Referring to Figure 1 which is the reserve requirement for a "one system" concept the same 20,000 MW total system peak load would require 4,400 MW or 22% reserve with a largest unit of 880 MW.

Comparing the 4,400 MW "one system" reserve with the 6,400 MW "individual system" reserve shows a reduction of 2,000 MW in required reserve. Assuming an

annual fixed cost (i.e., interest on money, depreciation, taxes, fixed maintenance, etc.) of $25,000 per megawatt per year, an annual savings of 50 million dollars results for the formal pool arrangement.

The present informal Florida Pool based on individual generation expansions, has achieved a substantial portion of the potential savings that exist in a formal pool. Formal pool generation planning on a "one system" basis is a real opportunity for all systems to obtain additional savings in the future and share in these savings on an equitable basis.

II. Transmission Planning

Transmission planning will be necessary to meet both the reliability needs of all pool members, and to meet the through-put capacity required to carry the power flows from the most efficient generating point to the point of utilization as seen by economic dispatch.

Limited real estate and environmental considerations make joint planning of future transmission facilities necessary in order to conserve capital.

Based on the fact that 500 KV is now the highest operating transmission voltage in the state with an established underlying 230 KV bulk power grid, it is reasonable to assume modifications with proper cost allocations to the future transmission requirements for a "one system" pool can be achieved. Joint long range transmission studies have illustrated effective optimization of the transmission grid is possible if a joint generation expansion plan exists.

The main ingredient that differentiates the state-wide dispatch transmission needs from the individually dispatched needs is the greater distance of generation from the equivalent system electrical center. Thus, the consideration of state-wide dispatch may have the effect on bulk power transmission of reassigning the priorities of construction programs, as well as the possible relocation of and addition of new transmission facilities.

TABLE I

STATEWIDE ECONOMIC DISPATCH
CASE DESCRIPTION

Case No.

3a - 1 ----------Peak Day Data Base
3a - 2 ----------Off-Peak Day Data Base
Constraints for both 3a cases were:
All but Gas Turbines on line and assumed base load operation.

3a1 - 1 ---------Peak Day Data Base
3a1 - 2 ---------Off-Peak Day Data Base
Constraints for both 3a1 cases were:
All Gas Turbines on line and assumed base load operation with coal units at 80% capacity factor.

3b - 1 ----------Peak Day Data Base
3b - 2 ----------Off-Peak Day Data Base
Constraints for both 3b cases were:
Oil fired steam units less than 50 MW assumed to be mid-range.

3c - 1 ----------Peak Day Data Base
3c - 2 ----------Off-Peak Day Data Base
Constraints for case 3C - 1 were:
Oil fired steam units less than 100 MW assumed to be mid-range.
Constraints for case 3c - 2 were:
Oil fired steam units less than 50 MW were removed and 50 to 100 MW units assumed to be mid-range.

3d - 1 ----------Peak Day Data Base
3d - 2 ----------Off-Peak Day Data Base
Constraints for both 3d cases were:
Same as 3c cases except no gas was available.

3d1 - 1 ---------Peak Day Data Base
Constraint for this case was:
Same as 3c - 1 except no gas available and coal units at 80% Capacity Factor.

4a - 1 ----------Peak Day Data Base
Constraint for this case was:
Same as 3a - 1, but included Crystal River Nuclear, and did not have coal or gas available.

4b - 1 ----------Peak Day Data Base
Constraint for this case was:
Same as 3c - 1, but included Crystal River Nuclear, and did not have coal or gas available.

TABLE I - CONT'D

4c - 1 ----------Peak Day Data Base
Constraint for this case was:
Same as 4b - 1 but all nuclear units at 60% capacity factor.

Note: 1974 data derived by increasing 1973 load data by 10% and use of common fuel prices for all companies.

TABLE II
RESULTS
STATEWIDE ECONOMIC DISPATCH STUDY
TYPICAL PEAK LOAD DAY

ALL GENERATING UNITS BASE LOADED
(Case 4a)

UTILITY Name	STATE DISPATCH Million BTU	INDIVIDUAL DISPATCH Million BTU	DELTA Million BTU
FPL	1,253,182	1,396,246	116,064
FPC	592,185	608,665	16,480
TECO	392,866	336,480	(-) 56,386
FEA	204,394	205,103	709
FUC	120,494	73,566	(-) 46,928
Lakeland	31,579	48,331	16,752
Tallahassee	38,894	49,816	10,922
Gainesville	22,843	24,786	1,943
Lake Worth	7,852	11,706	4,054
Vero Beach	10,086	12,235	2,149
Total	2,674,175	2,739,934	65,759
DAILY HEAT RATE Btu/KWH	10,085	10,348	263 or 2.5%

Assumptions for Table II

1. All units except Gas Turbines operating and assumed base loaded. Units include Crystal River Nuclear. Fuels exclude the use of coal or gas because of future availability.

2. Unit heat rate data is a mixture of design and actual performance.

TABLE III
RESULTS
STATEWIDE ECONOMIC DISPATCH STUDY
TYPICAL PEAK LOAD DAY

ALL UNITS SMALLER THAN 100 MW MID-RANGE LOADED
(Case 4b)

UTILITY Name	STATE DISPATCH Million BTU	INDIVIDUAL DISPATCH Million BTU	DELTA Million BTU
FPL	1,305,476	1,369,229	63,753
FPC	584,132	608,665	24,533
TECO	404,609	336,607	(-)68,002
JEA	190,134	205,103	14,969
OUC	112,529	73,566	(-)38,963
Lakeland	17,604	48,331	30,727
Tallahassee	12,113	49,816	37,703
Gainesville	3,028	24,780	21,752
Lake Worth	947	11,706	10,759
Vero Beach	769	12,235	11,466
TOTAL	2,631,341	2,740,038	108,697
DAILY HEAT RATE BTU/KWH	9,933	10,348	415 or 4%

Assumptions for Table III.

Same as in Table II, except all units smaller than 100 MW are mid-range loaded.

TABLE IV

GENERATION RESERVE REQUIREMENTS
INDIVIDUAL SYSTEM CONCEPT

System	System Peak MW	Size of Unit MW	Required Reserve %	Required Reserve MW
A	10,000	880	32	3,200
B	5,000	440	32	1,600
C	2,500	220	32	800
D	1,500	110	28	420
E	1,000	110	38	380
	20,000 (TOTAL)		32 (EFFECTIVE)	6,400 (TOTAL)

