

# Regional Transmission Organizations (RTOs)

## Policy Analysis Briefing Paper: The Viability of an RTO in Florida

PREPARED BY:  
Division of Policy Analysis & Intergovernmental Liaison

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**Florida Public Service Commission**

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## INTRODUCTION

Electricity is essential to the smooth workings of modern day life. From the alarm clock which wakes us up in the morning, to the air conditioning equipment which keeps us cool, to the machines of industry which we rely upon for economic productivity, electricity is an essential commodity. However, even though we all depend upon the safe, reliable, and economical provision of electricity, the makeup and inner workings of the electric system are not well understood by many. For most of the electric industry's history, customers, both large and small, have been content to simply depend upon the electric utilities to assure the safe, reliable, and economical provision of this important commodity. But, at the present time, the electric utility industry is undergoing fundamental changes that could impact the way customers interact with their utility providers.

At the most basic level, the provision of electricity can be broken down into three distinct components: generation, transmission, and distribution. A key element within these segments is transmission. The transmission system is the bridge that links electric generators to the end-use customers. Like the nation's highway system, transmission carries the electricity from generating plants located throughout the nation to local areas of customer load and demand. As such, the current transmission network can be thought of as a many-tiered system consisting of interstate highways, intrastate highways, county roads, and local roadways. Like interstate highways, high-voltage transmission (345-750 kV) performs the task of moving generation long distances from state to state and within a state. Mid-voltage transmission (69-230 kV) performs the task of state and county roads to transport electricity more regionally within a state. Finally, low-voltage transmission (69-115 kV) culminates the journey by delivering the power to local community substations, where it can then be distributed to the end-use customers.<sup>1</sup> However, the current nationwide transmission network was not generally designed and engineered with the intent of delivering large amounts of power across several states.

As the current structure of the electric utility industry is being examined (restructuring), the role of transmission is a critical component that must be addressed. For the past one hundred years, the electric industry has developed as a vertically-integrated industry. In other words, electric utilities have provided each of the three components of generation, transmission, and distribution as a packaged service and charged consumers a single bundled rate. This has resulted in an efficient interaction between the three activities where economies of scale and scope have been realized. Economies of scale take place because it is generally more economical to build larger power plants than smaller ones, and high-voltage transmission experiences less losses than low-voltage transmission over long distances. Also, economies of scope take place because the overlapping functions common to generation/transmission and transmission/distribution can permit the utilization of a more efficient workforce, in both size and function, resulting in cost savings to consumers. In

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<sup>1</sup>The ranges for low- and mid-voltage transmission overlap because utilities vary in size. Generally, the smaller the utility the lower the voltage used for "regional" transmission purposes.



other words, the vertical integration of the industry has achieved efficiencies that have historically proven to be more cost-effective than separating the provision of each service.

Fundamental changes are taking place in electric markets nationwide. No longer is the single, vertically-integrated utility necessarily the sole provider of service. The Federal Energy Regulatory Commission (FERC) has encouraged non-traditional power suppliers to compete with traditional utilities toward the goal of lowering the cost of electricity to end-use customers. This requires that the non-traditional power suppliers share the existing transmission system with the traditional utilities. One question central to any discussion of restructuring is whether a new market structure which focuses on the enhancement and improvement of the horizontal efficiencies of an independent transmission system (separating generation, transmission, and distribution) can produce savings equal to or greater than those realized by the current vertically-integrated system.<sup>2</sup> Other questions address whether the reliability of the transmission system can be maintained with increased use, and whether competing use within the system will result in the need to allocate resources to maintain current reliability levels. The purpose of this paper is to discuss the changes taking place with respect to the transmission system and to specifically address what is currently happening in Florida.

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<sup>2</sup>Horizontal efficiencies may occur when the three separate components of the electric industry (generation, transmission, and distribution) become more cost-effective as they are unbundled from the domain of a vertically-integrated entity. On the other hand, vertical efficiencies refer to the efficiency gains related to the consolidated planning, construction, operation, and maintenance of the generation, transmission, and distribution systems within a single, vertically-integrated utility structure.

## EXECUTIVE SUMMARY

Since the Energy Policy Act of 1992 (EPAct) was passed by Congress, the Federal Energy Regulatory Commission (FERC) has been exploring new policy initiatives to facilitate increased competition in bulk power markets. This paper provides an overview of: (1) the actions taken by the FERC to ensure non-discriminatory open transmission access to all transmission users; (2) the FERC's current efforts to promote the regionalization of the operation, management, and control of transmission systems; and (3) the effects of these actions on Florida.

### *FERC Rulemaking*

Under the Federal Power Act (FPA), the FERC has public utility jurisdiction over the rates, terms, and conditions of electricity sold at wholesale (sales for resale to providers of end-use customers) and for transmission services provided in interstate commerce.<sup>3</sup> In April 1996, the FERC issued Order No. 888 establishing new rules requiring transmission-owning utilities to provide non-discriminatory, open access of their transmission systems to all transmission users. In its discussion of the new rules, the FERC also opined that one way to ensure the efficient management of the transmission grid was to form Independent System Operators (ISOs). An ISO would act as a neutral operator of the transmission system(s) of a utility or group of utilities, and would not be affiliated to a generation source. According to the FERC, the development of ISOs would contribute to the growth of competitive bulk power markets, increase regional efficiencies, facilitate economically-efficient pricing, correct discriminatory practices, and mitigate market power by allowing equal transmission access to all power suppliers. Although the FERC did not require the formation of ISOs in Order No. 888 (due to its lack of legal authority to do so), the FERC did state its support for ISO formation and identified certain basic guidelines that it would consider to approve the voluntary formation of ISOs. The FERC also expressed its intention to explore the subject further in a subsequent rulemaking process.

In May 1999, the FERC continued to explore new transmission organizational structures by issuing a Notice of Proposed Rulemaking (NOPR) on Regional Transmission Organizations (RTOs). The scope of this rulemaking was expanded to include not only ISOs, but also other types of regional organizations such as independent transmission companies (Transcos), combinations of ISOs and Transcos, or other acceptable structures that have not yet been identified. In December 1999, the FERC issued its Final Rule on RTOs in Order No. 2000. Order No. 2000 required all public utilities that own, operate or control interstate transmission facilities to file by October 15, 2000 a proposal

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<sup>3</sup>In this case, public utility refers to investor-owned utilities (IOUs) or Federal Power Authorities such as the Bonneville Power Administration (BPA) and the Tennessee Valley Authority (TVA). The FERC has no jurisdiction over municipal and rural electric cooperatives.



to participate in an RTO.<sup>4</sup> Alternatively, utilities that have not finalized an RTO plan are required to make a filing containing: (1) a description of any efforts made by the utility to participate in an RTO; (2) a detailed explanation of the economic, operational, commercial, regulatory, or other reasons the public utility has not made a filing to participate in an RTO, including identification of any existing obstacles to participation in an RTO; and (3) the specific plans, if any, for further work toward participation in an RTO including a proposed timetable for such activity, an explanation of efforts made to include public power entities in the proposed RTO, and any factors (including any law, rule, or regulation) that may affect the public utility's ability or decision to participate in an RTO. Following the October 15, 2000, filing date, utilities must make a second filing by December 15, 2001, finalizing their plans to participate in an RTO.

While Order No. 2000 stated that RTO development is voluntary in nature, in reality the FERC has made it clear that it expects all transmission-owning utilities to comply. Although the FERC lacks the direct legal authority to mandate participation in RTOs, the FERC has stated its intent to use its regulatory authority in other areas (such as ratemaking filings, complaints, and requests for merger approval) to force compliance with Order No. 2000.<sup>5</sup>

### *The Florida Transco<sup>6</sup>*

As a result of Order No. 2000, Florida's utilities are currently examining the prospect of forming and participating in an RTO. Because of the state's unique peninsular geography, Florida's electric utilities have developed two distinct electric grids within the state over the years. These grids are commonly referred to as the Peninsular Florida system (east and south of the Apalachicola River), and the Southern Company system (west of the Apalachicola River). While utilities in both of these areas of the state are exploring RTOs, the utilities in Peninsular Florida appear to be further along in the process. This is mainly due to the fact that the two largest Peninsular Florida utilities,

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<sup>4</sup>Since the release of Order No. 2000, the actual filing date has been revised to Monday, October 16, 2000. Utilities already participating in an approved regional transmission entity are grandfathered.

<sup>5</sup>As stated in a number of Florida Public Service Commission (FPSC) comments filed with the FERC, the FPSC believes that the FERC lacks direct authority to mandate the formation of RTOs. In its RTO NOPR, the FERC cites Sections 202(a), 203, 205, and 206 of the Federal Power Act (FPA) as authority for issuing its rulemaking. The FPSC has stated that these provisions do not, individually or collectively, support mandatory RTOs.

<sup>6</sup>The Florida Transco refers to the plans of Peninsular Florida transmission-owning utilities to form a for-profit Transco. The utilities in Peninsular Florida are highly integrated and operate a coordinated electrical grid. The utilities in the Florida Panhandle are connected to the Southern Company grid (Alabama Power Company, Georgia Power Company, Gulf Power Company, Mississippi Power Company, and Savannah Electric Company). Gulf Power Company is located in the Florida Panhandle. The Southern Company is reported to be separately pursuing the development of a for-profit Transco for its transmission system. However, at present, most of the details of Southern Company's plans have not been made public.



Florida Power Corporation (FPC) and Florida Power & Light Company (FPL), are involved in mergers, which must be approved by the FERC.<sup>7</sup>

In order to pursue the formation of an RTO, the Peninsular Florida utilities and other interested parties, at the suggestion of FPC, have formed an RTO stakeholders' working group to engage all current and potential market participants into the discussion process. The purpose of the stakeholders' working group, known as the Florida Resource Working Group (FRWG),<sup>8</sup> is to develop a consensus on the form and function of a Peninsular Florida RTO compliant with FERC Order No. 2000. Within the FRWG, several working committees have been formed to address the essential areas of: (1) governance, (2) operations and planning, (3) pricing, and (4) market design.

On March 9, 2000, FPL presented its plans to develop a for-profit Peninsular Florida Transco to the FRWG in lieu of earlier proposals. Furthermore, FPL has committed to divest and transfer the ownership of its embedded transmission facilities to the new Transco to provide a foundation for the new entity.<sup>9</sup> Other utilities would be encouraged, but not required, to divest their assets as well.<sup>10</sup> Although some participants have expressed concerns about the for-profit organizational structure, the current focus of the FRWG has shifted to developing a plan for the management and operating structure of the proposed Florida Transco, and to address the issues involved in preparing the appropriate FERC filings.

At present, FPL, FPC, and TECO (and to the extent that consensus is reached, other participants in the FRWG) intend to file a plan complete enough for conceptual approval with the FERC on October 16, 2000, in compliance with Order No. 2000. This plan will likely include: (1) the proposed governance structure of the Transco, (2) a consensus proposal for pricing protocol, and (3) operation and maintenance standards, even though significant differences among the participants remain in most of these areas. At a minimum, FPL, FPC, and TECO intend to meet the FERC's deadline to have a fully operational RTO by no later than December 15, 2001. The proposed structure has provisions for other utilities to join the RTO at a future date.

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<sup>7</sup>Florida Progress (parent company of Florida Power Corporation) announced its merger with CP&L Energy (parent company of Carolina Power & Light) in August 1999, and filed an application for approval of its plans with the FERC on February 3, 2000. In the filing, Florida Power Corporation and Carolina Power & Light committed to establish or join an RTO within 90 days of completing the merger. On July 12, 2000, the FERC approved the merger plans with the requirement that the companies make an RTO filing on or before October 15, 2000. Also, the FPL Group (parent company of Florida Power & Light Company) announced its merger with Entergy Corporation on July 31, 2000. The new, yet-unnamed company would create the largest U.S. electric utility and largest power producer. The merger will require approval by shareholders, as well as Federal and State regulators.

<sup>8</sup>There are 84 entities that are FRWG participants. All of these participants are listed in Appendix G.

<sup>9</sup>Embedded transmission facilities include existing wires, poles, corridors, and substations.

<sup>10</sup>The Jacksonville Electric Authority (JEA), Gainesville Regional Utilities (GRU), and the City of Tallahassee (TAL) believe that a Publicly-Owned Not-for-Profit Transco would be the best approach to serve the public interest in Florida.



## *Florida Transco Issues*

The formation of a for-profit Transco with independent management and operational oversight over all the transmission facilities in Peninsular Florida is a significant shift from the integrated utility structures that currently exist within the state. Not surprisingly, this paradigm shift raises numerous policy and technical issues which must be addressed. While the issues are many, from a macro perspective they can be categorized as follows:<sup>11</sup>

- What Are the Overall Costs?
- What Are the Overall Benefits?
- What Impact Will There Be on Individual Ratepayers and Groups of Ratepayers?
- Will the Overall Benefits Outweigh the Costs?
- Will There Be Undue Shifts in Costs Between Individual Ratepayers or Groups of Ratepayers?
- What Will the Continuing Role of the State Be in Addressing the Adequacy, Reliability, Safety, Cost, and Cost Recovery of Transmission Facilities Needed in Florida?

Unfortunately, with respect to the proposed Florida Transco, it is not clear that answers to these questions will be forthcoming in advance of the actual implementation of a new RTO structure. While the FERC has expressed its belief that, from a national perspective, the market efficiencies gained through the development of RTOs will outweigh the costs, it does not appear that the FERC intends to conduct a separate analysis for each region of the nation filing an RTO proposal(s) pursuant to Order No. 2000.

Therefore, it is incumbent upon State regulatory authorities to ensure that the RTO structures being proposed are in the public interest of their respective regions. For purposes of the Florida Transco proposal, approval of a three-pronged strategy to review and facilitate the development of an RTO which is in the public interest of Florida's electric consumers is recommended. This strategy includes:

1. Work with the FERC to establish a collaborative process to assess the viability and cost-effectiveness of the proposed Florida Transco and its impact on Florida's electric ratepayers;

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<sup>11</sup>The Florida Public Service Commission (FPSC) staff have informally issued a questionnaire of 116 questions pertaining to the specific structure, costs, and benefits of the proposed Florida Transco. While FPL has made an initial response, there is currently insufficient information to conclusively answer many of these questions (see Appendix H).

2. Work with the Florida Governor, Florida Legislature, Energy 2020 Study Commission, and other State agencies to ensure that Florida laws allow the development of a fully competitive wholesale generation market in Florida<sup>12</sup>; and
3. Continue to participate in the Florida RTO stakeholder process to monitor the development of the Florida Transco, and ensure that issues affecting the public interest are addressed as these arise during the implementation phase of the Florida RTO.

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<sup>12</sup>On May 3, 2000, Florida Governor Jeb Bush established the Energy 2020 Study Commission by Executive Order. This seventeen-member group is charged with proposing an energy plan and strategy for Florida. The first meeting took place on September 13, 2000. This Commission will then make specific recommendations to the Florida Senate, the Florida House of Representatives, and Florida Governor Jeb Bush by December 1, 2001.

Among the issues to be addressed by the Energy 2020 Study Commission are: (1) current and future reliability of electric and natural gas supply, (2) emerging energy supply and delivery options, (3) electric industry competition, (4) environmental impacts of energy supply, (5) energy conservation, and (6) fiscal impacts of energy supply options on taxpayers and energy providers.



## FLORIDA'S TRANSMISSION GRID

### *Background*

In Florida, as in the rest of the nation, electric utilities started their businesses serving isolated industrial customers and residential lighting loads. Low-voltage transmission was used to deliver power to individual industrial customers and community load centers. Utilities were not interconnected with each other, and each had to provide its own generating resources necessary to serve its customers. As advances were made in the development and operation of high-voltage transmission technology, more and more utilities found it advantageous to interconnect their systems.

At first, utilities interconnected to increase reliability. With transmission interconnections, utilities were able to rely on emergency generating assistance from neighboring utilities during major generating unit outages. Because of the enhanced reliability gained by these mutual assistance agreements, the need to maintain surplus reserve generating capacity for each utility was reduced. These developments reduced each utility's cost of providing reliable service. Over time, Florida utilities found that once reliability criteria were met, any remaining available transmission line capacity could be used to make economy purchases and sales. Such economy purchases/sales become possible when price/cost differences in generation occur between different interconnected utilities. From these early beginnings, competition in the wholesale supply of generation emerged.

### *Florida's Wholesale Market*

In Florida, not all electric utilities generate all the electricity they sell to their retail customers. Many smaller municipal electric utilities, the rural electric cooperatives, and one small investor-owned utility (IOU) in Florida purchase all or part of their customers' generation requirements from other entities. They also purchase the transmission services necessary to move their purchased power from the power plants where the electricity is generated to the load centers where their retail customers reside. These partial requirements and full requirements purchases of generation and transmission services are elements of an electric wholesale market that has existed in Florida and in the rest of the nation for some time.

Another element of the electric wholesale market is the interchange market. In the interchange market, utilities which would otherwise own and operate all of their own generation may, from time to time, find it economical to purchase capacity and energy from generating units owned by other utilities. Purchases in the interchange market can take place on an hour-by-hour basis, on a short-term basis up to a year, or on a long-term basis for many years. The price, terms, and conditions associated with interchange purchases are either negotiated by the purchasing and selling utilities or determined by a formula tariff approved by the FERC. Historically, the FPSC has encouraged generating utilities to pursue cost-effective purchased power alternatives. The revenues generated for the selling utility and the savings realized by the purchasing utility from these



wholesale transactions flow back to the utility's retail customers through a cost recovery clause, resulting in reduced electric bills for all customers. Prior to 1980, Peninsular Florida had limited transmission interconnections to the rest of the nation. At that time, the interconnections consisted of only a few 138 kV and 230 kV transmission interties at the Florida/Georgia boundary. Together, Peninsular Florida utilities could only import a maximum of 400 megawatts (MW)<sup>13</sup> of generation. In essence, Peninsular Florida was an electrical island. Because of these weak interstate interties, the wholesale market in Florida consisted primarily of partial requirements and full requirements supply arrangements between Peninsular Florida generating and non-generating utilities and, to a lesser degree, purchased power interchanges between Peninsular Florida generating utilities.

During the oil embargo of the 1970s, Florida's utilities were especially hard hit. Oil was the dominant fuel for electric power generation. As prices soared at the gas pump, so did customers' electric bills.<sup>14</sup> Also, during this time frame, Peninsular Florida utilities experienced several bulk power interruptions resulting in rotating customer blackouts. These interruptions were caused when recently-constructed nuclear units in the state experienced forced outages. Because of their large size, an unplanned outage in one of these nuclear units would cause significant degradation in the quality of the power supplied by the state's bulk power grid (voltage and frequency decline). These system disturbances would cause the weak tielines between Peninsular Florida and the Southern Company to open, thereby aggravating the problem and increasing the magnitude of customer blackouts. In response to these concerns, the Florida Public Service Commission (FPSC) worked with the Peninsular Florida utilities to investigate the feasibility and cost-effectiveness of strengthening the transmission interties between Peninsular Florida and the Southern Company. As a result, certain Peninsular Florida utilities decided to construct two 500 kV transmission lines interconnecting Peninsular Florida with the Southern Company. These lines ultimately increased the maximum transmission import capability into Peninsular Florida to its present level of 3,600 MW, with a maximum export of 2,100-2,600 MW. This increased intertie capacity provided both reliability benefits and an increased opportunity for economical purchases and sales with out-of-state utilities.

With the increased ability to import generation into Florida, Peninsular Florida utilities entered into purchased power contracts for "coal-by-wire" from the Southern Company. Both the Florida utilities and the utilities comprising the Southern Company benefited from these contracts. The members of the Southern Company were able to utilize their existing coal-fired generation more

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<sup>13</sup> A megawatt is a unit of electric real power equal to 1,000 kilowatts or 1,000,000 watts.

<sup>14</sup> In 1973, the Organization of Petroleum Exporting Countries' (OPEC) oil embargo created major price increases and a worldwide energy crisis. The embargo announcement caused the price of gasoline, boiler fuels, residual oil, and natural gas to rise. As a result, utility oil prices increased. Oil prices quadrupled in 1973-74, and doubled in 1979. This had a significant effect on Florida since a substantial amount of generation was fueled by oil and gas.



efficiently. At the same time, Peninsular Florida's ratepayers enjoyed increased reliability and lower fuel costs.

Another FPSC action that fostered the development of Florida's wholesale market was the creation of the Florida Energy Broker. The Energy Broker was developed to facilitate short-term economy sales between the state's electric utilities. The Energy Broker was a computerized system for marketing hourly non-firm electric energy. Every hour, the Energy Broker matched potential sellers and buyers and resulted in a benefit to the ratepayers of both utilities. To encourage use of the Energy Broker, an incentive mechanism was created by the FPSC for the IOUs, in which they were allowed to retain 20 percent of the profit made on Energy Broker sales. In 1995, the Energy Broker allowed membership by entities other than traditional Florida utilities, including certain non-utility generators, known as Exempt Wholesale Generators (EWGs),<sup>15</sup> and power marketers. Since the inception of the Florida Energy Broker in 1978, total savings in energy costs have exceeded \$750 million.

While the Energy Broker became an important catalyst in the development of the wholesale market in Florida, today most wholesale sales are made outside the Energy Broker system.<sup>16</sup> Currently, wholesale sales in Florida run the gamut from short-term non-firm sales to long-term firm contracts lasting several years. Most economy transactions have migrated from the Energy Broker system to more flexible, separately-negotiated contracts. However, wholesale sales in Florida continue to be a relatively small portion of IOU sales and are predominantly conducted between Florida's utilities. The table on the following page displays the percentage of 1998 operating revenues by type of wholesale sale for each of the three major Peninsular Florida IOUs. As shown, the percentage of operating revenues derived from wholesale transactions is small relative to total revenues, with the bulk of wholesale revenue derived from full requirements, long-term wholesale sales.

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<sup>15</sup>EWGs are non-utility facilities that sell electric energy exclusively at wholesale prices. Pursuant to EPAct, EWGs are subject to relaxed regulation by the FERC. EWGs are allowed to sell power at market prices rather than according to cost-based regulation.

<sup>16</sup>The Florida Energy Broker System disintegrated as non-price regulated generating companies entered the network and altered the cost-based nature of the system. This forced utilities to engage in bilateral energy contracts on a case-by-case basis.

<b>Percent of 1998 Operating Revenues by Type of Wholesale Sale</b>			
	<b>Energy Broker Sales</b>	<b>Non-Broker Opportunity Sales</b>	<b>Long-Term Wholesale Sales</b>
<b>Florida Power Corporation</b>	0.12%	1.63%	6.17%
<b>Florida Power &amp; Light Company</b>	0.08%	1.90%	1.31%
<b>Tampa Electric Company</b>	1.66%	0.21%	7.26%



## FEDERAL TRANSMISSION POLICY INITIATIVES

### *Energy Policy Act of 1992*

In 1992, Congress enacted the Energy Policy Act of 1992 (EPAct), which amended Sections 211 and 212 of the Federal Power Act (FPA). These amendments authorized the Federal Energy Regulatory Commission (FERC) to order utilities to transmit power from wholesale power sellers over utility transmission lines on a case-by-case basis.

EPAct also added Section 213 to the FPA. Section 213(a) required that a transmitting utility which refuses to provide wholesale transmission service in accordance with a good faith request must submit a written explanation of its proposed rates, terms, and conditions and an analysis of any physical or other constraints. Section 213(b) required the FERC to enact a rule requiring transmitting utilities to submit annual information concerning potentially available transmission capacity and known constraints.

In addition, EPAct established Exempt Wholesale Generators (EWGs) in order to increase competition at the wholesale level of electric generation. However, EWGs are prohibited from selling electricity directly to retail customers.

### *FERC Order No. 888 (1996): Open Access Transmission*

In its implementation of EPAct, the FERC initiated a Notice of Proposed Rulemaking (NOPR) to establish rules governing open access in wholesale transmission markets. In April 1996, the FERC issued Order No. 888, which required all transmission-owning public utilities that own, control, or operate transmission lines to make their transmission facilities available to any user at a fair price and in a non-discriminatory manner by “functionally unbundling” their wholesale power services. Functional unbundling segregates generation, transmission, and distribution within companies without requiring actual “corporate unbundling” or the divestiture of assets. Functional unbundling requires transmission-owning utilities to: (1) take transmission services under the same tariff rates, terms, and conditions as do others; (2) state separate rates for wholesale generation, transmission, and ancillary services;<sup>17</sup> and (3) rely on the same electronic information network that

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<sup>17</sup> Ancillary services are those that are necessary to support the transmission of energy from generation resources to distribution loads while maintaining reliable operation of the transmission provider’s system in accordance with specified operating criteria. FERC Order No. 888 lists the following ancillary services: (1) scheduling, system control, and dispatch service; (2) reactive supply and voltage control from generation sources service; (3) regulation and frequency response service; (4) energy imbalance service; (5) operating reserve - spinning reserve service; and (6) operating reserve - supplemental reserve service. Later, the FERC identified three ancillary services: (1) operating reserves (both spinning and supplemental); (2) energy imbalance service; (3) regulation and frequency response service; and congestion management as RTO functions that require market mechanisms.

its transmission customers rely on to obtain information about its transmission system when buying or selling wholesale power. Functional unbundling also resulted in a distinct separation (Chinese Wall) between utility generation and transmission activities that imposed strict rules on the flow of information between marketing and reliability functions. The Order also required that companies providing transmission increase their capacity for transmission customers that are willing to pay their share of expansion costs.

According to the FERC, Order No. 888 was also intended to carry electric restructuring to the next level by encouraging the development of Independent System Operators (ISOs). An ISO would act as a neutral operator of the transmission system(s) of a utility or group of utilities. The FERC's support of ISOs was based on the belief that ISOs would: (1) contribute to the growth of competitive bulk power markets, (2) increase regional efficiencies, (3) facilitate economically-efficient pricing, (4) correct discriminatory practices, and (5) mitigate market power. Although the FERC lacked legal authority to mandate the formation of ISOs, it stated its support for their development along with the formation of regional tariffs. The FERC also stated its intention to give deference to the planning, dispute resolution, and decision-making processes of an ISO.

Order No. 888 also stated that appropriate incentives should be implemented to ensure efficient management of the transmission system. ISOs should attempt to send appropriate price signals by pricing transmission and ancillary services in a way that promotes the efficient use and investment in generation, transmission, and consumption. In addition, Order No. 888 suggested that ISOs make transmission system information publicly available in a timely manner, such as via an electronic bulletin board. Lastly, ISOs should also coordinate transmission activities with neighboring control areas, while recognizing that each utility is to impose a transmission tariff for providing access to other generation facilities beyond the neighboring utility.

### ***FERC Order No. 889 (1996): Open Access Same-time Information System (OASIS)***

In addition to Order No. 888, which required the functional unbundling of the generation, transmission, and distribution segments of an electric utility, several entities expressed concerns regarding the transparency of real-time energy information. In response to these concerns, the development of an Open Access Same-time Information System (OASIS) was required through Order No. 889. An OASIS is an interactive, electronic-based database system that is designed to display current information related to the availability and prices of transmission links between generation and load. The database used by the transmission owners and customers contains information on transmission capacity reservations, available and total transmission capability (ATC and TTC)<sup>18</sup> estimations, ancillary services, transmission prices, and allows users to make business decisions for the purchase and sale of generation. Essentially, an OASIS functions as a tool to manage and disseminate information on available transmission links.

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<sup>18</sup>The acronyms ATC and TTC have also been used to refer to Available Transfer Capability and Total Transfer Capability.



***FERC Order No. 2000: Final Rule on Regional Transmission Organizations (RTOs)***

Ultimately, the position of many of the parties that participated in the Order No. 2000 process led to a broader concept than ISOs. The name Regional Transmission Organizations (RTOs) became the all-inclusive term that refers not only to ISOs, but also to other types of regional organizations such as independent transmission companies (Transcos), or ISO/Transco combinations.<sup>19</sup>

On May 13, 1999, the FERC released its Notice of Proposed Rulemaking (NOPR) on Regional Transmission Organizations (RTOs). The purpose of this rulemaking was to continue the exploration of new transmission organizational structures begun in Order No. 888. The scope of this rulemaking expanded that of Order No. 888 to also include Transcos, ISO/Transco combinations, or other acceptable structures that have not yet been identified. The FERC began the rulemaking process by holding a series of regional meetings around the nation to solicit the comments of State regulatory authorities, the utilities, and interested non-utility entities such as independent power producers (IPPs), power marketers, and brokers.<sup>20</sup>

During early 1999, the FPSC participated in Florida stakeholder meetings held in Tallahassee (beginning on January 7, 1999). In response to the FERC's RTO NOPR, the FPSC took the position that the FERC has no authority to order RTOs, and that these entities should only be established on a voluntary basis. In addition, the FPSC urged the FERC to defer to regional approaches that are endorsed by State regulatory authorities. Lastly, the FPSC noted that RTO formation is of particular concern for States such as Florida that have not adopted retail choice, since the authority over transmission and generation dispatch decisions directly affecting retail service would be transferred to a FERC-regulated regional entity.

On December 20, 1999, the FERC issued its Final Rule on RTOs (Order No. 2000) and concluded that "regional institutions can address the operational and reliability issues now confronting the industry, and eliminate any residual discrimination in transmission services that can occur when the operation of the transmission system remains in the control of a vertically-integrated utility." In the FERC's view, RTOs would offer advantages over the present system because an RTO can draw upon the technical resources of all of its members to implement transmission services and resolve transmission issues on a regional basis. Also, according to the FERC, if an RTO were to direct and coordinate the regional planning of the transmission system, this would ensure that system capabilities would keep up with system demands. Regional and nationwide reliability would also be enhanced by RTO formation if RTOs are able to balance electricity demand and supply in an effective manner. The FERC also concluded that the development of RTOs would:

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<sup>19</sup>Transcos serve the same essential function as ISOs, but are typically characterized by profit incentives.

<sup>20</sup>All of these meetings took place in February 1999 and were identified by the FERC as "Consultation Sessions with State Commissions." These sessions were held in St. Louis (February 11), Las Vegas (February 12), and Washington, D.C. (February 17).

1. Speed the development of competitive markets;
2. Increase efficiencies in the operational and transmission systems;
3. Provide a framework for coordination of regional planning;
4. Reduce administrative burdens on the FERC and RTO members through use of the voluntary dispute resolution mechanism;
5. Remove remaining opportunities for discriminatory transmission practices;
6. Improve market performance; and
7. Facilitate lighter-handed regulation.

### ***Minimum Characteristics and Functions Established by Order No. 2000***

In order to provide guidance to entities forming RTOs, the FERC's Order No. 2000 identified four minimum characteristics and eight essential functions that an RTO should meet. The four minimum characteristics are:

1. Independence from any market participants;
2. Sufficient scope and regional configuration;
3. Operational authority for all transmission facilities under its control; and
4. Exclusive authority for maintaining the short-term reliability of the grid it operates.

The eight functions of an RTO are:

1. Administering its own transmission tariff and transmission pricing system;
2. Developing market mechanisms to manage transmission congestion;
3. Developing procedures which address parallel path flow issues;
4. Serving as provider of last resort for ancillary services;
5. Serving as the OASIS site administrator for all transmission facilities under its control, and performing independent calculations of Available Transmission Capability (ATC) and Total Transmission Capability (TTC);
6. Providing objective monitoring of markets it operates or administers;
7. Planning, and directing or arranging, necessary transmission expansions, additions, and upgrades; and
8. Ensuring the integration of reliability practices within an interconnection region.

In addition to these minimum characteristics and functions, the FERC suggested that an RTO should be designed with an "open architecture." This means that all RTO proposals must allow the RTO and its members the flexibility to improve their organizations in terms of structure, operations, market support, and geographic scope to meet market needs. The FERC also noted that the characteristics and functions could be satisfied by different organizational forms, such as ISOs, Transcos, combinations of these two, or even new organizational forms not yet discussed in the industry or proposed to the FERC.



The FERC also provided guidance on RTO rate design. RTOs were encouraged to develop flexible transmission rates which could accommodate congestion pricing and performance-based regulation (PBR). PBR methods may include price/revenue caps, price incentives, or performance standards. The FERC stated that it would consider, on a case-by-case basis, innovative rates that may be appropriate for transmission facilities under RTO control. The Final Rule outlined a collaborative process that would begin in the spring of 2000 to facilitate discussions on RTO formation in all regions of the nation. The process anticipated that public utilities and non-public utilities, in coordination with State officials, the FERC's staff, and all affected interest groups, will actively work toward the voluntary development of RTOs during this process.

Order No. 2000 concluded by setting an extremely tight timetable for further RTO activity. Order No. 2000 required public utilities that own, operate or control interstate transmission facilities (except those already participating in an approved regional transmission entity) to file by October 15, 2000, a proposal to participate in an RTO or an alternative filing describing efforts and plans to participate in an RTO. Utilities that have not finalized an RTO plan are required to make a filing containing: (1) a description of any efforts made by the utility to participate in an RTO; (2) a detailed explanation of the economic, operational, commercial, regulatory, or other reasons the public utility has not made a filing to participate in an RTO, including identification of any existing obstacles to participation in an RTO; and (3) the specific plans, if any, for further work toward participation in an RTO including a proposed timetable for such activity, an explanation of efforts made to include public power entities in the proposed RTO, and any factors (including any law, rule, or regulation) that may affect the public utility's ability or decision to participate in an RTO. Following the October 15, 2000, filing date, utilities must make a second filing by December 15, 2001, finalizing their plans to participate in an RTO.

While Order No. 2000 stated that RTO development is voluntary in nature, in reality the FERC has made it clear that it expects all transmission-owning utilities to comply. Although the FERC lacks the direct legal authority to mandate participation in RTOs, it has stated its intent to use its regulatory authority in other areas (such as ratemaking filings, complaints, and requests for merger approval) to force compliance with Order No. 2000.

## THE PENINSULAR FLORIDA TRANSCO

As the FERC was pursuing its RTO rulemaking policy, Florida was concurrently evaluating what, if any, improvements were needed to the state's transmission grid. In response to the FERC's Notice of Intent to Consult Under Section 202(a),<sup>21</sup> and concerns raised by some of Peninsular Florida's municipal and rural cooperative utilities,<sup>22</sup> the FPSC convened the first of several Florida stakeholder meetings in Tallahassee on January 7, 1999. The focus of these meetings was to determine whether Florida could improve the efficiency, coordination, and cost-effectiveness of the transmission grid.

Several transmission initiatives surfaced during these discussions. Among these proposals were: (1) an Independent Transmission Administrator (ITA), (2) a Regional Transmission Solution (RTS), (3) a Publicly-Owned Not-for-Profit Transco, and (4) an Independent System Administrator (ISA).

### *The Independent Transmission Administrator (ITA) Proposal*

The first of these proposals to surface was the ITA. The ITA was sponsored by eight stakeholder entities<sup>23</sup> on April 20, 1999, as a strawman proposal for the independent administration of Florida's transmission grid. According to these stakeholders, the ITA would:

- Create an independent entity to oversee and administer the planning and operation of Peninsular Florida's transmission grid facilities;

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<sup>21</sup> Docket No. RM99-2-00, Regional Transmission Organizations (RTOs), issued on November 24, 1998.

<sup>22</sup> Over time, municipal and rural cooperative utilities such as the Florida Municipal Power Agency (FMPA) and the Seminole Electric Cooperative (SEC) have expressed interconnection and pricing concerns. These concerns are directly related to how these entities interact with the state's largest IOUs. The FMPA is a transmission-dependent utility (TDU) that provides bulk power services (generation and transmission) on a project-by-project basis to 29 municipal electric utilities of various sizes in Peninsular Florida. The SEC provides similar bulk power services to 10 member systems, which function as distribution-only rural electric cooperatives in Peninsular Florida. In their comments to the FERC in the RTO NOPR, the FMPA and SEC raised concerns about having to pay "pancaked" transmission rates to move power from east-to-west and west-to-east in Peninsular Florida. The FMPA and SEC also expressed concerns about their continued ability to negotiate new supply-side and load-side interconnections with the two largest IOUs in Peninsular Florida.

<sup>23</sup> Constellation Power Development, Inc.; Duke Energy New Smyrna Beach Power Company LTD., L.L.P.; the Florida Municipal Power Agency (FMPA); the Orlando Utilities Commission (OUC); Reliant Energy, Inc.; Seminole Electric Cooperative (SEC), Inc.; Tampa Electric Company (TECO); and U.S. Generating Company.



- Administer an Open Access Transmission Tariff (OATT) with the FERC for Peninsular Florida to provide non-discriminatory access and use of the transmission grid to all eligible users;
- Neither own or profit from any generation, transmission, or distribution facilities; nor engage in the purchase or sale of electric energy or capacity;
- Be governed by a fifteen-member stakeholder Board of Directors; and
- Merge the current functions of the Florida Reliability Coordinating Council (FRCC)<sup>24</sup> with the ITA. The goal would be to use the existing FRCC infrastructure for efficiency purposes.

### ***The Regional Transmission Solution (RTS) Proposal***

The RTS was proposed by FPL and FPC on July 6, 1999, in response to the ITA proposal. The RTS outlined a narrow Florida transmission approach, which was limited to addressing the specific concerns raised by the municipal electric utilities and rural electric cooperatives. One advantage of the RTS proposal was that it did not require the approval of the FERC. According to FPL and FPC, the RTS proposal would:

- Maximize the FPSC's ability to retain its present jurisdiction, unlike the ITA proposal which would be FERC-jurisdictional. The RTS proposal would enhance the FPSC's role under current State laws over the planning, development, operation, and maintenance of the transmission grid;
- Improve the present coordinated transmission planning among entities with the FPSC and/or its chosen independent contractor participating as an "umpire" in the planning process. The FPSC would resolve disputes with respect to the need for new transmission facilities, and enforce the interconnection standards established by the North American Electric Reliability Council (NERC);

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<sup>24</sup> The FRCC is currently one of ten reliability councils that make up the North American Electric Reliability Council (NERC). The purpose of the FRCC is to ensure and enhance the reliability and adequacy of bulk electricity supply in Florida, now and into the future. On November 9, 1965 a blackout left 30 million people across the Northeastern United States and Ontario, Canada without power. In an effort to prevent this type of blackout from reoccurring, electric utilities formed the NERC in 1968 to promote the reliability of the electricity supply for North America. Since its formation, the NERC has operated as a voluntary organization - one dependent on reciprocity and mutual self-interest of all those involved. With the continued growth of competition and the structural changes taking place in the industry, incentives and responsibilities are changing, making it necessary for the NERC to transform from a voluntary system of reliability management to one that is mandatory, with the backing and support of U.S. and Canadian governments. The mission of the new NAERO (North American Electric Reliability Organization), the NERC's proposed successor organization, will be to develop, promote, and enforce standards for a reliable North American bulk electric system.

- Supplant each of the present sites of Open Access Same-Time Information System (OASIS) with a one-stop, Peninsular-wide OASIS, with each utility being responsible for inputting its data on the Peninsular Florida OASIS. Individual utilities would continue to comply with the FERC OASIS requirements. Total transmission capacity (TTC) and available transmission capacity (ATC) would be calculated based on an agreed-upon process, methodology, and data base by individual utilities who would continue to meet FERC TTC and ATC requirements;
- Allow the FRCC to remain as a reliability-only organization with a voting structure that is ultimately established in accordance with nationwide criteria still being developed;
- Discount by one-half, commencing on October 1, 1999, the short-term firm and non-firm transmission services provided by FPL and FPC within Peninsular Florida (effectively addressing the alleged transmission rate pancaking,<sup>25</sup> as well as mitigating transmission cost differences within the state); and
- Avoid the creation of a costly, separate independent entity to oversee all of these functions.

### ***The Publicly-Owned Not-for-Profit Transco Proposal***

This proposal was initiated by the Jacksonville Electric Authority (JEA) on July 21, 1999, and was soon embraced by Gainesville Regional Utilities (GRU) and the City of Tallahassee (TAL).<sup>26</sup> Each of these utilities believes that a not-for-profit Transco is the best choice for an RTO. They reason that since transmission is a monopoly service, serving the vital function of linking competitive generation services to the load-serving entities, it is in the public interest to ensure that this service is provided by a public entity such as a not-for-profit Transco. The principal financing mechanism for this not-for-profit Transco would be the issuance of revenue bonds with transmission revenues pledged to support them. However, it appears that a not-for-profit Transco would require substantial amendment to existing law for implementation, particularly in regards to new Federal legislation that would allow tax-exempt financing. According to the proponents of this proposal, the Publicly-Owned Not-for-Profit Transco proposal would:

- Align ownership and management with public benefit;

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<sup>25</sup>Rate pancaking refers to multiple, but separate charges that a utility incurs each time its generation must be transmitted over another utility's transmission facilities in order to reach load being served.