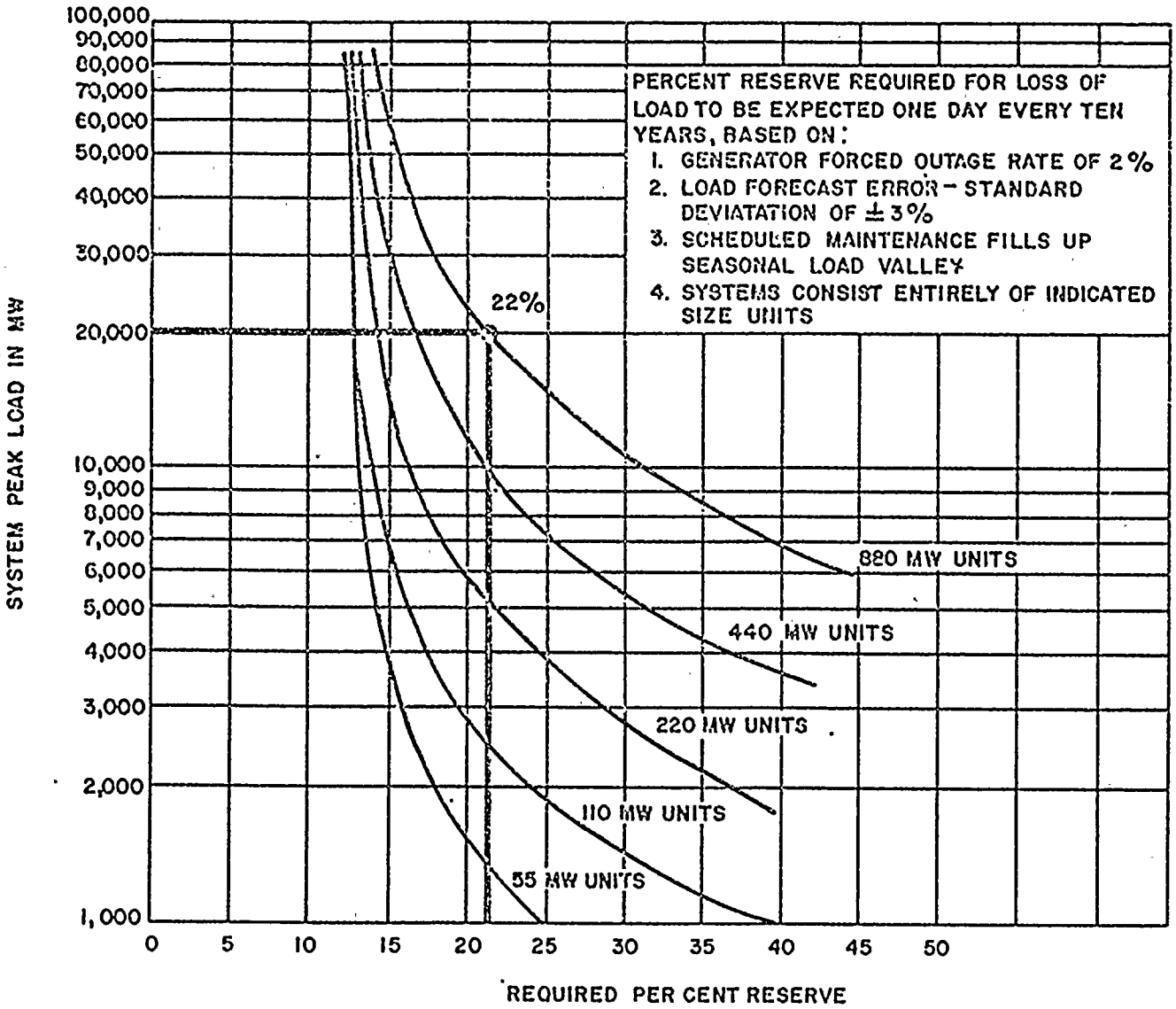

PERCENT RESERVE REQUIRED FOR LOSS OF LOAD TO BE EXPECTED ONE DAY EVERY TEN YEARS, BASED ON:
1. GENERATOR FORCED OUTAGE RATE OF 2%
2. LOAD FORECAST ERROR - STANDARD DEVIATATION OF ±3%
3. SCHEDULED MAINTENANCE FILLS UP SEASONAL LOAD VALLEY
4. SYSTEMS CONSIST ENTIRELY OF INDICATED SIZE UNITS
22%
820 MW UNITS
440 MW UNITS
220 MW UNITS
110 MW UNITS
55 MW UNITS
SYSTEM PEAK LOAD IN MW
100,000
90,000
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
5
10
15
20
25
30
35
40
45
50
REQUIRED PER CENT RESERVE

FIGURE 1

SECTION 7

REFERENCES

1. The 1964 National Power Survey
   The 1970 National Power Survey (Part 1, Chapter 17)

2. Power System Operation by Robert H. Miller
   Chapters 2, 4 and 8

3. A Treatise on Pooling by Edwin Vennard & John J. Kearney

4. Transmission Problems in Establishing a Power Pool by
   Robert Brandt, Consultant

5. Contracts for Electric Utility Interconnections by
   L. B. LeVesconte

6. IEEE Transactions on Power Apparatus and Systems
   Volume 84, No. 6, June 1965

7. Carolinas-Virginias Power Pool Agreement, July 1961

8. New York Power Pool Brochure
   "Organization and Functions"

9. New York Power Pool Brochure
   "Agreement"

10. New York Power Pool, "Description of the History, Purpose,
    Organization, Functions and Operations of the New York
    Power Pool", March 1972 (revision January 1973)

11. PJM - America's Pioneer Power Pool Brochure
    December 1969 and December 1972

12. Edison Electric Institute
    "Report on Interconnected Electric Power Systems
    in the United States", May 1967

13. Edison Electric Institute, Rate Research Committee,
    "Power Pool Rates", January 1972

FLORIDA PUBLIC SERVICE COMMISSION

700 SOUTH ADAMS STREET
TALLAHASSEE 32301
TELEPHONE 904-488-1001

May 1, 1975

Mr. H. L. Culbreath
Chairman
Florida Electric Power Coordinating Group
402 Reo Street
Suite 103
Tampa, Florida 33609

Dear Mr. Culbreath:

Legislation in recent years has placed a responsibility upon this Commission which requires us to concern ourselves not only with the service characteristics of individual electric utilities, but also with the characteristics of the State as a whole.

I quote from 366.04(3), F.S. effective July 1, 1974:

> "The Commission shall further have jurisdiction over the planning, development and maintenance of a coordinated electric power grid throughout Florida,---"

For the 1980-2000 time frame and pursuant to the Florida Electric Power Plant Siting Act, the Commission's Engineering Staff intends to evaluate the need for additional power plants on the basis of a fully coordinated peninsula wide power pool. Prompted by financial considerations, Florida Power Corporation is moving toward joint ownership of its power plants which is but one feature of power pool operation.

We note that the Florida Electric Power Coordinating Group (FCG), with a membership that provides for over 90% of the power produced in Florida, has within its ranks, the wide spectrum of expertise necessary to formulate power pooling concepts for peninsula Florida. I am therefore requesting that by virtue of your position as Chairman of the FCG, you bring before your Executive Committee, the consideration of the task of preparing comparative generating unit expansion

plans for peninsula Florida as a whole without regard to individual company territory and with particular emphasis on the role of nuclear power. In conjunction with these economic studies, we solicit your views on formal power pool operation as well as identification of any administrative, financial and legal problem areas.

We appreciate your cooperation and look forward to your response.

Very truly yours,

THE COMMISSIONERS

WILLIAM T. MAYO, CHAIRMAN

WILLIAM H. BEVIS

PAULA F. HAWKINS

MBH/JS/cd

FLORIDA ELECTRIC POWER COORDINATING GROUP
TECHNICAL ADVISORY GROUP

A meeting of the Florida Electric Power Coordinating Group TAG was held in Tampa, Florida, on June 12, 1975. The meeting was called to order at 10:00 a.m. by Chairman, Mr. J. D. Hicks.

Those in attendance were:

E. L. Bivans	-	Florida Power & Light Company
C. C. Blaisdell	-	Lake Worth Utilities Authority
R. T. Bowles	-	Florida Power Corporation
Rod Brooker	-	Tampa Electric Company
R. W. Cochran	-	City of Lakeland
M. R. Gent	-	Florida Electric Power Coordinating Group
R. C. Kuether	-	Jacksonville Electric Authority
W. R. Lesnett	-	City of Lakeland
S. L. Livengood	-	Gainesville/Alachua County Regional Utilities
H. C. Luff	-	Orlando Utilities Commission

Harry Luff commented on the May 23, 1975, Pooling Task Force Meeting and read the Task Force report submitted to J. D. Hicks on June 4, 1975. The report proposed the following for consideration of TAG:

POOLING TASK FORCE REPORT

1. The Operating Committee should be commended for their excellent work in completing the Power Pooling Report.

2. The Power Pooling Report should be returned to the Operating Committee for minor changes and corrections prior to issuance of the report for general use.