<sup>26</sup>As stated earlier, the FERC has no jurisdiction over municipal and rural electric cooperatives. However, the JEA, GRU, and TAL are all transmission-owning entities. The JEA and TAL own roughly 40 percent of the Florida/Georgia (Southern Company) transmission interface.



- Maintain State regulatory control over the transmission grid;
- Function as a non-profit corporation controlled by an independent Board of Directors. Members of the Board would have no financial or other interests related to the transmission owners, users, or participants; and
- Empower the FPSC, rather than the FERC, to have oversight in the areas of rates and adjudication (mainly because the Transco would be a State agency not fully subject to the Federal Power Act).

### ***The Independent System Administrator (ISA) Proposal***

The ISA proposal was developed by FPC as a counter-proposal to its own RTS initiative. The ISA was the last of the pre-Order No. 2000 Florida initiatives and received the least amount of exposure during the Florida stakeholder meetings. According to FPC, the ISA would:

- Provide independent oversight over the transmission facilities of FPC and other participants in the ISA;
- Combine features of the ITA and RTS initiatives; and
- Function as a non-profit corporation controlled by an independent Board of Directors. Members of the Board would have no financial or other interests in the ISA transmission owners, users, or participants.

While some progress was being made toward reaching a Florida solution, the Peninsular Florida regional meetings were interrupted by two major developments that took place in late 1999. First, Florida Progress (parent company of FPC) announced its plans to merge with CP&L Energy (parent company of Carolina Power & Light). Second, on December 20, 1999, the FERC released Order No. 2000.

### ***The Florida Resource Working Group (FRWG)***

Following the release of Order No. 2000, FPC reached the conclusion that the Florida transmission initiatives being discussed would not likely conform with the FERC's minimum RTO guidelines, and that its merger proposal with CP&L might meet opposition by the FERC unless a new RTO proposal was developed. Thus, on February 11, 2000, FPC entered into a Memorandum of Understanding (MOU) with a number of stakeholders that created the Florida Resource Working Group (FRWG), a stakeholder group with the task of developing a Peninsular Florida RTO.

The FRWG established several working groups (committees) to address the essential areas of Florida RTO formation. The Steering Committee provides general leadership during this process

and four other committees develop the principles and business practices needed to establish the RTO. These four committees and their functions are:

- Governance: responsible for developing proposed decision-making rules for the RTO, along with assessing infrastructure requirements (facilities other than wires);
- Operations and Planning: responsible for developing more specific business practices related to the day-to-day transmission system operations and transmission system planning;
- Pricing: responsible for evaluating potential RTO rates and developing tariff terms that relate to those costs; and
- Market Design: responsible for developing recommendations to the Governance Committee regarding the market structure changes that might be required to enable the RTO to perform its intended functions.

As part of this process, on March 9, 2000, FPL announced its plans to develop a for-profit Transco that would serve Peninsular Florida. FPL believes that a for-profit Transco is the best form of a Florida RTO because the profit motive will drive the RTO to be efficient in the management and operation of the existing grid, and also provide the necessary financial motivation to build new transmission facilities. In order to form the Transco, FPL has committed to divest and transfer the ownership of its transmission facilities to the new Transco. At present, no stakeholder other than FPL has made the decision to divest its transmission assets, although TECO and several municipal utilities are currently exploring that possibility. With the advent of this divestiture proposal, the current focus of the FRWG has shifted to developing a plan for the management and operating structure of an independent, for-profit Florida Transco and to address the issues involved in preparing the appropriate FERC filings.

As envisioned by Order No. 2000, the Florida Transco proposal is designed around a single, average statewide transmission rate. However, due to differences in embedded transmission costs across utilities, some utilities would pay more for transmission under a single, average rate (also called postage stamp rate) while others would pay less. This issue of cost-shifting has divided the parties, and several methods of mitigating the problem are being discussed. Under the Florida Transco proposal, FPC currently plans to retain ownership of its transmission facilities and to exclude its retail transmission facilities from the RTO ratemaking process.<sup>27</sup> As such, FPC will basically use the Florida Transco for ISO purposes. The operational control of FPC's facilities will be turned over to the Florida Transco (also referred to as FLARTO). However, FPC will only receive payments for the use of its facilities equal to the revenue requirements associated with its current wholesale investment within the FPC system. This protects FPC's retail load from the

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<sup>27</sup> FPC's revenue requirement range per transaction is the lowest of all Florida IOUs at \$1.22-\$1.30 per kw-month, which is significantly lower than FPL's revenue requirement range of \$1.49-\$1.51 per kw-month.



higher, statewide average RTO rate. But, FPC would have to pay the higher transmission costs of the FLARTO when using transmission to purchase into or sell out of its system. Since other participants have similar concerns about cost-shifting, the current focus of the FRWG has also shifted towards the formation of a "hybrid ISO/Transco."

At present, FPL, FPC, and TECO (and to the extent that consensus is reached, other participants in the FRWG) intend to file a plan complete enough for conceptual approval with the FERC on October 16, 2000, in compliance with Order No. 2000. This plan will likely include: (1) the proposed governance structure of the Transco, (2) a consensus proposal for pricing protocol, and (3) operation and maintenance standards, even though significant differences among the participants remain in most of these areas. At a minimum, FPL, FPC, and TECO intend to meet the FERC's deadline to have a fully operational RTO by no later than December 15, 2001. The proposed structure has provisions for other utilities to join the RTO at a future date.

## FACTORS AFFECTING THE FORMATION OF A FLORIDA RTO

While, at the time of this writing, progress continues to be made on the Florida ISO/Transco proposal, there are a number of factors affecting the public interest that need to be assessed before the current (or any other) RTO structure is adopted in Florida.

### *Regional Scope of Florida's Market Area*

It appears, at least initially, that the electric grid that exists within Peninsular Florida represents a logical market region for developing an RTO.<sup>28</sup> Florida's peninsular geography has motivated its electric utilities to be highly interconnected with each other because the region is considered an "ending point" of the nation's electric transmission system. Peninsular Florida's utilities cooperate with each other through the Florida Reliability Coordinating Council (FRCC) to coordinate transmission and maintain reliability. This cooperation is critical because most of the generation necessary to meet Florida's growing demand must be: (1) built within the state, (2) interconnected to the existing transmission network, and (3) delivered in a reliable manner on the state's electric transmission grid. To date, interties with the rest of the nation are relatively few and Florida can only import less than 10 percent of its electrical needs over the high-voltage transmission system. Moreover, past studies indicate that it would be extremely costly to significantly increase Florida's import capability, and any increase will likely require improvements to contiguous systems located outside the state.

Other states are more highly-interconnected than Florida. Some of the FERC-approved RTOs, such as the Pennsylvania-New Jersey-Maryland (PJM) ISO and the Midwest ISO, serve several states. These RTOs have generally evolved from existing power pool arrangements or serve states with extensive power transactions across state lines. In contrast, three states (California, New York, and Texas) have formed single-state RTOs.

On July 18, 2000, Carolina Power & Light, Duke Energy, and the SCANA Corporation (South Carolina) announced their plans for the formation of an RTO. The GridSouth Transco will be responsible for the operations and planning of the transmission systems for these three companies. This allows CP&L to fulfill the commitment made in the Florida Progress/CP&L Energy merger application to join an RTO. In addition, the Southern Company has recently announced discussions with several of its member utilities and municipal entities located in the Southern Company's area regarding a multi-state RTO. Further, the announcement by the FPL Group (parent company of Florida Power & Light) of its merger with Entergy Corporation on July 31, 2000, may put additional pressure on FPL to consider the formation of a larger RTO. While a large, multi-state RTO that

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<sup>28</sup>In its comments to the FERC, the FPSC has repeatedly urged that Florida be considered as a separate region, rather than combined with other states.



meets the FERC's ideal vision may prove feasible in the future, the current movement of the Florida stakeholder meetings toward a Peninsular Florida RTO appears to be a reasonable first step.

### ***Why a For-Profit Transco?***

An issue that is central to the development of the Florida Transco's market design is: why is a for-profit Transco the desired structure? As of the present time, no Transco (whether not-for-profit or for-profit) has received the full approval of the FERC. Therefore, there is a lack of strong evidence as to what structure will be the best approach to meet the FERC's criteria, and serve the public interest in linking competitive generation with the customer loads to be served.

As mentioned earlier, several Florida initiatives were introduced to the FPSC during 1999. Most of these initiatives were not-for-profit proposals (even the Transco proposal that was sponsored by several of Florida's municipal utilities), and were based on ISO-type principles. Several states have already adopted ISOs with mixed results. These ISOs have been comprised of stakeholder committees and have resulted in considerable market confusion, as well as long decision times due to posturing and disagreements. In contrast, the latest Florida proposal (Peninsular Florida Transco) features the presence of an independent board of decision-makers, profit-motive incentives, and ownership of substantial transmission assets. However, no analysis has been offered to show why an ISO structure with an independent, non-stakeholder board is less desirable than a similar for-profit entity. At present, the decision to have a for-profit Transco as the preferred vehicle for responding to the requirements of Order No. 2000 appears to be driven by FPL, which owns a significant percentage of Florida's transmission assets. Otherwise, it is unclear as to why this Transco proposal is the only option being considered.

FPL and FPC have been the main proponents of the Transco as a solution to Florida's future transmission and reliability needs. While FPL has stated that it will turn its transmission assets over to the Transco, FPC and a number of other utilities only intend to turn over operational control of their transmission facilities. This decision will result in a "hybrid ISO/Transco" instead of a "pure Transco." This "hybrid ISO/Transco" includes ISO characteristics and does not conform to all of the features thought to be descriptive of a Transco (see Appendix C).

In addition, the decision to establish a for-profit Transco could create some perverse incentives. It may be more profitable for the Transco to favor a transmission constraint solution that involves charging market prices (i.e., bids) for a limited resource. While this may be in the best interests of the Transco shareholders, it may not be the lowest-cost solution on an overall (statewide) basis. It may be more profitable for the Transco to address a transmission constraint by ordering the redispatch of generation resources, rather than the addition of transmission facilities, since redispatch costs are currently borne by a generator's native load. This situation could result in a direct conflict of interest between the profitability of the Transco and the reliability of Florida's transmission grid.

A controversial issue related to facilities planning may also take place. A Transco may favor building a new transmission line it will own as opposed to expanding a transmission line that it does



not own. Such a decision could result in a less-than-optimal transmission system statewide. Moreover, the rates to be charged by the Transco will be regulated by the FERC.

To date, the FERC has expressed a willingness to consider alternative ratemaking approaches. Given the incremental costs associated with the formation of a for-profit Transco, the possibility exists that transmission service rates will be significantly higher than those charged at the present time. It is also important to note that during this electric evolution, much of the authority granted to the FPSC by the Grid Bill may be preempted by Federal law.

The plan to develop an RTO represents a fundamental change in the structure of Florida's electric industry. It is a decision that may significantly impact public interest, even though transmission charges to residential consumers of Florida's investor-owned utilities (IOUs) comprise only 4 to 5 percent of the total electric bill. No such fundamental change should take place without a full and open consideration of these impacts. While the stakeholder discussions taking place are a necessary and important undertaking, these discussions are not addressing most of these issues.

### ***Florida's Internal Generation Markets***

Although a significant increase in maximum transmission capacity was created during the 1980s with the construction of the two 500 kV transmission lines that interconnect Peninsular Florida with the Southern Company, Florida's 3,600 MW transmission import limit represents only 9.6 percent of the 1999 total summer peak demand in the state. This import limit also represents only 9.0 percent of the 1999/2000 total winter peak demand in the state.<sup>29</sup> In addition, transmission exports were limited to 2,100 MW for the summer of 2000, and will be limited to 2,600 MW for the winter of 2000/2001. These constraints have resulted in an interstate interconnection system that has limited the state's competitive generation options (i.e., power sales to and power purchases from out-of-state utilities). This situation also precludes any throughput, or transfer of power between two entities which simply passes through Florida. Throughput issues were a major factor in the formation of several of the existing multi-state RTOs.

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<sup>29</sup>Florida's summer contracted import transmission total is about 2,555 MW. FPL accounts for roughly two-thirds of that capacity, including 658 MW from its Scherer No. 4 unit located in Monroe, Georgia. Scherer No. 4 has a maximum net summer capability of 858 MW. The 200 MW of this plant not contracted to FPL correspond to the JEA. This leaves Florida with a summer transmission float of about 1,045 MW. The transmission float is the amount of energy available for non-contractual imports. This number is calculated by subtracting 2,555 MW (Florida's summer contracted imports) from 3,600 MW (Florida's maximum import capability).

Florida's winter contracted import transmission total is about 2,652 MW. FPL accounts for roughly 60 percent of that capacity, including 666 MW from its Scherer No. 4 unit. Scherer No. 4 has a maximum net winter capability of 866 MW, with the remaining 200 MW assigned to the JEA. This leaves Florida with a winter transmission float of about 956 MW. This number is calculated by subtracting 2,652 MW (Florida's winter contracted imports) from 3,600 MW (Florida's maximum import capability).



Based on these factors, Peninsular Florida represents a market area where building generation within the peninsula is the only realistic alternative to meet customer load growth. Consequently, as discussed earlier, this seems to justify the formation of a single-state RTO. Also, it is of paramount importance for Florida to find the best vehicle to develop effective intrastate competitive generation markets that provide efficient, low-cost electricity to retail customers.

Not all of Florida's electric utilities generate all the electricity they sell to their retail customers. Many smaller municipal electric utilities, the rural electric cooperatives, and one small IOU in Florida purchase all or part of their customers' generation requirements from other entities. They also purchase the transmission services necessary to move their purchased power from the power plants where the electricity is generated to the load centers where their retail customers reside.

Historically, the FPSC has even encouraged that generating utilities pursue cost-effective purchased power alternatives. Florida's interchange market allows utilities, which would otherwise own and operate all of their own generation, to purchase capacity and energy from generating units owned by other utilities if they find it economical to do so. The revenues generated for the selling utility and the savings realized by the purchasing utility from these wholesale transactions flow back to the utility's retail customers through a cost recovery clause, resulting in reduced electric bills for all customers. Hence, if a Florida RTO is to be an effective contributor to the state's transmission market, it must facilitate increased competition in these generation markets.

It is believed that robust, competitive generation markets place downward pressure on end-user electricity rates due to the increased access to wholesale generation competition, as well as a more efficient use of utility-owned generation. This increased access to wholesale generation competition can be achieved through interconnection with surrounding states (which is currently limited in Florida) or by encouraging wholesale generators (i.e., merchant plants)<sup>30</sup> to locate within the proposed RTO area. However, Florida law, as interpreted by the Florida Supreme Court, currently restricts market entry by certain large, efficient merchant plants.

On March 4, 1999, the FPSC voted to grant the determination of need for an electrical power plant in Volusia County jointly requested by the Utilities Commission, New Smyrna Beach and Duke Energy New Smyrna Beach Power Company (Duke New Smyrna). The FPSC determined that it would enhance the reliability of New Smyrna Beach and Peninsular Florida as a whole with the approval of the 514 MW project. In the FPSC's opinion, the Duke New Smyrna plant was needed and in the best interests of Florida's electric customers, who would not be subject to the risks involved in the construction of the plant (i.e., changes in generation efficiencies, changes in fuel costs). Moreover, the FPSC determined that the plant would provide economic and environmental benefits to the citizens of New Smyrna Beach, as well as a significant addition to the Volusia County tax base since the cost of the project was estimated at \$160 million. However, on April 20, 2000, the Florida Supreme Court ruled that the FPSC did not have authority to grant a determination of

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<sup>30</sup> Merchant plants are generally defined as non-utility generators that are usually built with no energy sales contracts in place. These generators may compete in a deregulated electricity market on their ability to generate low-cost power and to support the local grid.

need for Duke Energy's proposed merchant plant in New Smyrna Beach. The ruling stated that the Florida Legislature must enact specific statutory criteria before the FPSC can certify the need for a merchant plant.

The FPSC took two actions shortly after the Duke decision was announced. First, it challenged the Supreme Court's ruling by filing for rehearing of the case. Second, by Order, it held all merchant plant need determination proceedings in abeyance until the Florida Supreme Court considers the FPSC's motion for rehearing. Thus, the development of numerous high-efficiency, base-load, combined-cycle<sup>31</sup> merchant plants has been halted.

There are a number of merchant plants that are not subject to Florida's Power Plant Siting Act (FPPSA).<sup>32</sup> These plants are called peaking units or "peakers." Peakers are designed to provide capacity during times of maximum electricity demand. Several plant developers have stated their intentions to build a number of these gas-fired units in Florida. Since these plants are not subject to the FPPSA or to restrictions under Florida law, their certification process begins at the Florida Department of Environmental Protection (FDEP). Some of these plants are scheduled to begin operating in 2001.

However, peakers are not as efficient or economical as the units that serve base and intermediate customer loads. Even though peakers contribute to electric reliability at peak, it is unlikely that peakers will be economically viable in sustained operation during off-peak periods. Ultimately, unless there is a change in Florida law, incumbent utilities are the only ones that will be able to build the large, efficient power plants that possess the economies of scale and scope necessary to meet base and intermediate load requirements.

The Florida Supreme Court's interpretation of the current regulatory structure prohibits the construction of new, high-efficiency merchant plants in Florida absent a direct contractual linkage to a retail load-serving utility. This interpretation seems to detract from the timely development of

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<sup>31</sup>Base-load units normally operate to meet all, or part, of the minimum load demanded on an electric utility's system over a given period. A base-load unit is normally a large, efficient power plant having a low cost-per-kilowatt-hour output. Intermediate-load or cycling units are used to meet load demand between base- and peak-load units. A combined cycle plant consists of a combination of two or more thermal cycles within a single power plant, where the intention is to increase the efficiency over that of the single cycles.

<sup>32</sup>The Florida Power Plant Siting Act (FPPSA) requires steam units greater than 75 MW to undergo a need determination process through the FPSC. Non-steam units, as well as those that use less than 75 MW of steam (i.e., peakers) are exempt from this need determination process and are only required to meet local permitting (siting) guidelines.



a robust, competitive generation market in Peninsular Florida.<sup>33</sup> Without this additional generation, the benefits of a Florida Transco may be limited and may fail to achieve the FERC's ultimate goal of fostering competitive generation markets. An effective RTO is a necessary, but insufficient condition towards the development of this goal.

### ***What Are the Overall Costs?***

The economic costs of forming the Transco will include start-up costs,<sup>34</sup> an initial public offering (IPO), salaries and staffing, administration, and security coordination. Start-up costs may include those that are associated with any interconnection, infrastructure, and supporting processes that may be needed. These start-up costs will likely be deferred and eventually recovered through user charges. At the present time, these costs have not been factually quantified. Also, there may be litigation costs incurred during this process.

Once the FLARTO is operational, it will submit a filing with the FERC based on assets contributed and managed, employees hired, technology infrastructure, and other considerations. Then, an IPO will take place. Class A (voting) stock in the company will be issued and only non-market participants will be able to purchase it. This is done in order to maintain the independence requirement established by the FERC. The method of collection for all of these initial operating expenses is currently the subject of much debate.

Responsibility for the maintenance of facilities will probably be shared by the FLARTO and the distribution companies, with each of these entities maintaining the facilities that it currently owns. The leasing and operation of transmission lines may depend on who performs the maintenance duties. Because of this development, the FLARTO's stakeholders have conceded that the transmission infrastructure of the FLARTO is going to be more costly than the existing infrastructure due to inefficiencies (loss of economies of scale and scope). In other words, the efficiencies that can be achieved with the current transmission system will be sacrificed in the short run in order to create a larger transmission infrastructure in the long run. A cost assessment should consider that Transco formation does not only consist of infrastructure and maintenance, but must also address the provision of non-discriminatory treatment on an hour-by-hour basis. During this

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<sup>33</sup> The Florida Supreme Court ruled that current Florida law and history require that a determination of need is presently available only to an applicant that has demonstrated that a utility or utilities serving retail customers has/have a specific committed need for all of the electrical power to be generated at a proposed plant. In addition, "the pressing need for increased power generation facilities" must be balanced with the necessity that the state ensure that the location and operation of electrical power plants will produce minimal adverse effects on human health and the environment. Pursuant only to legislative action will the FPSC be authorized to consider the advent of the competitive market in wholesale power promoted by recent Federal initiatives. Such statutory criteria are necessary if the Florida regulatory procedures are intended to cover the evolution of the electric power industry.

<sup>34</sup> Start-up costs are those that are incurred by utilities when undertaking new businesses, such as the construction of efficient facilities and the design of a stable infrastructure.

non-discriminatory process, the Transco will provide transmission service that originates from high-cost generators, as well as low-cost generators.

The FLARTO's stakeholders have also conceded that there will be winners and losers once the FLARTO is operational due to cost-shifting concerns. In addition, the FLARTO will be a regulated monopoly and its administration may set short-term goals that aim to minimize total costs while maximizing profits. This, in turn, would create a less-efficient system than one which might emerge under a non-profit independent transmission solution. During the current collaborative process, the Florida stakeholders are attempting to evaluate who wins, who loses, and by how much.

The FPSC may be limited in its ability to disallow transmission costs incurred by public utilities as a result of an application of the "filed rate doctrine." The lack of FPSC oversight as it relates to this issue does little to protect the state's ratepayers from the potential rate impact of the FLARTO.

### ***What Are the Overall Benefits?***

The economic benefits of forming the Transco could include long-run net savings to the Florida consumers within the Transco's service territory by providing access to more economical generation sources. Also, the transmission owners of the Transco could achieve lower long-run transmission costs by developing a more organized, more centralized, and larger transmission network.

At the present time, no FLARTO participant or stakeholder has quantified the potential savings or benefits that would result from the creation of the FLARTO. In addition, it is not clear how a for-profit Transco can accomplish RTO functions better than a non-profit ISO entity. Many believe that a non-profit entity will not be predisposed to a transmission-only solution to address system energy imbalances.

While the purpose of RTO development is to foster competitive generation markets, it may be difficult to achieve this goal unless Florida reinforces its internal generation market by other means (i.e., merchant plants). With the presence of these additional market players, the state could be in a better position to evaluate its transmission infrastructure costs over the long run. A concurrent evaluation of additional generation and transmission costs may be the best approach to minimize the costs of RTO formation, and maximize the benefits to providers and users alike.

### ***What Impact Will There Be on Individual Ratepayers and Groups of Ratepayers?***

FPL has stated that it plans to use a transmission planning function to represent its interests regarding distribution versus transmission tradeoffs, generation interconnections, and to ensure that the Transco is properly planning for the company's needs in a reliable and non-discriminatory manner. FPL has also stated that it will require an operations function in order to operate its



extensive distribution facilities, a control area consisting of FPL's generation resources and loads, load management systems, etc. At the present time, it is unclear as to how other Transco participants or potential participants will approach current transmission and distribution practices.

It is also unclear as to how these changes might affect retail rates, or how increased transmission costs to retail customers should be treated. However, FPL plans on pursuing recovery of its Transco payments by subtracting the transmission revenue requirement embedded in retail base rates from the Transco charge.<sup>35</sup> According to FPL, the difference will then be passed to consumers through a recovery clause.

This FPL cost recovery proposal may not be the best approach for purposes of the FLARTO because it overlooks the overall earnings levels achieved by the company. The FPSC has opened a docket to consider the effect of the proposed Transco on FPL's retail transmission rates.

### ***Will the Overall Benefits Outweigh the Costs?***

The answer to this issue is unknown at the present time. In its response to the FPSC questions to utilities about the FLARTO (Appendix H), FPL has stated that the cost of transmission facilities being transferred cannot be determined until a decision is made as to which assets will be part of that transfer pool. FPL also stated that it hopes that the FLARTO will, in the long-term, provide net benefits to its retail customers. But, the company has been unable to quantify such benefits as of this date. It will be difficult to quantify potential benefits until infrastructure cost estimate data is made publicly available. However, it clearly appears that the cost of transmission will increase as a result of the RTO. The net impact of these costs to Florida's ratepayers may not be evident until the FLARTO has been in operation for several years (even as long as 5 to 10 years).

### ***Will There Be Undue Shifts in Costs Between Individual Ratepayers or Groups of Ratepayers?***

The issue of cost-shifting arises because the Florida Transco intends to charge a single, statewide average uniform access rate within the region it serves.<sup>36</sup> Cost-shifting occurs because of two changes associated with the RTO rate. The first is the elimination of pancaked rates mandated by the FERC. Pancaked rates occur when a buyer or seller pays more than one transmission charge to transport power from the point of generation to the point of use. Under Order No. 2000, only one transmission charge may be applied to a transaction, no matter how many utilities it traverses. As a result, utilities will lose the revenue they now receive. A second cost-shift involves a single,

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<sup>35</sup>The revenue requirement is the total amount of money a utility must collect from customers to pay all operating and capital costs; in effect, the company's cost of service. The transmission revenue requirement embedded in retail base rates refers to that which is in existence at any point in time, regardless of the date originally incurred, and that affects current operations on a continuing basis.

<sup>36</sup>All RTOs approved by the FERC have experienced cost-shifting problems to date.



statewide rate. Transmission rate increases and decreases to individual utilities are certain to occur depending on how the embedded costs of transmission owners compare to the uniform access rate.

Transmission-dependent utilities (TDUs) such as the Florida Municipal Power Agency (FMPA) and the Seminole Electric Cooperative (SEC) are associated with higher-than-statewide-average embedded transmission costs per kilowatt (kw). These utilities will realize an immediate benefit from a single, statewide average uniform access rate because their higher transmission costs would be averaged with the lower costs of other systems, bringing down the average rate they pay. However, both of these utilities not only have pancaking and cost-shifting concerns, but the FMPA also has a concern with part of its transmission system being located in FPC's territory. In the case of the FMPA, member cities such as Bushnell and Ocala are embedded in FPC's territory and could eventually have to pay the higher, statewide transmission rates. In addition, the SEC shares this concern because most of its cooperatives are also embedded in FPC's territory.

Utilities with relatively low embedded costs such as FPC and the Orlando Utilities Commission (OUC) would be penalized by a single, statewide average uniform access rate. The customers of FPC and OUC currently pay less for transmission than they would under a statewide average rate. This is the reason why FPC is considering holding its bundled retail transmission out of the RTO pricing structure.

FPL, by virtue of having the largest investment in transmission, is least affected by a statewide rate since its costs will not vary significantly from the statewide average. To the extent utilities like FPC (lower transmission cost) hold out facilities or choose not to participate in the RTO, the statewide average rate will be higher than in a case where these utilities would participate.

Although the final rate design for the RTO is intended to be a single, statewide rate, several approaches have been discussed to mitigate the cost-shifting due to the de-pancaking of rates and the single average rate. One approach is to phase-in costs and benefits over a fixed period. All costs may be phased-in equally over a five-year period, or certain costs may be phased-in during the first five years (with additional costs phased-in over the next five years). Cost-shifting may be mitigated by a revenue redistribution approach or by a scenario where gainers forego benefits, while losers phase-in losses with no transfer of actual dollars. Another approach would be to begin with two or more zones (zonal pricing) rather than with a single state rate, followed by a gradual move to a single rate.

***What Will the Continuing Role of the State Be in Addressing the Adequacy, Reliability, Safety, Cost, and Cost Recovery of Transmission Facilities Needed in Florida?***

In Florida, the FPSC has broad authority under Sections 366.04(2)(c), and 366.05(8), Florida Statutes, over transmission grid-related matters (the Grid Bill). In addition, the FPSC also has the authority to initiate a proceeding to assess the need for new electric power facilities on its own motion. The FPSC is vested with jurisdiction over the planning, development, and maintenance of a coordinated electric grid throughout Florida, which includes establishing provisions for the sharing



of energy reserves of all electric utilities in the state, as well as ensuring conservation and reliability within a coordinated grid. To the extent that a deficiency is determined to exist in the Florida grid, the FPSC is authorized, after appropriate evidentiary proceedings, to order utilities to correct deficiencies and to allocate the costs of such improvements on the basis of benefits received.

If the FLARTO meets Federal approval, the FPSC will likely continue to exercise some of its authority under the Grid Bill, particularly in reliability and planning/expansion issues. However, there is uncertainty as to whether this Transco conforms to the definition of an electric utility under Florida law. If the Transco does not qualify as an electric utility, the FPSC's jurisdiction over the Transco's operational activities would be very limited. Nevertheless, it appears that the FPSC would maintain its jurisdiction over distribution reliability.

Under the FERC requirements in Order No. 2000, the FLARTO would have exclusive authority for maintaining the short-term reliability of Peninsular Florida's transmission grid. But, it is clear that implementation of the FLARTO will result in an increase of the FERC's level of current regulatory authority, and a decrease of the FPSC's level of current regulatory authority.

However, there is also a degree of controversy as to what infrastructure is defined as transmission and what is defined as distribution at this time. The breakers, buildings, substations, and other pertinent areas of the FLARTO's formation need to be properly defined to the satisfaction of the Florida stakeholders and the FPSC. Most of the participants have agreed that all transmission lines that are 69 kV and above will be turned over to the Transco, but this has been a point of contention because some parties believe that 69 kV lines can also serve distribution purposes and should not be turned over to the Transco. Recently, TECO agreed to turn its 69 kV lines over to the FLARTO as long as reliability standards are established. But, to date, many of these details have not yet been fully resolved.

One of the fundamental questions that is being addressed by the stakeholders and remains largely unresolved is: who makes the decision to build transmission and/or distribution? FPL's intention to divest itself of all of its transmission assets may result in the FPSC's loss of its current authority to order a utility to build. This is a major concern as it relates to FPL because the company owns a significant percentage of the state's transmission assets. In order to address this issue, the FLARTO, Peninsular Florida's utilities, and the FPSC may have to engage in a collaborative process that will enhance the region's transmission and distribution systems to the benefit of all end-users.<sup>37</sup> Although service and reliability standards have been discussed, there are questions as to whether these standards are necessary. All utilities must currently comply with national operating and engineering standards established by the NERC. Presumably, the Transco would also be required to comply with the NERC standards and additional reliability criteria may not be necessary.

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<sup>37</sup> However, this collaborative process may be ultimately preempted by the FERC anyway.

The control area issue must also be resolved.<sup>38</sup> To date, there are 12 control areas in Peninsular Florida. During the FRWG stakeholder meetings, there have been discussions to establish a transitional method that keeps the existing 12 control areas in place, but that allows these to virtually operate as one. If Peninsular Florida is to keep the 12 control areas, the question then becomes: how will these control areas establish coordination with one another? Ultimately, control area decisions are critical toward the provision of safe and reliable service to all customers with minimal outages and outage frequency duration. In addition, market participants are concerned about how a competitive ancillary services market can operate with multiple control areas in place. However, above all, stakeholders are in agreement that reliability must not be compromised in the process of creating a Florida RTO.

Lastly, it is evident that the formation of a Peninsular Florida Transco will have an effect upon the FPSC's regulatory treatment of all transmission rates. These rates will be set by the FERC and may not be comparable to the FPSC's current retail transmission rates. Although utilities indicate that they intend to keep retail rates bundled, there may be a need to address higher costs associated with the RTO. The FPSC's impending loss of its jurisdiction over retail transmission rates is a central issue that must be addressed at this time.

Any RTO adopted for Florida should take into account the state's unique geographical location and transmission tielines. Also, this RTO must balance the current level of the state's energy prices and electric reliability with the desire of industrial users and merchant plant owners for fair and equal access to the state's transmission grid. Each operating RTO across the country has been designed to address particular regional issues, many of which are quite different from the Florida status quo. What was true for electric reliability issues is equally true for transmission access. Florida has unique strengths and concerns that do not necessarily lend themselves to the RTO/ISO models adopted elsewhere.

### *Electric Rates*

Florida's electric utility industry has provided very reliable service at competitive prices. On average, Florida's rates have been relatively stable for more than a decade. Adjusting for inflation, the price of electricity in Florida has actually been declining. Compared to prices around the nation, Florida's electric rates continue to be around the national average (approximately 6.7 cents per kwh as a statewide average).

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<sup>38</sup> A control area is an electrical system bounded by interconnection (tieline) metering and telemetry. It controls its generation directly to maintain its interchange schedule with other control areas and contributes to frequency regulation of the interconnection. The control area is essentially an electric system that meets two requirements: (1) it can directly control its generation to continuously balance its actual interchange and scheduled interchange, and (2) it can help the entire interconnection to regulate and stabilize the interconnection's alternating-current frequency.



However, Florida's residential and industrial electric rates are higher than those of any other southeastern state. In addition, Florida has a higher per capita usage than most states due to the heavy air conditioning load that takes place during the summer months. Florida's electrical grid is only tied to other utilities in one direction, which limits the state's ability to rely on out-of-state purchases. Along with stringent environmental laws, these constraints place upward pressure on the price of electric services. Nevertheless, Florida's electric rates are significantly lower than those of states with operating RTOs (e.g., California, Pennsylvania) and are not considered a primary driver in the formation of the Peninsular Florida Transco.

The development of a Florida RTO may lead to transmission expenses that translate into higher consumer bills for several years before any economies of scale can be realized. However, as mentioned earlier, transmission charges to residential consumers of Florida's investor-owned utilities (IOUs) comprise only 4 to 5 percent of the total electric bill, so a transmission increase will not likely result in drastic increases in electric bills. Ultimately, additional consumer expenses incurred as a result of RTO formation may persist until the regional transmission market reaches price stability, or until any increases in the transmission portion of a customer's electric bill can be offset by lower generation prices.

### ***Concerns of Municipal and Rural Electric Cooperative Utilities***

Municipal utilities and rural electric cooperatives face constitutional implications of asset contributions to the Transco. At the present time, there are Internal Revenue Service (IRS) Code "private use" restrictions on public power entity transmission facilities financed by tax-exempt bonds. These restrictions may apply not only to divestiture, but also to the turnover of operational control.

IRS temporary regulations may allow facilities financed by outstanding tax-exempt bonds to be used to transport power in accordance with FERC Order No. 888, but may not allow the issuance of additional tax-exempt bonds for expanded transmission. Or, these regulations may not permit the transfer of operational control of existing transmission facilities financed by tax-exempt bonds to a for-profit Transco. Also, the interest earned from these bonds is subject to Federal taxation going back to the date of bond issuance. The essence of this issue is that public property can not be used for private purposes. This concern may have to be resolved at the Federal level.

### ***Industrial/Commercial Customers and Merchant Plants***

Other factors needing consideration when assessing the viability of the Peninsular Florida Transco are the lack of a significant industrial/commercial customer base, and the embryonic status of merchant plants in the state. Formation of a Transco does not directly benefit commercial and industrial customers unless they cogenerate and are able to sell excess power to the grid. Easier access to transmission may facilitate such transactions. Also, customers taking interruptible service may see fewer interruptions, if more sources of power are available through increased transmission

access. However, merchant plants and entities who purchase power from them are the most likely to gain from open transmission access. To the extent that transmission costs are reduced by the pancaking of rates and are reflected in lower prices, then the consumers of that power will benefit. However, without a substantial increase in generation competition, the Transco may only result in a change of the name and operating authority of the current network, and in few benefits to end-users.



## FINDINGS AND RECOMMENDATIONS

From a public policy viewpoint, a number of questions have been raised pertaining to the costs, benefits, and potential impact on ratepayers of forming an RTO in Florida. At the present time, insufficient information has been developed to fully answer many of these questions. It remains unclear that an RTO (whether it be an ISO or a Transco, for-profit or not-for-profit) is needed or is the most cost-effective means of ensuring fair and open access to the Peninsular Florida transmission grid. Moreover, it is unclear whether the FERC, in its zeal to mold the nation's transmission systems into a framework of its design, will seek to address regional cost/benefit issues or issues pertaining to individual retail ratepayers or groups of retail ratepayers.

The plan to establish a for-profit Transco represents a fundamental change in the structure of the electric industry in the state. It is a decision which is deeply imbued with the public interest. No such fundamental change should take place without a full and open consideration of these impacts. While the stakeholder discussions taking place are a necessary and important undertaking, these discussions are not addressing many of the important public policy issues.

In order to address many of the above questions and concerns, approval of a three-pronged strategy to review and facilitate the development of an RTO which is in the public interest is recommended. This strategy includes:

1. Working With the FERC;
2. Working With the Florida Governor, Florida Legislature, Energy 2020 Study Commission, and other State agencies to ensure that Florida laws allow the development of a fully competitive wholesale generation market in Florida;<sup>39</sup> and
3. Continuing Efforts With the RTO Stakeholders.

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<sup>39</sup>On May 3, 2000, Florida Governor Jeb Bush established the Energy 2020 Study Commission by Executive Order. This seventeen-member group is charged with proposing an energy plan and strategy for Florida. The first meeting took place on September 13, 2000. This Commission will then make specific recommendations to the Florida Senate, the Florida House of Representatives, and Florida Governor Jeb Bush by December 1, 2001.

Among the issues to be addressed by the Energy 2020 Study Commission are: (1) current and future reliability of electric and natural gas supply, (2) emerging energy supply and delivery options, (3) electric industry competition, (4) environmental impacts of energy supply, (5) energy conservation, and (6) fiscal impacts of energy supply options on taxpayers and energy providers.

## *Working With the FERC*

### *Hold Early Collaborative Discussions*

Consistent with the authority provided in Section 366.015, Florida Statutes, to act as interagency liaison, we believe it is critical for the FPSC to visit FERC officials to establish a cooperative working relationship prior to the companies' RTO filing on October 16, 2000. At this point, there are not any FERC ex parte prohibitions in force. Once we intervene, there will be tougher restrictions on communication. We should tell the FERC that they should look to the FPSC to be of help in reviewing this. The FERC does not have the manpower to do a close review of and to oversee all of the RTOs developing across the country.

We should convey to FERC that we are supportive of its work, but that it is the FPSC that is especially desirous of making the RTO effective and affordable.

We should also relay that we have a concern about the pace they are establishing. The primary theme is that they should look to the state for guidance and to resolve issues. It is our understanding that the FERC will not be assessing the overall cost-effectiveness of the Florida RTO. Rather, the FERC has indicated that they will be looking to the States to address this matter. However, it is unclear under the current schedule set forth in Order No. 2000 how that should be accomplished. We believe that we should establish a collaborative effort between the FERC and the FPSC to develop the appropriate models, methods, and procedures to adequately assess both the costs and benefits of an RTO to Florida's citizens, as well as the continued oversight of the Florida RTO.

During the visits to the FERC, we may want to urge a market monitoring role for the FPSC. We could recommend that there be a formal mechanism in place: if the RTO framework does not work (i.e., diminishes reliability and/or leads to significant increased costs on consumers), then the State regulatory body--acting as a surrogate for competition--should step back in. Benchmarks could be established. Based on the experiences in California and elsewhere, it should be recognized that this is not a good area for a laboratory. Failure is a possibility, and some types of safeguards need to be established up front.

We may also want to urge the FERC to be cautious about the costs of an RTO. It may be a long time before customers see the benefit of an RTO. Thus, there is reason to be cautious about approving an expensive RTO.

The rates, terms, and conditions of transmission service provided by the Florida Transco are subject to the jurisdiction of the FERC. We believe that the Florida Transco will be an electric utility pursuant to Chapter 366, Florida Statutes. To the extent not preempted by Federal law, the Florida Transco may also be subject to the FPSC's Grid Bill and Transmission Line Need Determination authority. If there is any confusion about the FPSC's jurisdiction over the Florida Transco in those areas, it should be clarified before the FERC's final approval of the Florida Transco. We would recommend that a Memorandum of Understanding (MOU) between the FPSC and the FERC be executed prior to the FERC's final approval of the Florida Transco. It would



depict the FERC and FPSC roles, as well as response in the ongoing process of formation and oversight of the RTO.

#### *Full Intervention at the FERC*

Once the companies file their RTO proposal, we believe that the FPSC should fully intervene in the docket. It is our understanding that there may or may not be a full evidentiary hearing.<sup>40</sup> If there is, the FPSC should be a full party. (In the recent Florida Progress/CP&L Energy merger, the FERC chose not to hold a hearing.) We are not looking to be a road block; however, we want to help craft the solution that works best for Florida.

We should note that even if the FPSC is totally comfortable with the companies' RTO proposals, the FERC could dramatically alter it. Thus, there is a need in any case to be an active participant in the process at the FERC.

#### ***Working With the Florida Governor, Florida Legislature, Energy 2020 Study Commission, and Other State Agencies***

At its September 13, 2000 meeting, the Energy 2020 Study Commission adopted a work plan that works toward an interim recommendation on the wholesale generation market. The Study Commission contemplates the possibility of providing an interim report to the 2001 legislative session, if determined appropriate. The FPSC's role, we believe, is to keep the Study Commission fully informed of the RTO process and the interrelationship with the evolving wholesale market.