3. The Power Pooling Report recognizes that the members of the Operating Committee are presently operating as an informal link power pool and consideration should be given to formal recognition of this fact.

4. Action should be taken, where necessary and mutually advantageous, to complete the transition from an informal link power pool to a formal link power pool. Initial action to be taken should include the following:

(a) Establish uniformity of interconnection contracts between Operating Committee members.

(b) Continue to encourage joint ownership in large generation projects by large and small utility systems and implement the necessary joint generation and transmission planning to accomplish this objective.

After some discussion, it was concluded that Hicks would ask the Operating Committee to appoint a task force to draft appropriate interconnection contract schedules to be used as a guideline for contract standardization. The TAG Pooling Task Force was asked to draft a pooling agreement which would reflect the present status of pool operation as it exists today among Florida generating companies. E. L. Bivans was asked to coordinate with the Operating Committee to make the necessary minor corrections in their Power Pooling Report. These corrections will be sent to all present holders of the preliminary report and additional copies of the final report will be prepared for distribution outside FCG.

FORMULA TASK FORCE REPORT

M. F. Hebb, Jr., Formula Task Force Chairman, was not able to be present at the meeting and no report was submitted.

RELIABILITY COORDINATION AGREEMENT

R. C. Kuether reported that all systems had responded favorably for approval of the final drafts of the Florida-Southern Reliability Coordination Agreement with the exception of Florida Power Corporation and City of Fort Pierce, which had not been heard from to date. Hicks will ask the Executive Committee for approval to circulate the final agreement for signing.

FPSC LETTER OF MAY 1

Relative to the Florida Public Service Commission letter of May 1, R. T. Bowles suggested that an FCG planning workshop should be held to better acquaint the Public Service Commission and Division of State Planning staffs with the activities of the FCG Planning Committee. This workshop would serve as a forum for exchange of ideas on some of the questions raised in the FPSC letter. TAG supports the concept of the workshop. Bowles will prepare

October 17, 1975

Mr. J. D. Hicks
Tampa Electric Company
P. O. Box 111
Tampa, FL 33601

Dear Mr. Hicks:

The System Planning Committee met yesterday in Tampa to determine the method for developing the information necessary to answer the Public Service Commission's questions in their letter of May 1, 1975. The study will be developed as a comparison of an independent plan and a state plan.

The assumptions used will be the same for both plans. They are:

1. Florida Power & Light's capital, fuel, and operating maintenance costs will be used.

2. The only assumption that will be different is that each utility will develop a plan that will not provide any type of joint participation between companies except the one that is already in existence--Crystal River 3.

3. A 16-month time period was felt to be the minimum time period required to provide the information the Commission requested. If we were able to start by February 1, 1976, the study should be completed in June, 1977. I know this sounds like a long time, but the Committee feels that we need sufficient time to develop a study to present the facts as we best envision them.

The following is a short outline of how the System Planning Committee feels the study should be approached:

1. Forecasts - a composite load area will be developed and forecasted for both plans.

2. Generation Plan - a centralized loss of load probability criteria, selected area sites, the required mix of generation, and an optimal computer program will be used for the generation planning so that we can relate reliability and cost to unit size, etc.

3. Transmission Plan - a transmission system will be developed which transfers reserves between areas, a system will be developed which shows ownership of the lines proportioned by the area in which they fall, and the load flow analysis will be performed for all 20 years.

4. Results - the independent plan will be compared to the state-wide plan on capital operation and maintenance cost per company.

The estimated cost of the study is $325,000 which is broken down as follows:

Load Flow Analysis	$100,000
Long Range Transmission Study	51,000
Loss of Load Probability Study	48,000
Optimal Generation Study	25,000
Production Costing Runs	12,000
Area Forecasting	5,000
Report Analysis and Writing	34,000
Contingencies	50,000
TOTAL	$325,000

The System Planning Committee feels this is the minimal approach that can be taken to provide the answers to the Commission's questions in their letter of May 1, 1975.

If there is any additional information that you would require, please feel free to contact me.

Sincerely yours,

R. T. Bowles, Chairman
FCG - System Planning Committee

RTB/lw

cc: Mr. M. F. Hebb, Jr.
Mr. H. G. Wells
System Planning Committee

ORLANDO UTILITIES COMMISSION
500 SOUTH ORANGE AVENUE • P. O. BOX 3193 • ORLANDO, FLORIDA 32802 • 305/841-1230

November 12, 1975

Mr. J. D. Hicks, Chairman
FCG Technical Advisory Group
P. O. Box 111
Tampa, Florida 33601

Dear Mr. Hicks:

The TAG Pooling Task Force met this morning to consider composing a Florida Power Pool Agreement draft. The Task Force discussed pooling alternatives ranging from a fully integrated power pool agreement to more limited concepts. Each member of the Task Force was asked to express his views as to the applicability of the various alternatives. It was determined at this time that Florida Power and Light Company does not feel that it is in its best interests to enter into a pooling agreement at this time.

The members of the Task Force feel that additional time is needed to explore possible alternatives to a statewide pooling agreement before a Task Force recommendation can be submitted to the Technical Advisory Group.

Very truly yours,

H. C. Luff, Secretary
FCG Technical Advisory Group

HCL:vc

cc: Mr. E. L. Bivans
Mr. J. E. Burris
Mr. B. L. Griffin
Mr. R. C. Kuether

bc: Mr. C. H. Stanton
Mr. L. E. Stone
Mr. Irving Reedy
Mr. D. E. Moore

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: General investigation to resolve the problems between the Grid Bill, Florida Electric Power Plant Site Act, and Commission ratemaking.	DOCKET NO. 760006-CI ORDER NO. 7080

The following Commissioners participated in the disposition of this matter:

WILLIAM T. MAYO, Chairman
WILLIAM H. BEVIS
PAULA F. HAWKINS

ORDER INSTITUTING INVESTIGATION AND NOTICE OF PUBLIC HEARING THEREON

BY THE COMMISSION:

This proceeding is initiated on the Commission's own motion pursuant to Section 120.62, Florida Statutes, for the purpose of investigating implementation problems arising from the interaction between Chapter 74-196 and 73-33, Laws of Florida, popularly known as the Grid Bill and the Power Plant Siting Act, and the Commission's general responsibilities under Chapter 366, Florida Statutes. Jurisdiction is vested in the Commission by Chapters 73-33 and 74-196, Laws of Florida and Chapter 366, Florida Statutes.