The FPSC should work with the Study Commission, the Florida Governor, and the Florida Legislature to ensure that Florida laws allow the development of a fully competitive wholesale generation market in Florida.

#### ***Continuing Efforts With the RTO Stakeholders***

The FPSC staff will continue to attend the RTO stakeholder meetings. Once the market design proposal is concrete and specific, issues will be clearer about the impact on the public interest.

We are not recommending a separate FPSC docket on the RTO. However, the FPC merger docket (Docket No. 000824-EI) and FPL merger docket (Docket No. 001148-EI) may be appropriate for issues relating to the RTO. One issue that may arise during these proceedings is the prudence of selecting a for-profit Transco, as opposed to other alternatives.

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<sup>40</sup> At the September 13, 2000 Energy Study Commission meeting, Vincent Dolan of FPC noted that there may or may not be litigation at the FERC.

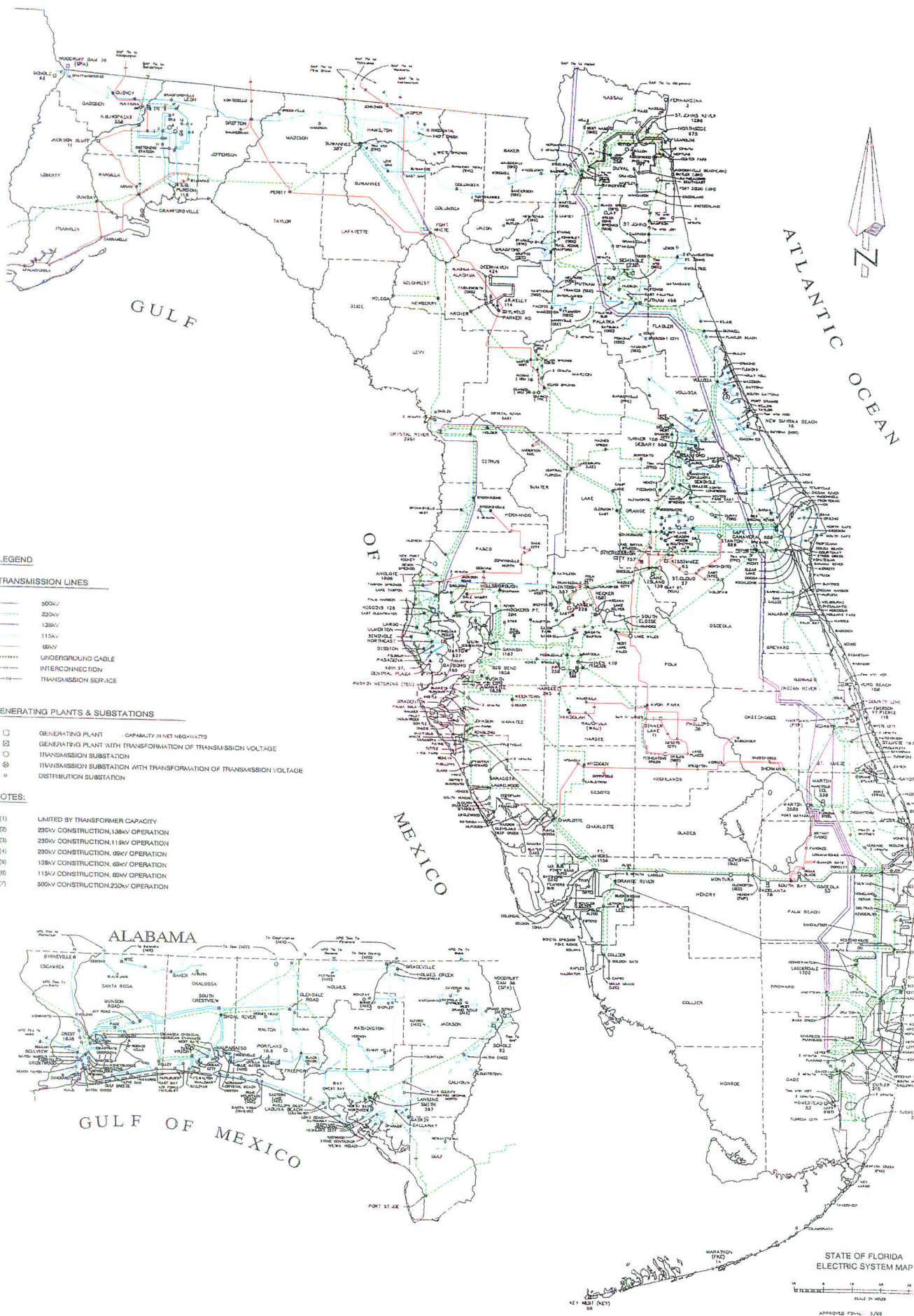
Pursuant to its authority under the Grid Bill, the FPSC should require the stakeholders to meet with the aim of reaching consensus on a model for implementing a fully competitive wholesale generation market in Florida.

The following are some key points that the FPSC has considered in developing its three-pronged strategy:

- Despite discussions held during 1999 that focused on different forms of a Peninsular Florida RTO (such as an ISA, ITA, Publicly-Owned Not-for-Profit Transco, and RTS), FPL/FPC appear determined to propose a for-profit “hybrid ISO/Transco.” While some progress was being made towards reaching a Florida solution, Florida Progress’ plans to merge with CP&L Energy and the release of FERC Order No. 2000 changed the focus of these discussions;
- Peninsular Florida does not currently support a fully competitive wholesale generation market. To date, Florida wholesale sales continue to be a relatively small portion of investor-owned utility sales and are predominantly conducted between Florida’s utilities;
- Based on its current proposed structure, the Florida Transco will initially do little to foster further competition in wholesale generation markets (the proposed ancillary services market represents less than 2 percent of the total energy market in Peninsular Florida). Moreover, an effective RTO is a necessary, but insufficient condition toward the development of a competitive wholesale generation market;
- Further work will be needed to establish a statewide competitive wholesale generation market. Given Florida’s peninsular nature, this type of market can be enhanced by: (1) additional interconnection with surrounding states, or (2) by encouraging additional generators (i.e., merchant plants) to locate within the proposed RTO area. Neither one of these approaches is feasible at this time;
- Once established, the Florida Transco will be a separate business entity capable of pursuing its own best interests. The FPSC believes that it will be in the best interest of the Florida Transco to facilitate and promote the development of new wholesale generation market structures in Peninsular Florida. In particular, these new structures should contribute to the electric reliability standards that the FPSC has supported in recent years;
- While it is critical that the Transco be independent of current and future stakeholders, it is equally important that all stakeholders, including the FPSC, have full and open access (in the sunshine) to the governing body of the Florida Transco;



- The FPSC and FERC should work together with the Florida Transco and with all the stakeholders to develop a fully competitive wholesale generation market for Florida; The FPSC is willing to work towards this goal, but with the FERC's understanding that Florida does not exhibit most of the characteristics of states with currently-operating RTOs;
- It appears that transmission costs will initially increase under the Florida RTO. Since the benefits of full wholesale competition are not likely to be available going in, the additional costs of the Florida RTO should be held to a minimum; and
- Cost-shifting between Peninsular Florida's utilities should also be minimized. For the FPSC regulated investor-owned utilities, the costs of transmission currently paid by retail customers should be determined, and the regulated utilities should be required to justify any increase in these costs. (A docket is currently open for FPL and FPC; an additional docket should be opened for TECO.)



**LEGEND**

**TRANSMISSION LINES**

- 500kV
- 230kV
- 138kV
- 115kV
- 69kV
- UNDERGROUND CABLE
- INTERCONNECTION
- TRANSMISSION SERVICE

**GENERATING PLANTS & SUBSTATIONS**

- GENERATING PLANT - CAPABILITY IN NET MEGAWATTS
- ◻ GENERATING PLANT WITH TRANSFORMATION OF TRANSMISSION VOLTAGE
- TRANSMISSION SUBSTATION
- ⊗ TRANSMISSION SUBSTATION WITH TRANSFORMATION OF TRANSMISSION VOLTAGE
- DISTRIBUTION SUBSTATION

**NOTES:**

- (1) LIMITED BY TRANSFORMER CAPACITY
- (2) 230kV CONSTRUCTION, 138kV OPERATION
- (3) 230kV CONSTRUCTION, 115kV OPERATION
- (4) 230kV CONSTRUCTION, 69kV OPERATION
- (5) 138kV CONSTRUCTION, 69kV OPERATION
- (6) 115kV CONSTRUCTION, 69kV OPERATION
- (7) 500kV CONSTRUCTION, 230kV OPERATION

STATE OF FLORIDA  
ELECTRIC SYSTEM MAP

APPROVED FOR: 3/02



**APPENDIX A:**  
**FLORIDA'S TRANSMISSION MAP**

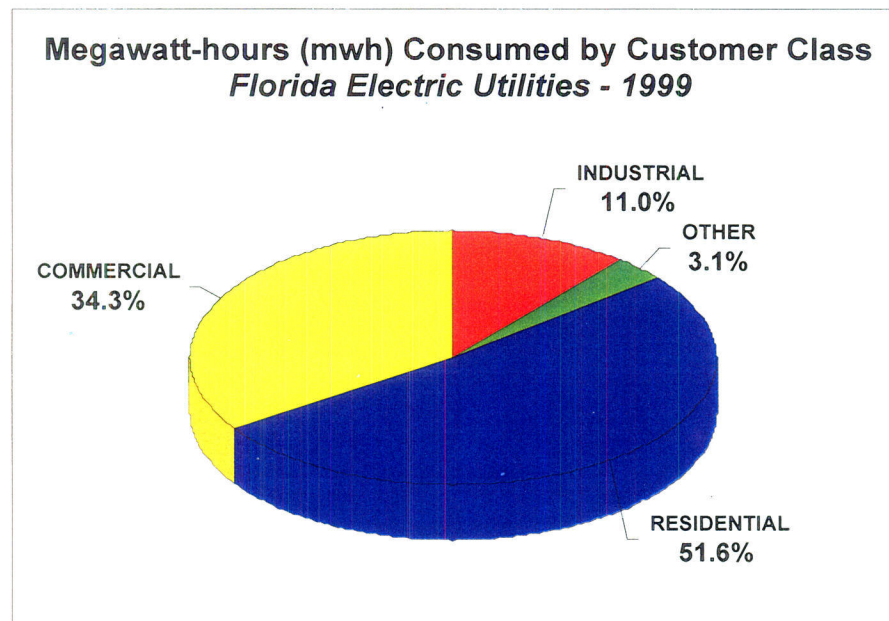
**APPENDIX B:**  
**FLORIDA'S ELECTRIC MARKET OVERVIEW**



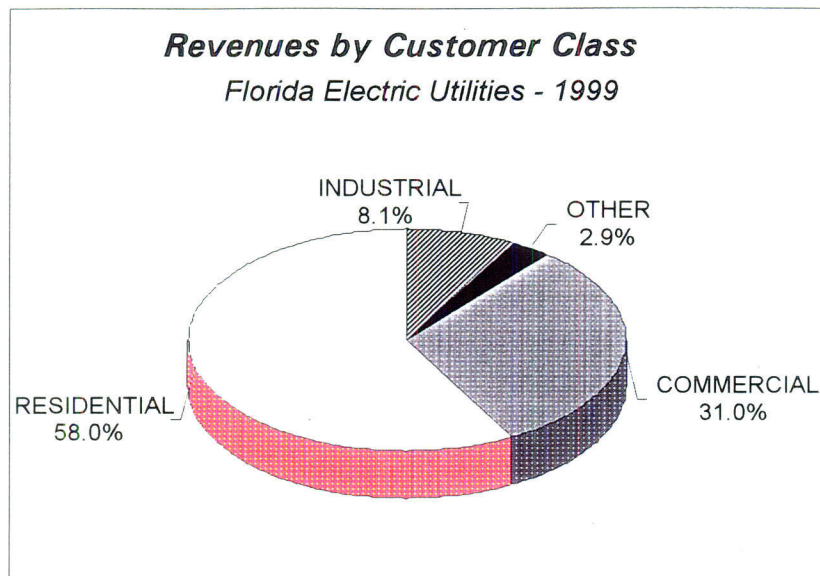
In Florida, a total of 54 electric utilities currently provide bundled retail service to end-use customers in their service areas. IOUs provide approximately 79 percent of all electricity sold to retail customers in Florida. The remaining 21 percent is provided by 33 municipal electric utilities and 16 rural electric cooperatives.

Many of the electric utilities that supply retail energy services to homes and businesses do not produce the electricity they sell. For these small utilities and cooperatives, their generation capacity is purchased through wholesale agreements with other utilities. These transactions also include purchasing transmission to carry the power to the load centers that serve the customers.

Industrial customers have led the push towards restructuring in many states as they are able to realize more benefits than residential customers. However, Florida does not have a large industrial customer base. For example, industrial customers used only 11.0 percent of the megawatt-hours consumed and provided 8.1 percent of the revenues received by Florida utilities in 1999 (Figures 1 and 2).

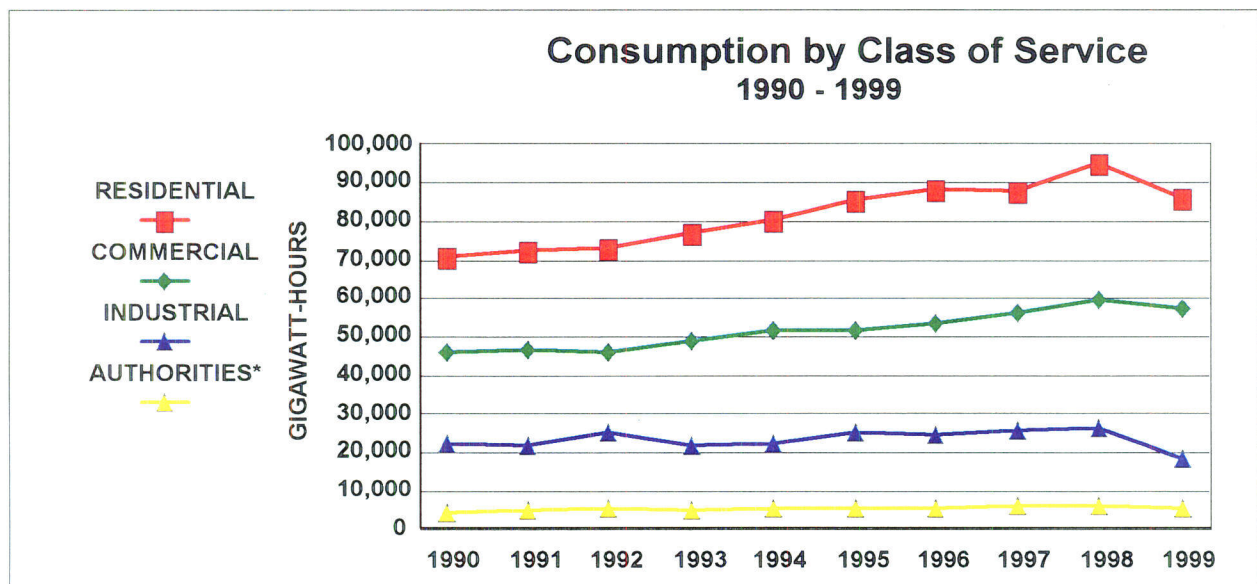


**Figure 1**



**Figure 2**

Moreover, the amount of power consumed by customer classes has remained fairly stable over the past 10 years (**Figure 3**). Also, when viewed on a statewide percentage basis, the amount of power consumed by Florida's industrial customers has decreased since the mid-1980s (**Figure 4**).



**Figure 3**



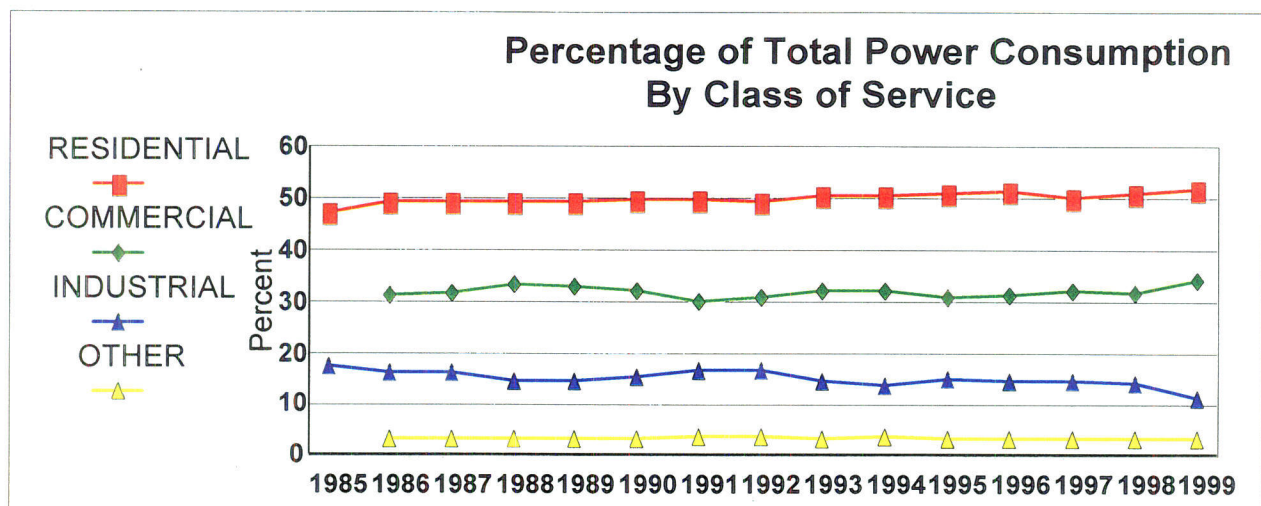


Figure 4

In addition, many Florida utilities engage in intrastate wholesale transactions. However, wholesale sales in the state continue to be a relatively small portion of IOU sales and are predominantly conducted between Florida's utilities. For example, in 1999, FPL's sales for resale activity accounted for only 4.11 percent of its total sales. Sales for resale activity by FPC and TECO accounted for 12.68 percent and 12.04 percent of their respective total sales (**Figure 5**).

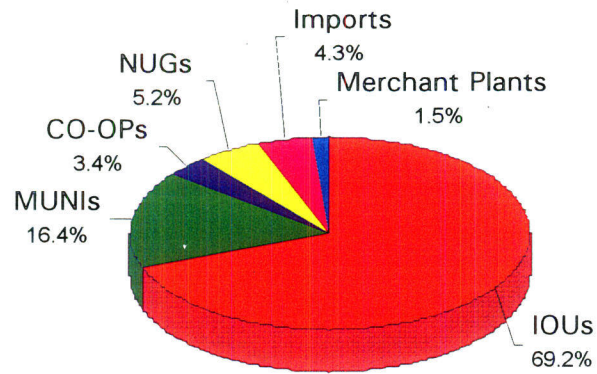
SALES FOR RESALE ACTIVITY BY SELECTED UTILITY ON A MEGAWATT-HOUR (mwh) BASIS 1999					
UTILITY	RESALE TOTAL SALES (MWH)	TOTAL SALES TO ULTIMATE CUSTOMERS (MWH)	UTILITY TOTAL SALES (MWH)	AVERAGE RESALES PER MONTH (MWH/MONTH)	RESALES AS PERCENTAGE OF TOTAL (%)
Florida Power & Light	3629368	84601566	88230934	302447	4.11
Florida Power Corporation	4856238	33441029	38297267	404687	12.68
Florida Public Utilities	0	716494	716494	0	0
Gulf Power Company	NR	9559183	9559183	NR	NR
Tampa Electric Company	2162556	15804961	17967517	180213	12.04
Alabama Electric	6880024	0	6880024	573335	100
Chattahoochee	0	48059	48059	0	0
Gainesville	108600	1606155	1714755	9050	6.33
Green Cove Springs	0	125962	125962	0	0
Homestead	NR	NR	0	0	NR
Jacksonville	NR	NR	0	0	NR
Kissimmee	NR	NR	0	0	NR
Lake Worth	NR	NR	0	0	NR
Lakeland	254801	2463295	2718096	21233	9.37
Leesburg	0	428715	428715	0	0
Orlando	NR	NR	0	0	NR
Seminole Electric	11849011	N/A	11849011	987418	100
Talquin Electric Cooperative	12312	814166	826478	1026	1.49
Vero Beach	0	644526	644526	0	0

**Figure 5**

In terms of the generation capacity breakdown by utility category, data from the summer of 1999 indicates that IOUs in Peninsular Florida are responsible for over two-thirds of the state's available megawatt capacity (**Figure 6**). Also, the customers of the Peninsular Florida IOUs consumed over 80% of the power used in Florida during 1999 (**Figure 7**).



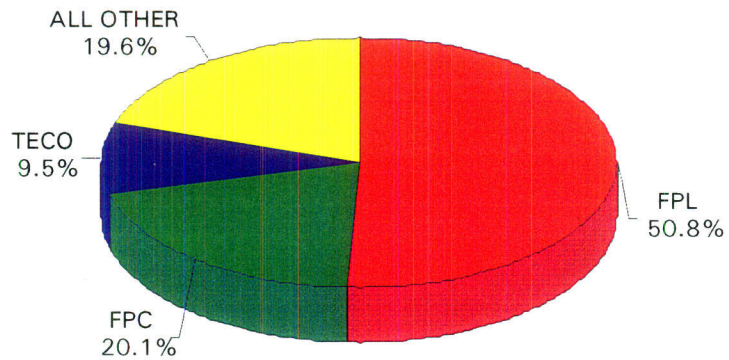
**Generation Capacity of Peninsular Florida Utilities  
Megawatts - Summer 2000**



Source: FRCC 2000 Load & Resource Plan

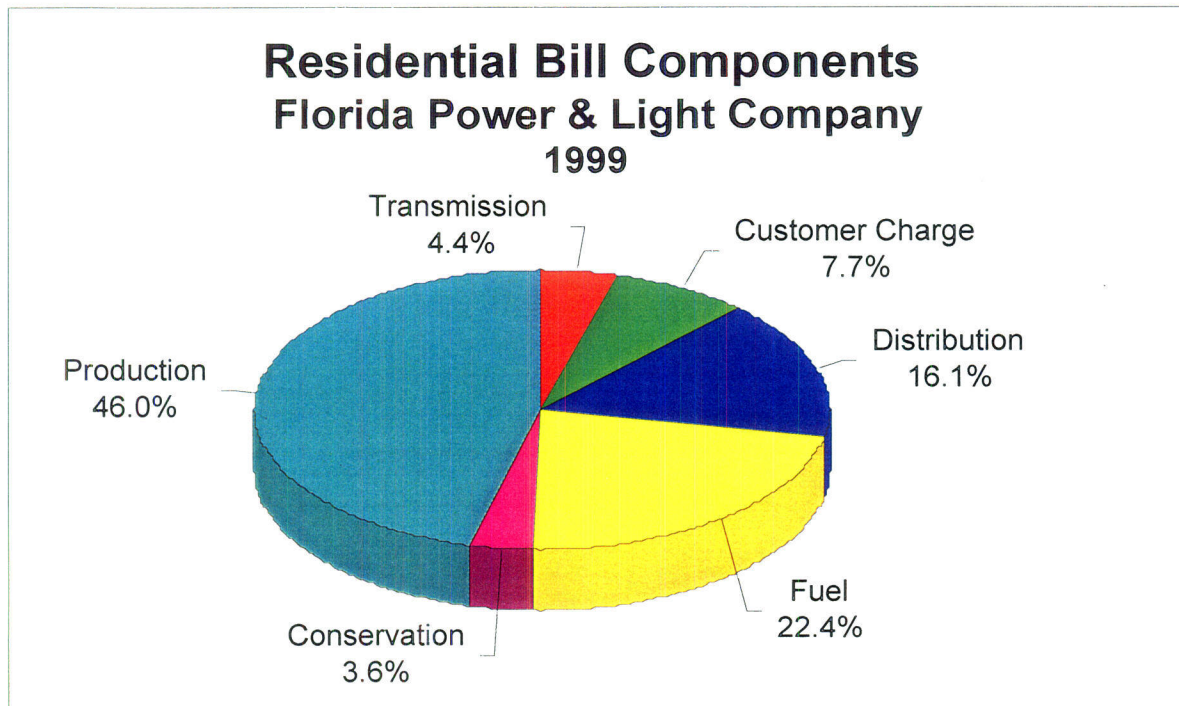
**Figure 6**

**Megawatt-hours (mwh)  
Consumed by Customers in 1999**



**Figure 7**

Transmission charges to residential consumers of Florida's investor-owned utilities (IOUs) comprise only 4 to 5 percent of the total electric bill. In the case of Florida Power & Light Company (FPL), the transmission portion of the typical customer bill was 4.4 percent during 1999 (**Figure 8**).



**Figure 8**

The data shown in this Appendix emphasizes the dynamics of Florida's electric market, which is predominantly residential, includes a strong IOU presence, displays customer class stability, and has minimal import energy consumption. All of these attributes should be considered in the process of establishing a Florida RTO.



**APPENDIX C:**  
**RTO BACKGROUND**

An RTO may be configured in more than one way. These forms may include the following:

- Independent System Operator (ISO);
- Transmission Company (Transco);
- Combination of ISO/Transco; or
- Another entity that conforms to the FERC's requirements.

In some cases, proposed RTOs have included characteristics that apply to more than one type of RTO configuration. However, the RTOs currently in operation are fairly homogenous in nature given that they are all ISOs. For purposes of this paper, only the ISO and the Transco formats will be discussed.

### *ISO/Transco Comparison*

**RTO Design Characteristics**

<i>Type of RTO</i>	<i>ISO</i>	<i>Transco</i>
<b>Structure</b>	<b>Quasi-governmental, non-profit</b>	<b>Private, for-profit</b>
<b>Main Interests (Drivers)</b>	<b>Equity Issues (geographical service concerns)</b>	<b>Efficiency, profit maximization</b>
<b>Independence</b>	<b>High</b>	<b>Determined by governance structure</b>
<b>Transmission Assets</b>	<b>Controls</b>	<b>Owns and controls</b>
<b>Efficiency</b>	<b>Low (administration, bureaucracy)</b>	<b>High (to increase profits)</b>

### *The Independent System Operator (ISO)*

An ISO acts as a neutral, non-for-profit operator of the transmission system. An ISO's functions may include: (1) scheduling transmission paths between generation sources and end-use loads, (2) managing transmission congestion which may entail system redispatch to relieve transmission overloads (or redirecting the flow by adjusting generation), and (3) maintaining the security of the system. In addition, some ISOs may also be responsible for long-term system planning of transmission line additions, interconnection with generators and loads, and coordinating generation and transmission maintenance. As of this date, the FERC has approved five ISOs. These are the California ISO (Cal-ISO), ISO New England, the Midwest ISO, the New York ISO, and the Pennsylvania-New Jersey-Maryland ISO (PJM). A summary of these ISOs is included in Appendices D and E.



### Transmission Companies (Transcos)

In contrast to the ISO, which operates transmission that belongs to others, a Transco (transmission company) is defined as a type of independent entity that owns the transmission it operates, and is generally driven by a profit motive. Even though some Transcos have been proposed as not-for-profit entities motivated by public interest purposes, most Transcos have been proposed as for-profit entities. In for-profit cases, Transcos are accountable to shareholders, rather than to the energy market as a whole, and are motivated by earnings and investment risks. Several IOUs have embraced this type of organizational structure for the purpose of establishing an RTO. However, as of this date, the FERC has yet to grant full approval to an RTO Transco proposal. A summary of pending Transco proposals is included in Appendix D.

**APPENDIX D:**  
**EXISTING ISOs AND PROPOSED TRANCOS**



As of this date, the FERC has approved five ISOs. These are the California ISO (Cal-ISO), ISO New England, the Midwest ISO, the New York ISO, and the Pennsylvania-New Jersey-Maryland ISO (PJM). In addition, the Texas Commission has ordered an ISO for the Electric Reliability Council of Texas (ERCOT) area.

The PJM, New England, and New York ISOs were established on the platform of existing tight power pools. It appears that the principal motivation for creating ISOs in these situations was the Order No. 888 requirement that there be a single, systemwide transmission tariff for tight power pools. In contrast, the California and ERCOT ISOs were the direct result of mandates by State governments. The Midwest ISO initially included Illinois and Wisconsin, and was neither required by government nor based on an existing institution. In this case, two states in the region required their utilities to participate in either a FERC-approved ISO, or to sell their respective transmission assets to an independent transmission company that would operate under a regional ISO.

The approved ISOs have similarities and differences. All five FERC-approved ISOs operate as not-for-profit organizations. All five include both public and non-public utility members. However, there is considerable variation in their levels of governance, operational responsibilities, geographic scope and market operations. Four of the five ISOs have a two-tier form of governance with a non-stakeholder Governing Board advised by stakeholder group(s). The California ISO is the only one of these entities that includes a Board consisting of stakeholders and non-stakeholders.

Four of the five ISOs cover a single control area, but the largest (Midwest ISO) does not perform transmission planning to cover a single control area. Three of these ISOs are multi-state configurations (Midwest, New England, and PJM), while the other two currently operate within a single state. The current structure of the Midwest ISO does not even encompass one contiguous geographic area. Also, the ISO New England administers a separate New England Power Pool (NEPOOL)<sup>41</sup> tariff, while the other four administer their own ISO transmission tariffs.

Three ISOs (New England, New York, and PJM) operate centralized power markets, while the California ISO relies on a power exchange (PX) to operate its market. The Midwest ISO has not proposed an ISO-related centralized market for its region.

Establishing a balanced governance structure is obviously an important issue when the FERC examines ISO or RTO proposals. The FERC intended to grant the various stakeholders the opportunity to share in the decision-making process. The original governance proposals of the ISO New England and New York ISO were rejected by the FERC because the FERC concluded that the vertically-integrated utility members would have too much voting power. These two ISOs then resubmitted governance proposals that demonstrated balanced representation of the various stockholder sectors. The FERC eventually approved both revised governance structures.

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<sup>41</sup>NEPOOL is a power pool that has been in existence since 1971. ISO New England was developed in 1997 from NEPOOL's existing power pool resources (staff and equipment). ISO New England administers the same transmission tariff that was formerly administered by NEPOOL.



### ***The California ISO (Cal-ISO)***

The FERC approved the California ISO (Cal-ISO) in October 1997. The Cal-ISO was created as part of the state's efforts to deregulate its retail electric industry. The state has also set up the California Electricity Oversight Board (EOB) to monitor, evaluate, and represent the state's interests concerning the operation and reliability of the interconnected electric transmission system. The Cal-ISO Board of Directors consists of 24 members.

Within this system, market participants trade through a power exchange (PX),<sup>42</sup> or through the competing scheduling coordinators with the PX acting as the default scheduling coordinator. All traditional utilities are required to use the PX at the present time. The PX and scheduling coordinators deal with the ISO to secure transmission access and ancillary services. Coordination through the ISO is intended to be limited to the minimum reliability requirements with the assumption that the market alone will achieve economic efficiencies. This ISO allows for extensive iteration of market clearing mechanisms as a means of price discovery and convergence to a balanced dispatch format, while using a system of one-part bids.<sup>43</sup>

Transmission congestion pricing is based on a zonal system, with congestion giving rise to different prices for different zones. The transmission congestion charge for movement between zones is the difference in the energy prices of the different zones. Congestion within a zone is handled through a system of payments to generators for not operating in constrained areas, as well as paying expensive generators located in dispersed areas to balance the dispatch. The congestion payments are recovered through an average charge to loads within the zone.

### ***ISO New England***

Utilities in Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont created ISO New England through a voluntary agreement of participants to achieve compliance with Order No. 888. In June 1997, the FERC granted conditional approval for the creation of ISO New England. FERC's approval was contingent upon the codifying of ISO New England's policy to allow non-ISO members to participate in the alternative dispute resolution (ADR) process.

The Board of Directors of this ISO is comprised of ten independent members. It administers a bid-based dispatching system with no separate power exchange. The bidding system includes seven separate markets for energy services. With regard to transmission rights and price protection, the ISO New England utilizes a transmission congestion system that, unlike the California, New

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<sup>42</sup> A power exchange (PX) is an independent exchange that runs a daily forward auction in which it tries to match the next day's anticipated demand to bids by generators.

<sup>43</sup> In one-part bids, energy price and quantity bids will constitute a supply curve. This is opposed to multiple-part bids which, in addition to simple energy bids, include start-up costs, minimum loads, and ramping constraints.



York, or PJM ISOs, would distribute costs across all users. In addition, the ISO treats the entire system as a single zone in terms of short-run pricing.

### ***The Midwest ISO***

Utilities in Illinois, Indiana, Kentucky, Maryland, Missouri, Ohio, Pennsylvania, Virginia, West Virginia, and Wisconsin have created the Midwest ISO (MISO) through a voluntary agreement of participants to achieve compliance with Order No. 888. MISO received conditional approval from the FERC in September 1998. MISO's Board of Directors is comprised of eight independent members, with the expectation that the ISO will be fully functional by 2001. As a condition of the FERC's approval, MISO must follow through with its commitment to serve as a Security Coordinator that ensures the short-term reliability of grid operations.

Midwest ISO is the largest ISO in area to date. Because of its broad geographic size, the effects of scale economies associated with transmission may help demonstrate that a larger structure makes an ISO more efficient, competitive, and reliable. Provisions of the MISO proposal include non-pancaked, zonal rates for the first six years of operation.

### ***The New York ISO***

Utilities in New York created an ISO through a voluntary agreement of participants to achieve compliance with Order No. 888. The New York ISO's Board of Directors is comprised of 10 independent members. The FERC granted the New York ISO its conditional approval on June 30, 1998.

With its conditional approval, the FERC deferred its decision on whether the New York ISO should have a single, unbundled, gridwide tariff to all eligible users; and whether the New York ISO promotes the efficient use, as well as investments in the generation, transmission, and consumption of electricity. Also, the New York ISO recognized the need to develop additional arrangements to coordinate with adjacent power pools.

The New York ISO also uses locational (nodal) marginal cost pricing and transmission congestion contracts to deal with transmission rights-of-way. A day-ahead forward market with multi-part bids, and a transmission congestion contract auction provide added flexibility and price protection for market participants. The initial allocation of transmission congestion contracts is based on existing transmission contracts or the ownership of transmission facilities. The remaining transmission contracts will be sold at an auction, with previously allocated transmission congestion contracts available through a coordinated secondary market.

### ***The Pennsylvania-New Jersey-Maryland (PJM) ISO***

Utilities in Delaware, the District of Columbia, Maryland, New Jersey, Pennsylvania, and Virginia created the Pennsylvania-New Jersey-Maryland (PJM) ISO through a voluntary agreement of participants to achieve compliance with Order No. 888. The PJM ISO's Board of Directors is comprised of eight independent members. The FERC approved the PJM plan in November 1997. With the FERC's conditional approval, the PJM ISO has agreed to modify its Operating Agreement to prohibit the ISO from contracting with a participant without an open and competitive bidding process.

Compared to the California ISO, the PJM ISO does not use a separate power exchange. The ISO coordinates short-term operations through bid-based economic dispatch with a multiple-part bid system. The PJM ISO's transmission congestion pricing approach uses locational (nodal) marginal cost pricing for energy transactions through the spot market, and fixed transmission rights (FTRs) to deal with transmission access and price certainty.

The FERC approval also required modifications to further improve the PJM ISO's plan by the addition of price protection for market participants, a day-ahead forward market, introduction of market hubs, and auctions of FTRs. PJM's plan also includes a capacity reservation system that is required of load-serving generators as a way of ensuring sufficient generating reserve margins. An initial allocation of FTRs accompanies the generating capacity reservations, with other FTRs to be allocated through firm transmission rights or through an auction.

The following RTO proposals are pending before the FERC at the present time:

### ***The Electric Reliability Council of Texas (ERCOT) ISO***

The state of Texas has jurisdiction over the intrastate ERCOT Interconnection boundaries, and the Texas Legislature amended the state's Public Utility Regulatory Act in 1995 to deregulate the state's wholesale generation market. Subsequently, Public Utility Commission of Texas (PUCT) Rule 25.197 authorized the creation of an ISO to foster a robust wholesale market within ERCOT. The PUCT then established the ERCOT ISO in August 1996. ERCOT's Board of Directors is comprised of three members from six market groups: investor-owned utilities, generation-owning or transmission-owning municipal utilities, generation-owning or transmission-owning electric cooperatives, transmission-dependent utilities (TDUs), independent power producers (IPPs), and power marketers.

The ERCOT is an ISO for most of the state of Texas and has been in operation since 1997. This ISO serves as an example of a working, minimalist ISO. It schedules transmission usage and administers a cost-sharing scheme to deal with both a limited amount of current congestion and planned transmission expansion, since transmission congestion is generally small and local. However, because there are no formal transmission congestion contracts and the cost-sharing schemes do not provide a proper link between the benefits for transmission investment and the



sharing of the costs, the ERCOT model is under some criticism. Since the cost-sharing approach is used for the entire system, the entire ISO territory can be viewed as a single zone and no locational (nodal) marginal cost pricing is used.

### ***The Alliance Companies Transco***

In December 1999, the FERC conditionally accepted a proposal by the Alliance Companies<sup>44</sup> to form a for-profit transmission company serving all or part of nine states within the region served by the Midwest ISO. On May 17, 2000, the FERC announced that the Alliance Transco had not yet met the independence requirements of Order No. 2000. The FERC stressed that an RTO's independence from influence or control by other market participants is critically important to ensuring open access and protection from control by generation and distribution interests.

### ***The Southwest Power Pool (SPP)***

The Southwest Power Pool (SPP) is a non-profit corporation with 55 members, including 12 IOUs, and serves more than four million customers in all or parts of eight states.<sup>45</sup> On May 17, 2000, the FERC denied SPP's RTO proposal, stating that it needed more work to fully meet the standards set out in Order No. 2000, and to achieve anticipated consumer benefits. Specifically, the FERC stated that operational control of all SPP members' transmission facilities should be transferred to the SPP and that there should be a more effective separation between transmission facility control and market participants. The FERC concluded that SPP's proposal did not reflect an appropriate geographic scope and configuration, and suggested that SPP consider possible expansion to include neighboring utilities.

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<sup>44</sup> American Electric Power Service Corporation, Consumers Energy Company, The Detroit Edison Company, FirstEnergy Corp., and Virginia Electric and Power Company.

<sup>45</sup> Arkansas, Kansas, Louisiana, Mississippi, Missouri, New Mexico, Oklahoma, and Texas.

**APPENDIX E:**  
**CALIFORNIA'S ELECTRIC MARKET OVERVIEW**



The California Independent System Operator (Cal-ISO) and the California Power Exchange (CalPX) were created in 1996 by Assembly Bill 1890 (AB 1890). Signed into law by Governor Pete Wilson, AB 1890 called for the deregulation of California's investor-owned electric utilities with a guaranteed 20 percent rate cut for residential and small business customers by 2002.

This legislation modified a plan passed in December 1995 by the California Public Utilities Commission (CPUC) to lower the price of electricity and end excessive and expensive "over-regulation."

### ***How the Electric Market Functioned Prior to March 31, 1998***

Three of California's major investor-owned utilities (IOUs) – Pacific Gas and Electric (PG&E), Southern California Edison (SCE), and San Diego Gas and Electric (SDG&E) – handled the generation, transmission, distribution, and purchasing of electricity to meet their customers' energy needs until March 30, 1998.

Each of these utilities was responsible for matching load and resources to maintain frequency. Also, they were responsible for matching scheduled and actual flows at the tie-points where they connected to other utilities. Given their obligation to maintain generation to serve all ongoing and changing electricity requirements within their respective service areas, these utilities developed their own generation and demand forecasts, operated generating plants, and entered into long-term procurement contracts for the fuel used to generate electricity. They also participated in short- and long-term bilateral contracts for electric power to meet changes in demand and demand growth, respectively. These utilities were also capable of purchasing power from and sending power to one another, as well as to other utilities in California and surrounding western states.

### ***New Electricity Market Opens<sup>46</sup>***

On March 31, 1998, the electric power industry in California began a four-year, phased-in process of deregulation. As a result of this process, consumers from all customer classes of IOUs (residential, commercial, agricultural, and industrial) can purchase electricity from either their current electric utility or from alternative suppliers of electricity. In other words, customers can choose their generation power supplier. In response to this, the IOUs have separated (unbundled) their electric generation, transmission, and distribution businesses. The transmission and distribution businesses remain regulated by the FERC and CPUC, respectively. Generation, on the other hand, is being deregulated and is subject to the market forces of competition and to the market prices for utilities' products. The industry (including municipally-owned electric utilities) will be fully competitive by 2002.

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<sup>46</sup> Analysis from the California Power Exchange Report, "California's New Electricity Market: The Basics: How the California Power Exchange Works." December 1999, Version 6.