It is our intention to undertake a thorough and comprehensive investigation of this matter. This includes, among other things, analysis of the implications of the Plant Site Act on the Grid Bill; service characteristics of the state as a whole; present and future transmission intertie needs and plans; present and future needs and plans with respect to wheeling and related problems; the consequences of future uncertainties in availability and price of fuels and of plant; fuel emergency contingency plans; and related matters, including economic uncertainties. With respect to such issues, the Commission will ascertain what action, if any, needs to be undertaken pursuant to the forementioned statutes, and what revisions, if any, should be made to those statutes. Because of the number and complexity of the issues involved, the Commission will conduct this investigation in several stages. The first step will be submission of certain preliminary data as hereafter ordered. The second step will be an informal workshop for interested parties and Commission staff as hereafter ordered to further define issues, followed by submission of statements thereon by the parties. This submission may be followed by a workshop or prehearing conference to discuss statements and responses and establish practical limits to the scope of this investigation. The input from the informal stages of this investigation can then be transferred into a formal proceeding sufficiently well defined to result in the most expeditious treatment of the matter. Based on the foregoing, it is therefore,

ORDERED by the Florida Public Service Commission that a formal agency investigation is hereby initiated on the matter of implementation problems arising from the interaction of the Grid Bill, the Plant Site Act and the Commission's general responsibilities under Chpater 366, Florida Statutes. It is further

ORDERED that each generating utility, including municipal utilities, submit information regarding fuel costs, plant costs, growth rates and certain other cost data for the 1976-1990 period, or a notation that a utility does not possess such information where appropriate, together with an explanation of underlying assumption, no later than February 6, 1976, on forms attached hereto. It is further

ORDERED that all electric utilities regulated by the Commission, including those municipal systems and rural electric cooperatives over which the Commission has jurisdiction for the purposes set forth in Chapter 74-196, Laws of Florida, and the Florida Electric Power Coodinating Group, Inc., as well as other interested persons are urged to attend an informal conference with the Commission staff as set forth above on March 9, 1976, at the Commission's offices in Tallahassee. An agenda, therefore, will be issued in accordance with the requirements of the Administrative Procedure Act.

By ORDER of Chairman WILLIAM T. MAYO, Commissioner WILLIAM H. BEVIS and Commissioner PAULA F. HAWKINS, as and constituting the Florida Public Service Commission, this 15th day of January, 1976.

William B. DeMilly
COMMISSION CLERK

(SEAL)

Form 1

UTILIY SEBRING UTILITIES COMMISSION

FORECAST OF CAPACITY, DEMAND, AND SCHEDULED MAINTENANCE AT TIME OF SUMMER PEAK a/

YEAR	Total Installed Capacity MW (1)	Firm Capacity Import MW	Total Available Capacity MW	Peak Demand MW (2)	Margin Before Maint. MW	Margin Before Maint. % of PK.	Sched. Maint. MW	Margin After Maint. MW	Margin After Maint. % of PK.
1966	20.4	0	20.4	0	0	0	0	0	0
1967	20.4	-	20.4	9.1	11.3	124.2	0	11.3	124.2
1968	23.1	0	23.1	8.6	14.5	168.6	0	14.5	168.6
1969	23.1	0	23.1	10.9	12.2	111.9	0	12.2	111.9
1970	23.1	0	23.1	14.2	8.9	62.7	0	8.9	62.7
1971	23.1	0	23.1	15.1	8.0	53.0	0	8.0	53.0
1972	23.1	0	23.1	15.2	7.9	52.0	0	7.9	52.0
1973	23.1	2.0	25.1	18.8	6.3	33.5	0	6.3	33.5
1974	23.1	3.0	26.1	23.0	3.1	13.5	0	3.1	13.5
1975	23.1	6.0	29.1	21.9	7.2	32.9	0	7.2	32.9
1976	23.1	6.0	29.1	24.9	4.2	16.9	0	4.2	16.9
1977	26.8	*	*	27.4	*	*	*	*	*
1978	26.8	*	*	30.2	*	*	*	*	*
1979	26.8	*	*	33.1	*	*	*	*	*
1980	*			36.4					
1981				40.0					
1982				44.1					
1983				48.5					
1984				53.4					
1985				*					
1986									
1987									
1988									
1989									
1990									
2000									

a) Capacity additions and changes must be made by May 31 to be considered in effect at the time of the Summer peak. All values are Summer Net MW.

b) Actual 1966 through 1975

Footnotes ( ):

* Not estimated after this date.

UTILITY SEBRING UTILITIES COMMISSION

HISTORY AND FORECAST OF ENERGY USE

	RURAL & RESIDENTIAL			COMMERCIAL		INDUSTRIAL	
YEAR (1)	GWH	NO. OF CUSTOMERS	AVERAGE KWH CONSUMPTION PER CUSTOMER	GWH	AVERAGE* NO. OF CUSTOMERS	GWH	AVERAGE* NO. OF CUSTOMERS
1966							
1967 (2)	16.6	3,016	5,497	12.0	588	None.	None
1968 (2)	18.3	3,089	5,924	13.3	584	"	"
1969 (2)	21.9	3,338	6,560	14.3	592	"	"
1970 (2)	27.0	3,482	7,744	16.5	622	"	"
1971 (2)	29.8	3,826	7,777	16.9	669	"	"
1972	35.8	4,237	8,449	21.2	605	"	"
1973	43.6	4,691	9,294	23.1	606	"	"
1974	44.5	5,124	8,684	22.7	613	"	"
1975	46.2	5,374	8,605	24.5	632	"	"
1976	49.3	5,810	8,468	23.8	630	"	"
1977	53.5	6,370	8,399	24.7	640	"	"
1978	59.6	6,930	8,600	25.5	650	"	"
1979	66.1	7,500	8,813	26.5	660	"	"
1980	73.4	8,170	8,984	27.4	670	"	"
1981	81.2	8,840	9,186	28.4	680	"	"
1982	89.8	9,620	9,335	29.4	690	"	"
1983	99.3	10,510	9,448	30.4	700	"	"
1984	109.7	11,400	9,623	31.5	710	"	"
1985	*	*	*	*	*		
1986							
1987							
1988							
1989							
1990							
2000							

a) *Use Average of end-of-month customers for the calendar year.
b) Actual 1966 through 1975

(1) Fiscal year ending 9/30 except as noted.

UTILITY SEBRING UTILITIES COMMISSION

HISTORY AND FORECAST OF ENERGY USE

YEAR(1)	STREET & HIGHWAY LIGHTING GWH (5)	OTHER SALES TO ULTIMATE CONSUMERS GWH	TOTAL SALES TO ULTIMATE CONSUMERS GWH	SALES FOR RESALE GWH	UTILITY USE & LOSSES GWH (2)	NET ENERGY FOR LOAD GWH
1966						
1967(3)		None	31.4 (4)	None	2.0 (6)	33.4
1968(3)		"	34.1 (4)	"	2.0 (6)	36.1
1969(3)		"	38.7 (4)	"	2.7 (6)	41.4
1970(3)		"	46.1 (4)	"	3.1 (6)	49.2
1971(3)		"	49.7 (4)	"	5.2 (6)	54.9
1972		"	57.0	"	8.4	65.4
1973		"	66.7	"	9.4	76.1
1974		"	67.2	"	11.7	78.9
1975		"	70.7	"	9.1	79.8
1976		"	73.0	"	13.0	86.0
1977		"	78.2	"	13.7	91.9
1978		"	85.1	"	14.9	100.0
1979		"	92.6	"	16.2	108.8
1980		"	100.8	"	17.7	118.5
1981		"	109.6	"	19.2	128.8
1982		"	119.2	"	20.9	140.1
1983		"	129.7	"	22.8	152.5
1984		"	141.2	"	24.7	165.9
1985		*	*	*	*	*
1986						
1987						
1988						
1989						
1990						
2000						

*Not estimated after this date.

Footnotes:

(1) On fiscal year basis ended Sept. 30 except as noted.
(2) Includes street lighting, City and interdepartmental use as well as losses except as noted.
(3) Based on fiscal year ended May 31.
(4) Includes lighting and city use.
(5) Included in Utility Use & Losses.

Form 3

UTILITY SEBRING UTILITIES COMMISSION

PLANNED AND PROSPECTIVE GENERATING FACILITY ADDITIONS AND CHANGES THROUGH 2000

PLANT NAME	UNIT NO.	LOCATION (IF KNOWN)	TYPE	FUEL PRI	FUEL ALT	CONST. START MO/YR	COM'L IN-SERVICE MO/YR*	GEN MAX NAMEPLATE KW	NET CAPABILITY SUMMER MW	NET CAPABILITY WINTER MW
Crystal River	3	Citrus Co.	S	N	-	6/68	9/76		3.69(1)	3.69(1)

*This column is to be used also for dates of retirements and changes.

Footnotes:

(1) Crystal River #3 is owned jointly by twelve public and private Florida utilities including Sebring and the principal owner and operator, Florida Power Corporation. Sebring's ownership share is 3.69 MW.

FORM 4

UTILITY SEBRING UTILITIES COMMISSION

FORECAST OF PLANT CAPITAL INVESTIMENT ($/KW)

YEAR	NUCLEAR	OIL STEAM	COAL STEAM w/ DESULFURIZATION	COAL STEAM w/o DESULFURIZATION	COMBUSTION TURBINE	COMBINE CYCLE
1975						
1976						
1977	$553/kW (1)					
1978						
1979						
1980						
1981						
1982						
1983						
1984						
1985						
1986						
1987						
1988						
1989						
1990						
2000						

Footnote: (1) Total direct construction cost as estimated by Florida Power Corporation of Crystal River

Form 5

UTILITY SEBRING UTILITIES COMMISSION

FORECAST OF FUEL COSTS

YEAR	NUCLEAR ¢/MMBTU	COAL HIGH SULFUR $/TON	COAL HIGH SULFUR ¢/MBTU	COAL LOW SULFUR $/TON	COAL LOW SULFUR ¢/MBTU	OIL #6 $/BBL	OIL #6 ¢/MMBTU	% SULFUR CONTENT	OIL #2 $/BBL	OIL #2 ¢/MMBTU
1975	-		None			11.93	189.36		12.87	218.92
1976	22.5		"			13.12	208.30		14.16	240.81
1977	22.5		"			14.44	229.13		15.57	264.89
1978	19.5		"			15.88	252.04		17.13	291.38
1979	18.6		"			17.47	277.24		18.84	320.52
1980	17.6		"			*	*		*	*
1981	18.6									
1982	19.5									
1983	22.7									
1984	23.4									
1985	24.1									
1986	24.8									
1987	25.5									
1988	26.3									
1989	27.1									
1990	27.9									
2000	28.8									

Assumed Heat Content: #6 Oil = 150,000 Btu/gal. #2 Oil = 140,000 Btu/gal. Coal =

*Not estimated after this date.

Form 6

UTILITY SEBRING UTILITIES COMMISSION

OTHER UNIT DATA - 1975

	LEVELIZED CARRYING CHARGE RATE	FULL LOAD HEAT RATE (BTU/KWH)	(EXCLUDING FUEL) O & M COST (MILLS/KWH) (2)
0 MW Nuclear			
0 MW Coal w/o desulufurization			
0 MW with desul-furization			
12.65 MW Oil (1)	NA	14,000	6.36
0 MW Combined Cycle			
____ MW Combustion Turbine			

(a) indicate size (Nameplate rating)

Footnotes:
(1) Steam turbine
(2) Cost per kWh of net generation

with a total expenditure of some $350,000."

Chairman Hicks was to make this recommendation to the Executive Committee on January 28 in Miami.

Mr. Gent explained the problem of coordination between T.A.G. and SERC-TAC. He recommended the SERC-TAC Subregional Representative be made an ex-officio member of T.A.G. The recommendation was unanimously approved. Mr. Stone will be invited to attend future meetings.

Mr. Gent reported on the success of influencing the format of F.P.C. Form 12E-2. After some discussion on the fact that the data required by April 1 is almost identical to the data due February 13, Mr. Gent was asked to request omission of the first filing. (See Mr. Gent's letter of January 23, 1976, attached).

Mr. Luff reviewed the history of the Pooling Task Force. After some discussion Mr. Bivans proposed that the Task Force continue to function and to study the proposal of a pool of peninsular Florida without the Florida Power & Light Company system. This recommendation was approved.

Mr. Bivans gave a brief report on Florida Power & Light's negotiations with Georgia Power Corporation for a transmission interconnection. Their negotiations are still incomplete.

The meeting was adjourned at approximately 1:30 p.m.

FLORIDA PUBLIC SERVICE COMMISSION

700 SOUTH ADAMS STREET
TALLAHASSEE 32304
TELEPHONE 904-488-1001

February 24, 1976

TO: ALL PARTIES OF RECORD

RE: DOCKET NO. 760006-CI - GENERAL INVESTIGATION TO RESOLVE THE PROBLEMS BETWEEN THE GRID BILL, FLORIDA ELECTRIC POWER PLANT SITE ACT, AND COMMISSION RATEMAKING.

As provided for in Order Number 7080, there will be an initial informal workshop in this Docket on March 9, 1976, presided over by Dr. Jay B. Kennedy, Executive Director. This workshop will commence at 9:00 a.m. in Room 21, House Office Building, rather than in the Commission's offices as set forth in the Order.

The primary purpose of this workshop will be to discuss procedure and to give consideration to the need for subsequent workshops in this Docket. Inherent in the workshop format is the need for a working group of reasonable size. Accordingly, the parties in this Docket should begin to determine among themselves appropriate individuals to form a working group, bearing in mind the fact that the need for particular individuals may vary as the topic of a particular workshop varies.

As a starting point for discussion, and to facilitate selection of appropriate individuals, attached are specific study topics suggested by the Commission's Engineering staff, and related matter.

Comment on these suggested topics is invited at the workshop, and a further time will be provided for written comment or suggested changes. As stated, the primary purpose of the March 9 workshop is to develop procedures for use in this Docket.

William B. DeMilly

WILLIAM B. DEMILLY
COMMISSION CLERK

Attachments

(S E A L)

PUBLIC SERVICE COMMISSION SUGGEST STUDY CATEGORIES

DOCKET NO. 760006-CI

The following is a study outline suggested by the Commission's Engineering Department for this docket. The proposed study is divided into three major areas of investigation with some other related factors:

1. Fully Integrated Generation Expansion

   Three generation expansion studies are envisioned: one for peninsula Florida as a whole and one each for a western and eastern subregion as pictured in the attached map. The area West of the Appalachicola River is excluded from generation expansion studies because that area is fully integrated into the Southern Company power pool, and because that area is not effectively intertied with the peninsula.

   Each expansion plan will be compared to a baseline consisting of the currently planned generating unit additions of each utility. The generation expansion plans for each region will optimize all projected costs related to generation with and without the constraint of nuclear and fossil fuel diversification, both as to availability and rates charged to consumers. The regional generation expansion studies should reflect load models only; detailed transmission line and centralized dispatch studies should be made only after a generation expansion plan is selected.

2. Centralized Computer Dispatch for Current Generation/ Transmission Line Expansion Plans .

This study is to examine the economic feasibility of a peninsula wide central dispatch capability which selects the most efficient generation mix for any given load pattern. Data for this study will be obtained from the presently planned generation and transmission line configuration.

3. Contingency Plans

This area of study is to develop contingency programs to be implemented pursuant to Chapter 75-256, Laws of Florida, if a fuel shortage emergency is declared by order of the governor.