### ***How the Electric Market Works Now***

On March 31, 1998, operation of PG&E's, SCE's and SDG&E's electric transmission facilities was transferred to the California ISO. The ISO ensures that all electricity producers have an equal opportunity to send their electricity across the transmission system to their customers.

For a transition period slated to last until March 2002, California's IOUs (PG&E, SCE and SDG&E) must buy from *and* sell *all* of their generation through the California Power Exchange (CalPX), which auctions electric power demand and supply. Since March 31, 1998, PG&E, SCE and SDG&E customers have been able to purchase electricity from a supplier of their choice, or can choose to continue purchasing electricity from their current utility provider.

Other market participants (IPPs, municipal utilities, utilities located outside of California, aggregators,<sup>47</sup> and others) have the option of buying from or selling electricity through the CalPX, or selling directly to a customer without going through the CalPX.

### ***California Power Exchange (CalPX)***

The CalPX, located in Southern California (with back-up facilities in Folsom), is a non-profit, public benefit corporation open to all purchasers and suppliers on a non-discriminatory basis. The CalPX's rules and service charges are regulated by the FERC.

The primary purpose of the CalPX is to provide an efficient, competitive energy market that meets the needs of the CalPX's customers at market prices and benefits California's citizens. The CalPX markets determine the price of electricity on an hourly basis for the day-ahead and day-of markets, according to the demand and supply bids submitted by CalPX participants. PG&E, SCE and SDG&E *must* buy and sell electricity through the CalPX during a four-year transition period. Together, these IOUs represent approximately 80 percent of California's electricity demand.

### ***California Independent System Operator (Cal-ISO)***

Although PG&E, SCE and SDG&E continue to own their electric transmission facilities, operational control of these facilities has been turned over to the Cal-ISO, whose rules and service charges are also regulated by the FERC. The ISO is located in Folsom and has back-up facilities in Alhambra. The ISO ensures that all electricity buyers and sellers have an opportunity to use the transmission system in a way that:

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<sup>47</sup> Aggregators are agents or brokers that organize customers into a group for the purchase of electric services.



- Sellers of electricity may transport electricity to their buyers, and
- All electricity buyers may receive their electricity from whomever they select.

### *California's Deregulated Experience: The Advent of Price Spikes*

California has experienced a rapid increase of electricity prices over the past few years. Southern California, specifically San Diego, has made national headlines with the doubling of residential electricity bills from June-August 2000. AB 1890 directed the IOUs in California, including SDG&E, to provide residential and small commercial customers a 10 percent rate reduction, and to keep electric rates frozen during a four-year period while transitioning to a competitive electric marketplace.<sup>48</sup> It is these frozen electric rates which are bringing about the sharp increases in customer bills.

When rates are frozen at a certain level, much like rent controls, there is an economic disincentive to invest in additional generation capacity. In California, the supply of electric energy has been limited by a lack of power-generating plants. Also, California is a large state that relies on many long-distance transmission lines to provide electric service to its customers. The long distances between generation and load that characterize California's power grid hinder the state's ability to adjust quickly to increases in electricity demand.

Demand has risen considerably given the state's population growth and extreme weather conditions, so an electricity shortfall was imminent. Following basic economic rationale, when demand for a good exceeds supply the price rises. This basic market outcome seems to have been overlooked when the existing structure implemented the disincentives to invest in additional generation capacity.

### *Price Caps*

The Cal-ISO recently elected to reduce the maximum price utilities can pay for electric power, despite warnings from suppliers that electricity and power plant investors would avoid the state if the wholesale price cap were lowered. California already imports a fifth or more of its power and relies on expensive peaking units to meet excess demand. In spite of that, Cal-ISO's board recently voted to lower the ceiling on wholesale power prices to \$250 per megawatt-hour (mwh) from \$500, effective August 7, 2000. This followed an earlier cut from \$750 per mwh.

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<sup>48</sup> San Diego Gas & Electric (SDG&E). <http://www.sdge.com>.

## *California's Miscalculations*

Some observers say that California's crisis reflects several miscalculations. The first of these is that California could indefinitely rely on surrounding states to meet its energy needs. In fact, neighboring states' power demands have less and less surplus power to sell to California. Second, there was a dangerous assumption that demand would stay far beneath supply, even though the state has not added significantly to its plant capacity since the mid-1980s.<sup>49</sup> No major power plants were built in California for a decade, in part because regulators did not anticipate the state's Silicon Valley-driven economic boom of the late 1990s. Stringent environmental rules and bureaucratic red tape made electricity-related construction nearly impossible. As a result, electric demand has risen by 25 percent in the past eight years, while in-state power generation has increased by a paltry 6 percent.<sup>50</sup>

## *The FERC's Investigation and Aftermath*

As a result of California's market crisis and other similar nationwide events, the FERC recently launched a study into the "volatile price fluctuations" in the bulk power sales in the U.S. The findings are due on November 1, 2000, the same month that all wholesale electricity price controls in California are scheduled to expire. In addition, the FERC has launched a separate formal investigation on August 23, 2000, to examine California's move to retail competition, including the causes of high rates and the structure of the Cal-ISO.

On September 6, 2000, California Gov. Gray Davis signed emergency legislation to cut electricity rates in San Diego. Davis signed into law a bill passed by the California Legislature the previous week to establish a cap on electricity prices in the southern California city. Davis did not, however, sign an accompanying bill which would have provided up to \$150 million in state funds to help fund the price cut. A decision on this issue will be made at a later date.

For now, utility customers in most deregulated states are protected from significant price fluctuations because utilities are still honoring long-term power supply contracts. However, many of these contracts will begin expiring around the nation by 2002. This lack of protection may place customers around the nation in the same vulnerable position that San Diego's customers presently face.

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<sup>49</sup>The Wall Street Journal: "California Beset by Electricity Shortages." August 3, 2000.

<sup>50</sup>The Wall Street Journal: "Too Much Regulation Keeps California in the Dark." August 7, 2000.



**APPENDIX F:**  
**DETAILS OF THE PENINSULAR FLORIDA TRANSCO PROPOSAL**

The FERC issued its Order No. 2000 on December 20, 1999. On February 11, 2000, FPC released a Memorandum of Understanding (MOU) that created the Florida RTO Working Group (FRWG), which includes a diverse group of industry participants and has the task of developing a Florida RTO. On March 9, 2000, a meeting was convened in Tampa, where FPL unveiled its idea to create a Peninsular Florida Transco. This proposal is broader than any of the four previous Florida initiatives because it is a well-aligned response to the requirements of Order No. 2000. FPL's proposal subsequently became the focus of the FRWG.

The Peninsular proposal states that a Transco makes sense for Florida because of the following reasons:

- A Transco is a truly independent organization whose focus will be to serve the transmission customers needs;
- A Transco can act as the RTO for all transmission owners in Florida that choose to transfer operational control of their facilities to the Transco;
- A Transco has the incentive to:
  - be cost efficient (a single entity that leases, owns, and/or operates facilities);
  - improve customer service and expand transmission facilities to meet the customer and market needs;
  - provide reliable service; and
- A Transco structure provides an effective means to raise capital for construction of new transmission assets to improve system access and system reliability.

In order to address the FERC's minimum characteristics and minimum functions required of RTO formation, the Peninsular proposal has identified the following 19 principles:

1. Independence and Corporate Governance

- The Peninsular proposal endorses an RTO that will be an investor-owned transmission company that is independent of market participants;
- The Board of Directors will be elected by the voting class of shareholders of the RTO and officers of the RTO will be selected by the Board. Ownership of voting shares will comply with Order 2000;
- All RTO board members and RTO employees will be independent of RTO market participants; and
- The Board may be advised by committees containing stakeholder representatives.

This principle addresses Order No. 2000's minimum characteristic #1, which states that an RTO must be independent of any market participant.



2. Regional Scope

- The scope of the RTO will be Peninsular Florida as such area is currently defined by the FRCC.

This principle addresses Order No. 2000's minimum characteristic #2, which states that an RTO must serve an appropriate region of sufficient scope and configuration to permit the RTO to effectively perform its required functions and to support efficient and non-discriminatory power markets.

3. Operational Authority over Transmission Facilities

- The RTO will have authority over the operation of all transmission facilities under its control;
- The RTO will be the Security Coordinator and have authority for maintaining short-term reliability; and
- Control area operators will continue to be responsible for real time operations under the direction of the Security Coordinator.

This principle addresses Order No. 2000's minimum characteristic #3, which states that an RTO's level of control must be sufficient to ensure reliable grid operation and non-discriminatory access.

4. Short-Term Reliability

- The RTO will have authority for maintaining the short-term reliability of the transmission facilities subject to its control;
- The RTO will receive and approve or reject all transmission reservations and interchange schedules, and will direct the implementation of all interchange schedules;
- The RTO will order redispatch if necessary for reliable operation of the transmission system to the extent provided for in the RTO open access tariff and in accordance with the FERC-approved NERC redispatch procedures;
- The RTO will have authority to approve or disapprove for reliability purposes all requests for scheduled outages of transmission facilities; and
- The RTO will notify the FERC and the FPSC if implementation of NERC, FRCC or any other externally established reliability standards will prevent the RTO from meeting its obligation to provide reliable, non-discriminatory and efficiently-priced transmission service.

This principle addresses Order No. 2000's minimum characteristic #4, which states that an RTO is to have exclusive authority for maintaining the short-term reliability of the grid it operates.

5. Tariff Administration and Design

- The RTO will administer an open access transmission tariff for transmission facilities within the RTO which:
  - eliminates the pancaking of transmission access charges;
  - minimizes transmission cost-shifting; and
  - recovers the revenue requirements of transmission owners;
- Transmission users will pay a single transmission access charge based on the zone where the power is delivered or exits the RTO. Zone rates will be based on the revenue requirements of the transmission owner providing service in that zone;
- Each jurisdictional transmission owner will make an FPA filing to establish the revenue requirement for the transmission facilities it places under the authority of the RTO; and
- The RTO will make FPA Section 205 filings for rates for transmission service that recover from transmission customers the costs of the payments it makes to transmission owners, general RTO costs---administrative and general (A&G) as well as operations and maintenance (O&M)---and the costs of transmission facilities the RTO owns.

This principle addresses Order No. 2000's minimum function #1, which states that an RTO is responsible for administering its own transmission tariff and transmission pricing system.

6. Congestion Management

- The RTO will develop and implement market-compatible mechanisms to manage congestion appropriate to the Florida region.

This principle addresses Order No. 2000's minimum function #2, which states that an RTO is responsible for developing market mechanisms to manage transmission congestion.

7. Parallel Path Flow

- The RTO will develop and implement procedures to address parallel path flow issues within its region and with other regions as necessary.

This principle refers to Order No. 2000's minimum function #3, which states that an RTO is responsible for developing procedures to address parallel path flow issues.



8. Ancillary Services

- The RTO will have adequate arrangements in place to provide FERC-required ancillary services to transmission users seeking these services as a last resort;
- These services may be provided through contractual arrangements, control over generation facilities or through market mechanisms;
- The RTO will have the authority to decide the minimum required amounts of each ancillary service and, if necessary, the locations at which these services will be provided; and
- Market participants will continue to have the option of self-supplying or acquiring ancillary services from third parties.

This principle addresses Order No. 2000's minimum function #4, which states that an RTO is responsible for serving as last-resort ancillary service provider.

9. OASIS, TTC, and ATC

- The RTO will operate a single OASIS for all transmission facilities under its control;
- The RTO will calculate all values for TTC and ATC based on data developed partially by the RTO; and
- The RTO will develop procedures to validate its TTC and ATC values.

This principle addresses Order No. 2000's minimum function #5, which states that an RTO is responsible for serving as the OASIS site administrator.

10. Market Monitoring

- The RTO will propose to FERC a market monitoring plan that identifies what the RTO participants believe are the appropriate monitoring activities for the RTO or an independent monitor to perform.

This principle addresses Order No. 2000's minimum function #6, which states that an RTO is responsible for providing the objective monitoring of markets it operates or administers.

11. Planning and Expansion

- The RTO will be responsible for planning, and for directing or arranging necessary transmission expansions, and:
  - encouraging market-driven operating and investment actions for preventing and relieving congestion;

- accommodating efforts by State regulatory commissions to create multi-state agreements to review and approve new transmission facilities;
  - coordinating with existing regional transmission groups where appropriate; and
  - filing with the FERC a plan that will ensure that it meets this requirement;
- Interconnection standards for generators will be established by the RTO;
  - The RTO may build and own transmission facilities, giving it the ability to execute grid expansion requirements independently of transmission owners. Transmission owners will retain the right to expand their systems on their own initiatives after coordination with the RTO;
  - Close coordination and planning input from each load serving entity will be required regarding local area regional transmission facilities and connections to distribution substation facilities; and
  - The FRCC will provide input to the RTO and oversee that North American Electricity Reliability Organization (NAERO) and other regional criteria are met.

This principle addresses Order No. 2000's minimum function #7, which states that an RTO is responsible for planning necessary transmission expansions, additions, and upgrades.

12. Interregional Coordination

- The RTO will develop mechanisms to coordinate its activities with other RTO regions whether or not an RTO yet exists in these other regions.

This principle addresses Order No. 2000's minimum function #8, which states that an RTO is responsible for ensuring the integration of reliability practices.

13. Open Architecture

- The RTO will be designed to have the ability to evolve over time.

This principle address Order No. 2000's "open architecture" requirement.

14. Membership

- With respect to the goals and requirements of Order 2000, any transmission owner in Peninsular Florida may transfer operational control over its facilities to the RTO;



- The RTO may assume operational control of transmission facilities either by conveyance of operational control from participating transmission owners, by leasing transmission facilities, or by direct ownership of transmission facilities; and
  - Advisory committees may be formed for the purpose of conveying RTO customer and marketplace concerns to the RTO.
    - Membership in advisory committees will be open to the owners and operators of transmission and generation facilities, the users of those facilities, other market participants, and representatives of the FPSC and the FRCC.
15. Service for Wholesale and Retail Transmission Provided Under the RTO
- The Peninsular Florida RTO will establish the tariff rates, terms, and conditions for all wholesale and unbundled retail transmission service.
16. Performance-Based Rates
- PBR and other incentive-based transmission rates may be proposed. Under PBR, revenues and rates for utility service are generally adjusted by reference to objective or fixed standards external to the utility rather than by reference to costs the utility incurs in providing service. As mentioned earlier, PBR may consist of price/revenue caps, price incentives, or performance standards.
17. Costs
- The RTO will promote the creation of cost-effective infrastructure and supporting processes, utilizing existing infrastructure and processes where practicable; and
  - The RTO's start-up costs will be deferred and recovered through user charges.
18. Alternative Dispute Resolution
- With respect to disputes concerning matters subject to its purview, the RTO will establish ADR procedures which first attempt to resolve disputes without resorting to assistance from third parties; and
  - Disputes that cannot be resolved will be referred to an independent arbitrator in accordance with FERC and FPSC rules and regulations.
19. Reliance on Existing Law
- Establishment of the RTO will be accomplished without the need for new State or Federal legislation.

**APPENDIX G:**  
**FLARTO PARTICIPANTS**



Allen Dell  
Automated Power Exchange, Inc.  
Ballard, Spahr, Andrews & Ingersoll, L.L.P.  
Barker, Dunn & Rossi  
Black & Veatch  
Calpine Corporation  
Cameron McKenna  
Carolina Power & Light (CP&L)  
City of Bartow  
City of Lakeland  
City of Tallahassee  
Coastal Corporation  
Cogentrix Energy, Inc.  
Competitive Power Ventures  
Consensus Builders, Inc.  
Constellation Power Development, Inc.  
Constellation Power Source  
Day, Berry & Howard, L.L.P.  
D.B. Anderson Consulting, Inc.  
Dickstein, Shapiro, Morin & Oshinsky (for TECO)  
Dr. G.J. (Jerry) Kordecki  
Duke Energy  
Dynegy  
Elliott M. Loyless, P.E.  
EnerVision, Inc.  
Enron Corporation  
Enron North America  
Federal Energy Regulatory Commission (FERC)  
Florida Conflict Resolution Consortium/FSU  
Florida Crystals  
Florida Gas Transmission Company (FGT)  
Florida Keys Electric Cooperative  
Florida Legislature  
Florida Municipal Electric Association (FMEA)  
Florida Municipal Power Agency (FMPA)  
Florida Power & Light (FPL)  
Florida Power Corporation (FPC)  
Florida Public Service Commission (FPSC) Staff  
Florida Reliability Coordinating Council (FRCC)  
Fred Saffer & Associates (for FMPA)  
Gainesville Regional Utilities Board  
Georgia Power Company  
Georgia Transmission Corporation  
Glades Electric Cooperative

Hopkins & Sutter  
International Brotherhood of Electric Workers (IBEW)  
IPS  
Jacksonville Electric Authority (JEA)  
JPR Consulting  
KEMA Consulting  
Key West Electric System  
Kissimmee Utilities Authority (KUA)  
Lampl-Herbert Consultants  
Landers & Parsons  
LeBoeuf, Lamb, Greene & MacRae, L.L.P.  
Lee County Electric Cooperative  
McWhirter, Reeves, McGlothlin, et al.  
Miller, Balis & O'Neil (for SEC)  
Moyle & Flanigan (for PG&E)  
Navigant Consulting, Inc.  
New Energy Associates  
Ocala Electric Utility  
Office of Public Counsel (OPC)  
Orlando Utilities Commission (OUC)  
Panda Energy  
PECo Energy  
PG&E Generating Company  
PG&E National Energy Group  
Powersmiths International  
Reedy Creek Energy Services  
Reliant Energy  
R.J. Rudden Associates  
R.W. Beck (for FMPA)  
Seminole Electric Cooperative (SEC)  
Sempra Energy  
Shamrock Energy  
Skadden, Arps, Slade, Meagher & Flom  
Southern Company Services, Inc.  
Spiegel & McDiarmid (for FMPA)  
Stone & Webster (for TECO)  
Sutherland, Asbill & Brennan, L.L.P.  
Tampa Electric Company (TECO)  
TGAL  
Van Ness Feldman, P.C.



**APPENDIX H:**  
**FPSC QUESTIONS TO UTILITIES ABOUT THE FLARTO**





## ***FLARTO***

### ***General***

1. Please provide a detailed description of the FLARTO. Please provide complete documentation describing the areas of: (1) governance, (2) planning and operations, (3) pricing, and (4) market structure.
2. Please provide a copy of the Bylaws and Articles of Incorporation for the FLARTO.
3. Please describe in detail the corporate structure of the FLARTO.
4. Please describe the method for selecting the initial Board of Directors and CEO.
5. Please describe the method for selecting the permanent Board of Directors and CEO.
6. Please identify each transmission owning member of the FLARTO and the nature and extent of their participation in the FLARTO. For each participant, please identify whether the ownership of their transmission facilities will be transferred to the FLARTO, whether their transmission facilities will be leased to the FLARTO, or whether only ISO services will be purchased from the FLARTO.
7. Please identify each transmission owning utility in Peninsular Florida which has elected not to become a member of the FLARTO. Please explain the reasons stated for not joining the FLARTO.
8. Several transmission owning utilities have indicated that they may not join the FLARTO. Please identify and assess the consequences of the following scenarios:
  - A. Utilities which own Florida/Southern transfer capacity, such as JEA and Tallahassee, deciding not to join the FLARTO.
  - B. Utilities such with significant intrastate transmission facilities (such as TECO, Orlando, Seminole, and FMPA) deciding not to join the FLARTO.
9. What features are or will be built into the proposed Transco that will ensure that market power will not be exercised in scheduling and congestion management aspects of the Transco?
10. What characteristics will be monitored to identify potential market abuse in scheduling and congestion management?
11. What is the process for disputing decisions on market abuse and congestion management?

12. Who serves as final arbiter when claims of market abuse in scheduling and congestion management arise?
13. The proposal indicates that the Transco will be provider of last resort for ancillary services. In the absence of an active market for these services, how will the Transco ensure the provision of these services?
14. What safeguards will be present to ensure that no financial advantage is gained through the Transco's provider of last resort status for ancillary services?
15. What time frame do you foresee in implementing long- and short-term markets for ancillary services once the Transco becomes operational?
16. What steps will be necessary to develop the markets for ancillary services?
17. Is the creation and development of a real-time spot market for ancillary services a goal of the Transco proposal?
18. The 6/19/00 Market Design Strawman states that markets should not be implemented absent a finding of workable competition or substantial evidence that existence of the market will quickly engender workable competition.