Detailed transmission line, centralized dispatching, and other studies should be made only if fully integrated generation expansion practices are found to provide benefits beyond that already derived from the existing informal arrangements between electric utilities.

As a consequence of the studies outlined above inherent conflicts, if any, among the underlying statutes should become apparent, and appropriate remedial legislation can then be suggested.

PSC SUGGESTED STUDY CATEGORIES - DOCKET NO. 760006-CI

START

STATE DATA BASE COMPLETE

STUDIES COMPLETE

REPORT PUBLISHED

DECISION

12 | 12 | 6 | 3

① GENERATION EXPANSION

O & M, FUEL & CAPITAL COST ESTIMATES

. GENERATION FINANCIAL FACTORS

RELIABILITY CRITERIA

UNIT DATA (HEAT RATE) F.O.R. ECT.

LOAD MODEL

*PENINSULA FLORIDA

*EASTERN PENINSULA

*WESTERN PENINSULA

OPTIMIZED FOR MINIMUM GENERATION COSTS

*PENINSULA FLORIDA

*EASTERN PENINSULA

*WESTERN PENINSULA

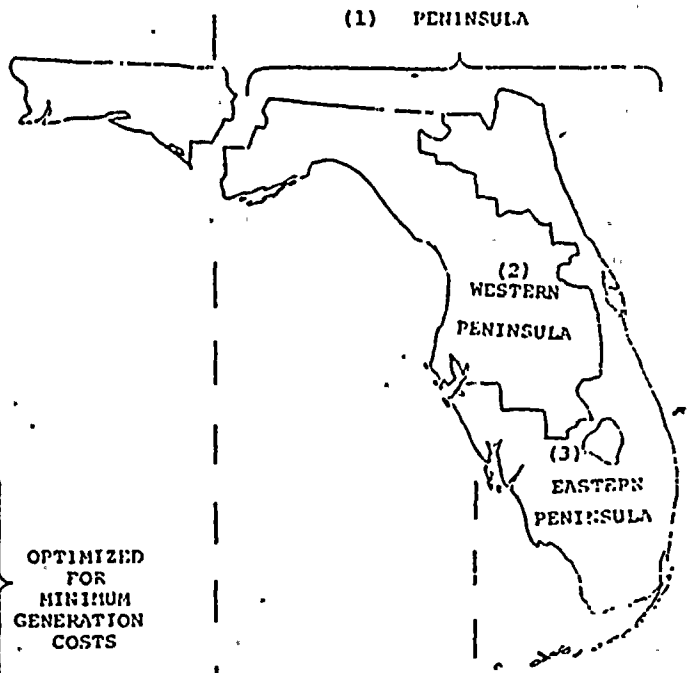
OPTIMIZED FOR MINIMUM COSTS SUBJECT TO THE CONSTRAINT OF NUCLEAR AND FOSSIL DIVERSIFICATION

PRODUCTION & CAPITAL COSTING OF INDIVIDUAL PLANS ON SAME BASIS AS JOINT EXPANSION PLANS

② PENINSULA WIDE DISPATCH FOR CURRENT TRANSMISSION GENERAL EXPANSION PLANS

③ DEVELOP CONTINGENCY PLANS

GENERATION EXPANSION STUDY REGIONS



IF FULLY INTEGRATED POOLING, ECONOMICALLY JUSTIFIABLE: THEN PERFORM TRANSMISSION LINE, CENTRALIZED DISPATCH, AND OTHER STUDIES

FINAL REPORT PREPARATION → PRESENTATION TO P.S.C. FOR APPROVAL

*LOAD MODEL ONLY - Detail centralized dispatch studies excluded at this time due to absence of power pool transmission line details

ORLANDO UTILITIES COMMISSION
500 SOUTH ORANGE AVENUE • P. O. BOX 3193 • ORLANDO, FLORIDA 32802 • 305/841-1230

March 15, 1976

Mr. J. D. Hicks, Chairman
FCG Technical Advisory Group
P. O. Box 111
Tampa, Florida 33601

Dear Jim:

The FCG TAG Pooling Task Force met March 3 to review comments on Draft 0 of the proposed Florida Electric Power Pool Agreement. The meeting was attended by Bill Griffin, Ray Welch, Ron Kuether, Harry Luff, Jim Blanchard and Mike Gent.

Florida Power Corporation submitted a new proposal patterned after the Mid-America Power Pool Agreement, which was adopted by the group as Task Force Draft 1. After review of this draft and general discussion, the Task Force agreed to have a technical committee, chaired by Irving Reedy, review and make necessary changes in this draft before final adoption by the Task Force.

The Task Force is still studying the questions of interfacing the FEPP with FP&L and Southern Company and the integration of FEPP within the framework of FCG. Ron Kuether has mailed copies of Task Force Draft 1 to Ernie Bivans and Grady Smith so that they may consider the interfacing question for later discussion. (See attached letter.)

We plan to keep you informed of the Task Force activities through these informal summaries until final recommendations of the Task Force are ready for submittal to TAG.

Very truly yours,

H. C. Luff, Chairman
Pooling Task Force

HCL:vc

Enclosure

cc: Attendees
Mr. Ernie Bivans

bc: Stanton; Stone, Reedy & Moore

FLORIDA PUBLIC SERVICE COMMISSION

TALLAHASSEE, FLA.
TELEPHONE [illegible]

March 16, 1976

TO: ALL PARTIES OF RECORD

RE: DOCKET NO. 760006-CI - GENERAL INVESTIGATION TO RESOLVE THE PROBLEMS BETWEEN THE GRID BILL, FLORIDA ELECTRIC POWER PLANT SITE ACT, AND COMMISSION RATEMAKING.

Pursuant to Commission Order No. 7080, an informal workshop was held March 9, 1976, in the above styled docket in Tallahassee. At the workshop, the three phase study outline suggested by the Commission staff and previously mailed to all parties was presented and discussed. Phase I consists of generation expansion planning studies; Phase II consists of a study to determine the feasibility and desirability of centralized dispatch; and Phase III consists of contingency planning for fuel related emergencies. Since Phase II, and to some extent Phase III, seem to follow sequentially and to build on the data generated by Phase I, it was decided to defer Phase II and Phase III at this time, especially since the same resources in people and equipment would be required for both Phase I and Phase II.

A specific proposal to accomplish the Phase I study was presented by several representatives of the Florida Electric Power Coordinating Group, Inc., hereafter FCG, an association formed by the investor-owned, municipal and rural electric utilities which account for virtually all the generating capacity in Florida. FCG has both operating and planning functions. The FCG proposal, consisting of a detailed study requiring about 58 weeks, was discussed. The study is divided into parts, consisting of: development of a composite data base; development of unsited individual system and peninsula system plans; development of the peninsula sited generation plans; development of the final report. Copies of the FCG proposal were distributed to all parties at the workshop; additional copies are available on request to FCG or the Commission Clerk. The FCG proposal was deemed a satisfactory approach to the Phase I study requirements. Gulf Power Company, serving that area generally west of the Apalachicola River, will interface with the Phase I study, but will not be a participant therein, because Gulf is primarily electrically intertied with, and is a part of, the Southern Company system.

Following an initial organizational period, the Phase I study will begin May 1, 1976, and will be conducted primarily by the FCG System Planning Committee, with review by certain Commission staff members. Interim reports will be mailed to parties of record and discussed at subsequent workshops. The twelve weeks required for the first part of the Phase I study will end July 16, 1976, and the workshop for that part is now scheduled for July 23, 1976. In the event that workshop is held in Tallahassee, it will begin at 11:00 a.m. to allow parties to fly in that morning and leave the same afternoon. Subsequent workshops will be scheduled as appropriate, and all parties will be afforded an opportunity to participate therein. A list of the parties of record is attached; persons present at the March 9 workshop are indicated by an asterisk.

William B. DeMilly

WILLIAM B. DEMILLY
COMMISSION CLERK

Attachments

(SEAL)

Peace River Electric Cooperative, Inc.
Post Office Box 1310
Wauchula, Florida 33873

Okefenoke Rural Electric Membership Corporation
Post Office Box 98
Nahunta, Georgia 31553

Lee County Electric Cooperative, Inc.
Post Office Box 3455
North Fort Myers, Florida 33903

Gulf Coast Electric Cooperative, Inc.
Post Office Box 217
Wewahitchka, Florida 32465

Glades Electric Cooperative, Inc.
Post Office Box 517
Moore Haven, Florida 33471

Florida Keys Electric Cooperative, Inc.
Post Office Box 377
Tavernier, Florida 33070

City of Alachua
Box 8
Alachua, Florida 32615

Bartow Municipal Light and Water Department
Box 1969
Bartow, Florida 33830

Blountstown Municipal Electric Department
125 West Central Avenue
Blountstown, Florida 32424

Bushnell Utility Department
Box 115
Bushnell, Florida 33513

City of Chattachoochee
City Hall
Chattachoochee, Florida 32324

Clewiston Electric and Water System
Box 698
Clewiston, Florida 33440

Fort Meade Electric Department
Box 518
Fort Meade, Florida 33811

City of Gainesville
555 Southeast Fifth Avenue
Box 490
Gainesville, Florida 32601

Starke Light and Water Plant
Box 1056
Starke, Florida 32091

Vero Beach Municipal Plant
Box 67
Vero Beach, Florida 32960

Wauchula Municipal Light and Water Department
Box 818
Wauchula, Florida 33873

Williston Municipal Electric Department
Williston
Florida 32696

Public Counsel *
Holland Building
Tallahassee, Florida 32304

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West Palm Beach, Florida 33402

Florida Public Utilities Company
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Fernandina Beach, Florida 32034

Withlacoochee River Electric Cooperative Inc.
Post Office Box 278
Dade City, Florida 33525

West Florida Electric Cooperative, Inc.
Post Office Box 127
Graceville, Florida 32440

Tri County Electric Cooperative, Inc.
Post Office Box 208
Madison, Florida 32340

Suwannee Valley Electric Cooperative, Inc.
Post Office Box 160
Live Oak, Florida 32060

Sumter Electric Cooperative, Inc.
Sumterville, Florida 33585

Central Florida Electric Cooperative, Inc.
Post Office Box 8
Chiefland, Florida 32626

Choctawhatchee Electric Cooperative, Inc.
Post Office Box 512
DeFuniak Springs, Florida 32433

Clay Electric Cooperative, Inc.
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Keystone Heights, Florida 32656

Mr. E. L. Bivans and Mr. J. S. Bell *
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Post Office Box 3100
Miami, Florida 33101

Mr. G. P. Wood and Mr. J. D. Hicks *
Tampa Electric Company
Post Office Box 111
Tampa, Florida 33609

Mr. C. D. McIntosh, Jr. and Mr. Robert W. Cochran *
Department of Electric and Water Utilities
1000 East Parker Street
Box 368
Lakeland, Florida 33802

Mr. Don Moore *
Orlando Utilities Commission
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Mr. R. W. Jones *
Barnett Bank Building
Tallahassee, Florida 32304

Lake Helen Municipal Electric Light Plant
Box 423
Lake Helen, Florida 32744

City of Leesburg
Box 630
Leesburg, Florida 32748

Moore Haven Municipal Water and Light Department
Moore Haven
Florida 33471

City of Mount Dora
Mount Dora.
Florida 32757

Newberry Board of Public Works
Newberry
Florida 32669

New Smyrna Beach Utility Commission
Box 519
New Smyrna Beach, Florida 32069

Quincy Municipal Electric Light and Water Department
Drawer 941
Quincy, Florida 32351

St. Cloud Public Utilities Commission
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St. Cloud, Florida 32769

Mr. J. Paul Smith *
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311 North Indian River Drive
Fort Pierce, Florida 33450

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Tallahassee, Florida 32304

Mr. C. C. Blaisdell, Jr. *
Utilities Director
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Mr. Harry W. Wright *
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Mr. J. H. Phillips *
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Mr. Lee Willis *
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FLORIDA ELECTRIC POWER COORDINATING GROUP

OUTLINE
PENINSULAR FLORIDA GENERATION EXPANSION PLAN
1976-1990

The System Planning Committee of the Florida Electric Power Coordinating Group has prepared an estimate of the effort required to compare the method of generation planning proposed by the Public Service Commission, "generation planning without regard to company boundaries," and the present method of each utility independently planning its own generation. To accomplish this comparison, it will be necessary to develop plans under both methods using a common base. The Committee suggests the following approach be utilized:

A. Independent plans of each utility be developed based on a common cost basis and with no consideration given to the plans of any other system.

B. A statewide generation expansion plan be developed jointly by all participants on the same base as "A" and without consideration given to system boundaries.

C. Cost comparisons be made between the aggregate of the individual plans and the jointly developed state plan to determine any potential savings on both the state and individual system bases.

It is assumed that all member systems of the System Planning Committee would participate in the study. It is further suggested that the staff of the Public Service Commission be invited to also participate (see Attachment I).

As each major milestone is reached in the study, an interim report would be prepared and presented for the Commission's review. Each of these reports would summarize the progress to that point and state any conclusions possible up to that point. A reasonable schedule for these reports (from Attachment II) would be as shown on the following page.

After	Report Would Include
12 Weeks	Composite Data Base (load model, capital costs, fuel costs, O&M costs, reliability criteria, etc.)
24 Weeks	Unsited Individual System and Statewide System Plans (area generation requirements)
36 Weeks	State Sited Generation Plan (sited generation requirements)
58 Weeks	Final Report (state generation plan including transmission requirements)

General Study Outline

I. Independent Plans

In order to compare the aggregate of the independent plans to the joint generation plan, it is suggested that each utility proceed under the following guidelines:

A. All plans be independent of any participation with other utilities (i.e., no future joint generation projects be shown) except where contracts exist at the present time.

B. All utilities use the same mutually agreeable composite estimates for:
   1. Fuel Costs
   2. O&M Costs
   3. Generation Equipment
   4. Transmission Lines and Rights-of-Way
   5. Substation Equipment

Note: It is estimated that each utility could require up to 200 manhours to update their present long range generation program to reflect the composite fuel and capital costs.

II. Joint Generation Expansion Plan

The System Planning Committee has reviewed the major requirements necessary for the development of a joint generation expansion plan for the period of 1976 through 1990. The Committee suggests the following procedure be followed:

A. Load Forecast

A composite of the system load forecast should be developed for the major load centers of the Florida Peninsula.

B. Generation Expansion

In order to develop the expansion plan required to meet the desired reliability levels, it is suggested the following tasks be undertaken:

1. A loss of load probability (LOLP), reserve, or equivalent reliability criteria should be agreed upon for the State.

2. The proper mix of generation should be developed using a generally accepted optimal generation planning computer program. This will make it possible to more quickly develop guidelines relating to the proper percentage of base load, intermediate range, and peaking capacity for the State. Also, this will allow for an adequate number of alternative generation types (e.g., nuclear, coal, combined cycle, gas turbines) to be considered in a reasonable amount of time.