What body will make the determination of "workable competition" and evaluate "substantial evidence"? What factors will be considered in these evaluations?

19. Retail access is defined as being initiated by legislative change.  
  
In light of the recent Florida Supreme Court ruling in the Duke Power case, do you believe legislation will be necessary to initiate wholesale competition?
20. What incentives will be included in the proposed Transco to encourage efficient and timely expansion and upgrading of the transmission facilities?
21. What procedures and incentives are being considered to ensure that the least cost solution is selected when determining whether additional generation or transmission expansion is necessary?
22. Are price controls, price caps, and/or cost-based rates being considered as consumer protection measures prior to the development of robust wholesale markets?
23. Please provide, for the RTO operations, an estimated or projected average rate base, average capital structure, and net operating income in an Earnings Surveillance Report format.



### Policy & Legal

1. What, if any, State legislation is needed to facilitate the formation and operation of the FLARTO?
2. Should legislation be enacted to permit merchant plants like Duke Power's proposal to be sited under the Florida Power Plant Siting Act facilitate development of wholesale competition?
3. What, if any, Federal tax legislation is needed to facilitate the formation and operation of the FLARTO?
4. What, if any, general Federal legislation is needed to facilitate the formation and operation of the FLARTO?
5. Should the formation of the FLARTO be conditioned upon changes being made to Florida law, energy policy, environmental policy, and regulatory policy to allow merchant power plants and other non-utility power plants to be certified, cited, and built in the State of Florida?
6. Should the formation of the FLARTO be conditioned upon the establishment of transparent markets for short and long-term energy and capacity and ancillary services?
7. Should the prices charged for ancillary services be capped until such time as a robust competitive wholesale market for generation develops in Florida?
8. What should be the ongoing interface between the FPSC and the FLARTO?
9. Is the FLARTO an electric utility subject to the FPSC's Grid Bill jurisdiction under Chapter 366, Florida Statutes?
10. Can the FPSC require the FLARTO to build specific transmission lines in specific locations to meet reliability concerns subject to a Grid Bill determination of a bulk power system deficiency?
11. Can the FPSC require the FLARTO to build specific transmission lines in specific locations to alleviate congestion?
12. Can the FPSC require the construction and/or implementation of other cost-effective alternatives (including generation siting, system redispatch, transmission line control and/or demand side management) to avoid or defer the construction of additional transmission lines by the FLARTO?

13. Can the FPSC require the FLARTO to allocate and collect costs from other Peninsular Florida utilities on the basis of benefits received?
14. Can the FPSC require the FLARTO to file reports pertaining to the governance, planning and operations, pricing, and cost of doing business of the FLARTO?
15. Can the FPSC review and adjust the rate structure associated with FLARTO services provided to the FLARTO users?
16. Will the FPSC or FERC have jurisdiction over the rates, terms, and conditions of retail transmission services provided by the FLARTO?
17. Will the FPSC or FERC have jurisdiction over determining the need for additional transmission facilities required to serve wholesale and retail loads?
18. Is the FLARTO eligible as an applicant under the Florida Transmission Line Siting Act?
19. Under current Florida law, will the FLARTO have the right of eminent domain over private property, municipal rights of way, and rural electric cooperative rights of way?
20. Should the FPSC establish a dispute resolution process at the State level to address interconnection complaints?
21. How will the FLARTO queue interconnection and integration service requests?
22. What methodologies will be used to conduct interconnection and integration studies?
23. Should the FPSC require, as an interim measure, that all requests for interconnection and integration service in Peninsular Florida be reported to the Commission and that Commission staff be assigned to ensure that transmission providing utilities expeditiously facilitate such interconnection and integration requests? Should this activity continue after the formation of the FLARTO?
24. With the demise of the Florida Energy Broker, should the FPSC establish market monitoring guidelines and procedures to facilitate the development of an open and transparent market for wholesale capacity and energy sales in Florida?
25. What will be the opportunity for the FPSC to review the FLARTO proposal prior to its filing with the FERC?
26. What will be the opportunity for the FPSC to review the FLARTO proposal after its filing with the FERC?



27. Absent sufficient time or opportunity to review the retail rate affects of the FLARTO prior to a filing with the FERC, should the FPSC open ratemaking dockets for each of the investor-owned utilities in Peninsular Florida to address current retail overearnings, if any, and reserve jurisdiction over any refunds that may be appropriate as a result of utilities divesting their transmission assets?
28. Will costs for transmission expansion by the FLARTO be made to minimize overall transmission costs, overall distribution costs, overall generation costs, or overall generation, transmission, and distribution costs? How will minimization of all costs be considered when reviewing transmission expansions or changes made by the FLARTO?
29. What is the role of the FRCC with regard to the FLARTO? With regard to the remaining generation/distribution companies? With regard to non-utility generators?
30. How will any penalties or requirements imposed on FRCC or the Transco by NERC be recovered?

#### Benefits and Costs

1. Specifically identify and quantify why the FLARTO is necessary and in the public interest in Florida. Would something simpler, such as enhanced coordination for transmission planning, zonal transmission rates, and an ISO-type security coordinator, be sufficient and more cost-effective?
2. What are the net benefits to Peninsular Florida of forming the FLARTO? Specifically identify each benefit and cost and provide a twenty-year estimate of net savings (annually and cumulative present value).
3. What benefits will be realized from the joint planning of transmission facilities owned or under the control of the FLARTO? Specifically address the areas of: interconnections; certification, citing, and construction of new facilities; and generation and transmission maintenance.
4. What additional costs will be incurred as a result of joint planning such as additional metering, studies, modeling required to adequately monitor the statewide transmission system?
5. How much is currently paid for Security Coordinator and Operations Coordinator activities (including emergency operations) on an annual basis? Specify these costs by entity if services are provided by different entities.
6. Will the FLARTO assume these security and operations coordination function for all utilities in Peninsular Florida? Is it possible for an individual utility to opt out of taking these

- services from the FLARTO? What are the total costs of providing these services by the FLARTO? How will these costs be allocated among the utilities using security and operations coordination services?
7. What benefits will be realized from the joint operation of transmission facilities owned or under the control of the FLARTO? Specifically address the areas of: control area operations, security coordination, transmission reservation and scheduling, congestion management, and generation and transmission maintenance scheduling.
  8. Will litigation costs be reduced by forming the FLARTO (i.e., interconnection, transmission rights, pricing, etc.)?
  9. What potential new areas of litigation arise as a result of forming the FLARTO?
  10. What start up costs will be required to form the FLARTO?
    - A. How will start up costs be acquired?
    - B. How will start up costs be paid for?
    - C. How will start up costs affect the rates for services provided by the FLARTO?
  11. What are the total costs associated with the selection of the initial Board of Directors and CEO?
  12. What are the total costs associated with the Initial Public Offering for the sale of public voting stock in the FLARTO?
  13. What are the total estimated proceeds from the sale of public voting stock in the IPO for the FLARTO? What assurances are there that the IPO will raise the amount of capital needed to form the FLARTO?
  14. Where will the FLARTO administration be located? Will this require additional building costs, rental costs, or leasing costs? Will any existing facilities be used to mitigate start up costs?
  15. Will start up costs include any of the current stakeholder working group expenses? If so, how will these be recovered?
  16. What will the annual operating budget for the FLARTO be? Please identify each category of expense and provide a separate cost estimate for each (twenty-year estimate).
  17. What is the total amount of salaries (including retirement, medical, and other benefits; stock options; bonuses, etc.) to be paid to the Directors and CEO of the FLARTO?



18. Please describe the staffing requirements of the FLARTO.
19. What is the total amount of salaries (including retirement, medical, and other benefits; stock options; bonuses; etc.) for staffing?
20. How do the costs of functions performed by the FLARTO compare to the same functions currently performed by the individual transmission owners? What savings, if any, are estimated (annually and twenty-year cumulative present value)?
21. The FERC has indicated it might approve innovative rate designs as an incentive for transmission owners to join an RTO. What, if any, incentive ratemaking does the FLARTO expect to request from the FERC? What effect will this have on transmission usage in Peninsular Florida? What effect will this have on the rates charged by the FLARTO for transmission services?

### Cost Shifting

1. What will the rate impact on each Peninsular Florida utility (IOU, muni, and coop) be due to the elimination of pancaked transmission rates? Please show the annual impact for each utility over twenty years. Please show the cumulative present value impact for each utility for a twenty-year period.
  - A. For each Peninsular Florida utility, please identify the annual revenue requirements paid for transmission services with and without a single statewide rate.
  - B. Please identify any anticipated increase in transmission usage associated with using a single statewide rate.
  - C. For those utilities which currently own Florida/Southern Company transmission capacity, please identify the annual revenues currently derived from wheeling capacity and energy over the Florida/Southern Company interface. Please identify the annual revenues that would be collected under a single statewide transmission rate.

### ***FPL, FPC, and TECO***

1. Please describe in detail your planned participation in the FLARTO.
2. Will the ownership of transmission facilities be transferred to the FLARTO, will transmission facilities be leased to the FLARTO, or will only ISO services be purchased from the FLARTO?

3. If transmission facilities and assets will be transferred to the FLARTO:
  - A. Specifically, what facilities are being transferred and how were they determined (list by line segment, switching station, and substation -- show all physical and cost allocations between transmission and distribution)?
  - B. What mechanism will be used to transfer the assets?
  - C. What is the cost basis for the assets being transferred?
  - D. Will any debt associated with the assets also be transferred?
  - E. What is the current replacement value of the assets being transferred?
  - F. What effect will the transfer of assets have on the overall earnings of the company?
4. If transmission facilities and assets will not be transferred, or only partially transferred to the FLARTO, will they be leased to the FLARTO? If so, how will lease payments be calculated? What effect will lease payments have on the earnings of the company?
5. If only ISO-type services will be purchased from the FLARTO, what services will be purchased and what will be the cost of these services (please list separately)?
6. What effect will participation in the FLARTO have on the current practices and costs of transmission and distribution planning and operations within the company?
  - A. What transmission and distribution planning and operations functions will be eliminated, reduced, or changed?
  - B. What effect will these changes have on reducing the current and projected budgets for transmission and distribution planning and operations (twenty-year estimate)?
  - C. What effect will these changes have on earnings?
  - D. What effect will these changes have on retail rates?
7. What are the current annual revenue requirements associated with transmission services currently provided to; (1) wholesale full and partial requirements customers, (2) wholesale firm and non-firm interchange customers, and (3) retail customers?
8. What are the estimated annual revenue requirements to be paid to or received from the FLARTO for transmission service for; (1) wholesale full and partial requirements customers, (2) wholesale firm and non-firm interchange customers, and retail customers? Would this



answer change if a transitional rate is adopted by the FLARTO rather than immediately going to a statewide postage stamp rate?

9. How will payments to the FLARTO be recovered?
10. What, if any, regulatory adjustments need to be made to avoid the double recovery of transmission costs which are currently embedded in base rates or recovered through the capacity cost recovery clause?
11. What tracking and true-up mechanisms are currently in place or should be put in place, to ensure that any reductions in the cost of transmission to serve retail customers is passed back to those customers? How should increased transmission costs to retail customers be treated?
12. What are the tax consequences associated with transferring the ownership of transmission assets to the FLARTO?
  - A. What is the total original cost of transmission facilities being transferred to the FLARTO?
  - B. What is the cumulative depreciation taken for tax purposes on the transmission facilities being transferred to the FLARTO?
  - C. What is the cumulative depreciation taken for regulatory purposes on the transmission facilities being transferred to the FLARTO?
  - D. What is the difference in cumulative depreciation allowed for retail ratemaking by the FPSC compared to what the FERC allows for wholesale ratemaking?
  - E. What would be the tax impact of selling transmission facilities directly to the FLARTO?
  - F. What alternatives have been considered to mitigate this tax impact?
  - G. Will a tax ruling from the IRS be required? If so, when will such a ruling be requested? When could a final decision from IRS be expected?
13. On what cost basis should the transmission assets used to provide retail service and being transferred to the FLARTO be valued: net book cost, replacement cost, or some other cost basis?
  - A. What would be the tax affect of valuing the transferred transmission assets at some other basis than net book cost?

- B. If the assets are transferred at a premium over net book, should the premium be reflected on the retail books?
  - C. If the assets are transferred at less than net book, should the shortfall be reflected on the retail books?
  - D. Should any premium or shortfall have an immediate impact on retail rates or be absorbed by the company in earnings reported for surveillance?
  - E. What would the cumulative net present value savings to retail ratepayers be (net book transfer and lower FLARTO rates vs. replacement cost transfer and higher FLARTO rates)?
14. Will divestiture of transmission assets to the FLARTO result in more volatility in earnings for the remaining generation/distribution company, thereby justifying a higher return on equity based on increased risk?
  15. Should more fixed costs be included in a customer charge if the divestiture of transmission assets increases earnings volatility?
  16. Will the costs and revenues derived from non-electric utility activities associated with joint use of the divested transmission facilities (such as telephone and cable pole attachments, dark fiber communications leasing, etc.) be transferred to the FLARTO along with the transmission facilities?
  17. How should retail ratepayers be compensated for the loss of revenues resulting from such transfers? Should lost revenues be calculated on a present value basis over the life of the activity? If so, how should future market value and growth be calculated?
  18. If transmission assets are transferred to the FLARTO, should the FLARTO be held responsible for contributions to the remaining generation/distribution company for such items as the nuclear decommissioning fund? Pay down of regulatory assets? Other?
  19. For FPC, what is the status of FERC's review of the CP&L Merger? How does the commitment to file an RTO within 90 days of consummation of the merger relate to participation in the FLARTO?
  20. Should any tax benefits or detriments that arise from the formation of an RTO be passed on to the ratepayers of Florida? If so, by what means?
  21. Will any State and Federal deferred income taxes related to transmission assets continue to benefit Florida ratepayers? If so, how will the benefit be realized?



22. Will any excess deferred Federal income taxes related to transmission assets have the same effect?
23. Will any unamortized investment tax credits related to transmission assets continue to benefit Florida ratepayers? If so, how will the benefit be realized?
24. How will the tax effects of the on-going operations of the RTO affect Florida ratepayers?
25. Please provide a detailed plan of action of FPL's transfer of assets to the RTO. In your explanation, please explicitly address the following issues:
  - A. What type of legal entity (e.g., C-Corp, REIT, etc.) will the RTO be established as?
  - B. What will be FPL's stake in the RTO?
26. What is the estimated State income tax effect on each individual stakeholder resulting from the formation of an RTO?
27. What is the estimated annual State income tax effect on each individual stakeholder resulting from the formation of an RTO?
28. What is the estimated Federal income tax effect on each individual stakeholder resulting from the formation of an RTO?
29. What is the estimated annual Federal income tax effect on each individual stakeholder resulting from the on-going operations of an RTO?
30. An identified issue is the effect on pensions if employees are transferred to the RTO. If employees from different stakeholders are transferred to the RTO, how will that affect the different pension plans of the transferred employees?
31. What effect will the formation of an RTO have on the tax exempt status of the debt of the municipalities who participate? If there is an effect, estimate the dollar amount.
32. What is the estimated annual effect on the regulatory assessment fee paid to the FPSC as a result of the formation of an RTO?
33. What is the estimated annual effect on the gross receipts tax collections due to the formation of an RTO?
34. What will be the effect, if any, on State sales and use tax revenues from the formation of an RTO?
35. What will be the effect, if any, on State income tax revenues from the formation of an RTO?

36. What will be the effect, if any, on municipal tax revenues from the formation of an RTO?
37. What will be the effect, if any, on county tax revenues from the formation of an RTO?
38. If the deferred Federal and State income taxes transfer to the RTO, how will they be treated by the RTO?
39. If the excess deferred taxes transfer to the RTO, how will they be treated by the RTO?
40. If the unamortized investment tax credits transfer to the RTO, how will they be treated by the RTO?
41. Has FPL developed any tax information/analyses to date regarding the formation of the RTO? If so, please provide FPSC a copy.



**APPENDIX I:**  
**TRANSMISSION PRICING AND RELATED ISSUES**

Generally speaking, economic theory dictates that transmission services should be priced efficiently by using a two-part tariff, where a flat fee is charged to cover the capital investment of a transmission system and a marginal cost price covers the variable cost for use of the transmission service. In the terminology used by the current transmission debate, the flat fee is called an access charge and the marginal cost price is called a locational marginal cost price (LMP).

### ***Access Charges***

One of the central goals of the FERC's RTO policy is to eliminate pancaked rates and eventually establish a uniform access charge. Under traditional regulation, utilities have used access charges to recover the capital costs of their transmission systems. However, when power is wheeled across multiple utilities' boundaries, a transmission customer is often responsible for paying an access charge from each of the utilities. The FERC believes that multiple access charges have created rate pancaking. Hence, in its RTO policies, the FERC has stated that the elimination of pancaked rates and the establishment of a uniform rate within an RTO would increase the efficiency of trade in that region.<sup>51</sup>

However, an immediate move to a uniform access charge across the entire RTO could cause disruptive cost-shifting among participant utilities. In regulated industries, the cost-shifting issue usually reflects the concern that occurs when utilities shift costs between its regulated and unregulated businesses (or between utilities and their affiliates), in order to either increase the revenue requirement or to discourage competition. However, the cost-shifting issue associated with an RTO is due to the required single, uniform access rate within the region. Depending on whether utility transmission owners are low-cost or high-cost transmission service providers compared to this uniform rate, one would notice either a transmission rate increase or decrease. A single access charge would indicate that the customers of low-cost transmission providers would notice a rate increase, and high-cost transmission providers would be concerned about not meeting their revenue requirements. In order to handle this cost-shifting problem, the FERC has allowed a transitional period wherein utilities will provide access to the regional transmission system at a non-pancaked rate, which may vary depending upon customer location. This flexible interim approach is referred to as a "license plate" rate.

### ***Locational Marginal Cost Pricing***

The LMP of transmission service can also be called congestion pricing. This pricing method is based upon the marginal cost (or opportunity cost) incurred by the use of transmission services and provides transmission customers with efficient price signals regarding the consequences of their transmission use decisions. Such efficient pricing will ensure economic dispatch where those generators that serve systems' loads in the presence of transmission constraints are at least-cost, as

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<sup>51</sup>FERC Order No. 2000, pp. 513-525.



well as where the limited transmission capacity is used by the market participants that value such use most highly. This pricing method can be used as a market-based approach to assist congestion management.<sup>52</sup>

Under LMP, the corresponding transmission price between the location where the power is supplied from and the location where the power is used would be determined as the difference between the energy prices at the two locations.<sup>53</sup> The FERC believes that such a price would encourage the efficient use of the transmission system and facilitate the development of competitive electricity markets. Currently, this pricing approach has been adopted by the New York and PJM ISOs. These ISOs have noted that, under LMP, transmission customers are assessed congestion charges consistent with their actual use of the system, as well as the actual redispatch that their wheeling transactions cause. This approach also provides an economic choice to non-firm transmission customers to self-curtail their use of the transmission system or pay a congestion charge determined by the market. If congestion charges are based on the true redispatch cost, transmission services will be used in a rational and efficient manner. This would occur because the market would determine the clearing price for transmission congestion and, consequently, which customers will ultimately use the transmission system.

Despite the apparent virtues of LMP, one of its weaknesses is that its calculation can be more complicated than other methods. This is true particularly when an integrated transmission system has hundreds or even thousands of power source and destination nodes, and a spot price needs to be found for each of these nodes in order to determine the LMP price for each wheeling transaction. Therefore, a full application of an LMP approach will be very costly and difficult to implement. As an alternative, it may be reasonable to pursue zonal transmission pricing.<sup>54</sup> The FERC allows this type of flexibility in the implementation of its RTO pricing policies.

### ***Strawman Pricing of the Florida Transco Proposal***

The current Florida Transco proposal suggests a single, statewide, average pricing methodology (postage stamp approach) in order to set up a non-pancaked, uniform access charge for the Transco system. This approach has also opened congestion pricing issues for discussion. At the present time, a complete pricing policy for this proposal is not yet available for evaluation.

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<sup>52</sup>Other items such as line losses and some other variable costs associated with ancillary services are also included in the locational marginal cost price of transmission usage.

<sup>53</sup>Such LMP is sometimes called *Nodal Pricing*, since the transmission price for a wheeling transaction is calculated between its particular power source point (source node) and destination point (sink node).

<sup>54</sup>In zonal pricing, multiple zones are aggregated into a zone and only one transmission price is calculated for each zone. In comparison, nodal pricing provides accuracy, while zonal pricing has the advantage of simplicity and implementability.