3. Because of the difference in financing situations of the participants, agreement will have to be reached on a general financial approach to be used in the study for cost evaluation.

4. Generation locations will be designated by general area and not necessarily by specific site.

C. Transmission Planning

As a result of the composite load area basis for the load forecast, the associated transmission system should be designed to satisfactorily transfer reserves between areas. In order to adequately accomplish this requirement, the development of a separate transmission expansion plan for each generation planning approach will be required. The estimated costs of these expansions will become an integral part of the total cost estimates. The development of the transmission expansion plans will require:

1. Two long range transmission planning studies based on the joint generation plan for the State and the composite of the individual system plans.

2. Approximately 20 years of load flows to determine the sufficiency of the transmission system to handle the increased generation. It was agreed by the System Planning Committee that all lines would be owned by the utility in whose area the lines were constructed.

D. Financial Analysis

The output from this joint generation expansion program should be broken down into a total cost per year and subdivided into capital cost of transmission and generation and operating and maintenance cost. Each of these costs will be shown on a yearly basis.

In order to adequately assess the impact of any developed plan in regard to its effect on rates charged to consumers, it will be necessary to at least roughly consider the financial requirements and their forecasted satisfaction. This portion of the study may well require the expertise of individuals other than system planners and therefore may expand the study for a short period outside the general area of the System Planning Committee.

ATTACHMENT I

PENINSULAR FLORIDA
GENERATION EXPANSION STUDY
FCG SYSTEM PLANNING COMMITTEE

Participating Systems

Florida Power & Light Company

Florida Power Corporation

Tampa Electric Company

Gulf Power Company

Jacksonville Electric Authority

Orlando Utilities Commission

Gainesville-Alachua County Regional Utilities Board

Lakeland Department of Electric & Water Utilities

Tallahassee Electric Department

Lake Worth Utilities

Ft. Pierce Electric Department

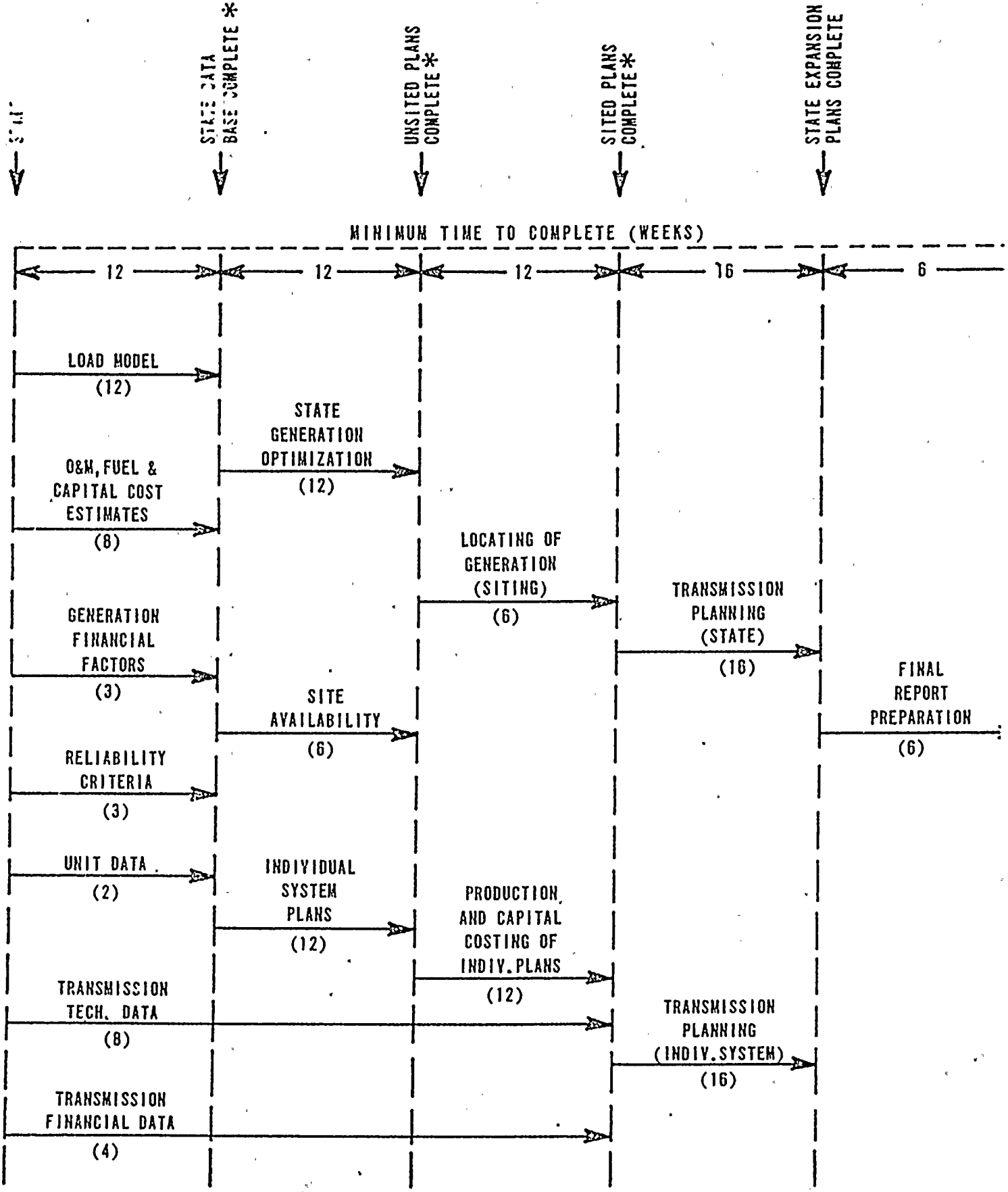
Vero Beach Municipal Utilities

and

The Florida Public Service Commission

ATTACHMENT II

PENINSULAR FLORIDA GENERATION EXPANSION PLAN
1976 - 1990



* - INTERIM REPORT FILED.

(X) - INDICATES CALENDAR WEEKS FOR COMPLETION.

ELECTRIC UTILITY GROUP MAKES PROPOSAL FOR STATEWIDE GENERATION AND TRANSMISSION EXPANSION STUDY

The Florida Electric Power Coordinating Group (FCG) made a proposal today to the Florida Public Service Commission which would commit the utility group to a 58 week study of the expansion of the statewide generation and transmission system for electric power during the period 1976-1990. FCG is an organization of some 34 electric utilities throughout Florida which include investor-owned utilities, municipal systems and REA electric cooperatives. Altogether the group represents 99% of the electric power generation in the State of Florida.

The proposal was made at the Florida Public Service Commission workshop which opened the Commission's investigation of the planning of the state's power generation and transmission facilities. Under the proposal made by FCG, the study would begin on May 1, 1976 and would be concluded early summer of 1977. Altogether the study, which would be performed by the staffs of 12 participating systems, would cost about $400,000. The proposal also requested that the Public Service Commission staff participate at all stages of the study. Interim reports would be forthcoming at several stages in the study. The participating systems are:

Florida Power & Light Company

Florida Power Corporation

Tampa Electric Company

Gulf Power Company

Jacksonville Electric Authority

Orlando Utilities Commission

Gainesville-Alachua County Regional Utilities Board

Lakeland Department of Electric & Water Utilities

Tallahassee Electric Department

Lake Worth Utilities

Ft. Pierce Electric Department

Vero Beach Municipal Utilities