

UNITED STATES OF AMERICA
BEFORE THE
OFFICE OF ELECTRICITY DELIVERY AND ENERGY RELIABILITY
DEPARTMENT OF ENERGY

**COMMENTS OF
FLORIDA MUNICIPAL POWER AGENCY
ON DRAFT NATIONAL ELECTRIC TRANSMISSION CONGESTION STUDY**

Pursuant to the notice issued August 19, 2014, Florida Municipal Power Agency (“FMPA”) hereby submits its comments on the Department of Energy’s draft National Electric Transmission Congestion Study (the “Study”).

I. INTERESTS OF FMPA

FMPA is a joint action municipal power supply agency that is owned by 31 municipal electric systems in Florida. It was created in 1978 under Florida law to finance, construct, own, and operate generation, transmission and other projects for, and supply power, transmission and other project services to, its municipal electric system members. In order to serve power to its members, FMPA purchases transmission services primarily from the two largest investor-owned utilities in Florida – Florida Power & Light (“FPL”) and Duke Energy Florida (“DEF”). Most of FMPA’s member cities are adjacent to or embedded within the FPL or DEF transmission footprint.

Thirteen of FMPA’s member cities purchase all of their capacity and energy needs from FMPA’s All-Requirements Project. These are the Cities of Bushnell, Clewiston, Fort Meade, Green Cove Springs, Leesburg, Newberry, and Starke, plus the Fort Pierce Utilities Authority, Beaches Energy Services (City of Jacksonville Beach), Keys Energy Services (Utility Board of the City of Key West, Florida), Kissimmee Utility Authority, Town of Havana, and Ocala Utility Services (City of Ocala). Measured by the participants’ 2013 non-coincident summer peak

demand, the All-Requirements Project serves approximately 1,250 MW of load. The Project enables FMPA to meet all the wholesale power needs of these 13 participating municipal utilities located throughout peninsular Florida, including seven located on the FPL transmission system and six located on the DEF transmission system. It allows FMPA to jointly plan power supply for its Project participants and to integrate its and its Project participants' resources to better serve Project load economically, reliably, and environmentally. To do so, FMPA requires use of both the FPL and DEF transmission systems. FMPA therefore takes network integration transmission service under both the FPL and DEF OATTs for its network load on the respective transmission systems. To access its generation, FMPA also purchases transmission services from other Florida utilities.

II. COMMENTS

FMPA has concerns with the Study's findings regarding congestion in the Southeast region, which includes Florida. Specifically, FMPA takes issue with the finding that "There are no reports of persistent transmission constraints within the [Southeast] region." (Study at p. 85) FMPA submits that, although DOE may not have identified many public "reports" of transmission constraints throughout the Southeast, the Florida – Georgia interface is significantly constrained. FMPA therefore requests DOE recognize this constraint in its final 2014 Study findings.

A. Indicators of Congestion

FMPA asserts that the indicators of congestion relied upon by DOE have led to an oversight of a significant constraint in Florida. To identify a transmission constraint, the Study relies primarily upon three "empirical indicators of congestion," which include: (1) frequent usage by grid operators of transmission loading relief ("TLR") or equivalent procedures; (2)

frequent or recurrent disparities in wholesale electricity prices across regional markets, as seen in congestion costs reported by RTOs and ISOs, differentials in locational marginal prices (LMPs), differentials in forward prices for generation capacity, and differences in prices at wholesale electricity trading ‘hubs; and (3) large “queues” of proposed generation projects seeking interconnection studies. (Study at p. xiv)

However, these indicators alone would not identify the constraint that exists across the Florida-Georgia interface. This is because:

- (1) Florida, in practice, does not utilize TLRs, but rather has adopted its own practices and procedures for relieving congestion through other means. In fact, specific to the Florida – Georgia interface, FRCC has developed a procedure entitled “Determination and Management of the Florida/Southern (FL/SCS) Interface,” which establishes the process for relieving interface congestion, including reallocating transmission capacity in response to such congestion. FMPA does not believe the publicly available data relied on by DOE would identify the implementation of this procedure in response to congestion across the Florida – Georgia interface . FMPA believes reliance on TLRs alone is not an appropriate indicator of congestion. As our own experience, which is detailed below, illustrates, transmission service request (“TSR”) denial or TSRs conditioned upon the development of expensive transmission upgrades should also be considered. As should Available Transfer Capability (“ATC”), or lack thereof, across transmission paths. TLRs alone represent only previously confirmed TSRs that have subsequently been curtailed;

- (2) Florida and Georgia are not part of an RTO or ISO, and therefore do not have RTO or ISO congestion cost reporting data. Florida continues to operate as a traditional market in relation to the trading of wholesale electricity. As such, transactions are primarily, if not exclusively, of a bi-lateral nature where there is no established forum for price discovery or a market based settled price. Pricing for energy transactions are individually negotiated by the parties and driven by the specific needs/circumstance of each party. Differentiating needs driven by energy requirements versus transmission congestion would be very difficult if not impossible; and
- (3) As discussed in greater detail below, there are minimal generator interconnection requests that would utilize transmission across the Florida-Georgia border because it is well known by Florida utilities that such transmission service would require cost prohibitive transmission investment. Further, state regulations restrict independent power producers from constructing generation capacity unless a significant percentage of the planned capacity is contracted to serve a retail load of one of the incumbent utilities. As a result, interconnection studies for generation are generally only submitted by the respective incumbent utility when it needs additional generation capacity.

Past National Electric Transmission Congestion Studies have correctly identified the existing constraint across the Florida – Georgia interface. The 2006 Study states, “DOE’s analysis of the Eastern Interconnection showed a significant constraint at the border between Georgia and Florida, and other constraints within Florida.” (2006 Study at p. 26) The 2009

Study cites 2006’s identification of congestion across the Florida – Georgia interface, stating, “The 2006 study’s simulation analysis identified congestion that limited imports at the Georgia to Florida interface.” The 2009 Study points to a lack of publicly available data to “illuminate current conditions other than the fact that the available capacity is fully subscribed.” (2009 Study at p. 63) However, a lack of publicly available data does not mean the constraint has been relieved.

B. FMPA Experience with Florida – Georgia Interface Congestion

The draft 2014 Study states, “Congestion can only arise when there is a desire to increase throughput across a transmission path, but such higher utilization is thwarted by one or more constraints.” (Study at p. 11) FMPA wholeheartedly agrees, as its own attempts to import power across the Florida – Georgia interface have been thwarted in recent years.¹

The transmission interface between Georgia and Florida, i.e., the Southeastern Subregion of SERC and the FRCC Region (the SE-SERC/FRCC interface), is a multiple owner transmission interface that is allocated among the owners of this interface, FPL, DEF, Jacksonville Electric Authority (“JEA”), and the City of Tallahassee, through a multi-party agreement. The Florida-Southern Interface Allocation Agreement dated May 14, 1990, as amended March 10, 2010, among FPL, FPC, JEA, and Tallahassee, allocates the transfer capability across the Florida portion of the SE-SERC/FRCC interface.² In 2012, the total transfer capabilities (TTC) of this interface for the summer season was 3700 MW for transfers

¹ FMPA’s experience with the Florida – Georgia interface congestion that is detailed in this section is publicly available in an affidavit submitted to the Federal Energy Regulatory Commission in FERC’s Order 1000 proceedings. See Motion to Intervene and Protest of Florida Municipal Power Agency and Seminole Electric Cooperative, Inc. (Appendix A, Affidavit of Francis P. Gaffney), Docket Nos. ER13-80-000 , ER13-86-000, ER13-104-000 (Nov. 26, 2012) eLibrary No. 20121126-5237.

² Rate Schedule No. 104, Florida Power & Light Co., Docket No. ER10-886 (March 15, 2010), eLibrary No. 20100315-0149.

from the North to the South, and 900 MW for transfers from the South to the North. (For comparative purposes, note that the FRCC firm peak demand for 2012 was close to 44,000 MW.)

To gain access to the ties, third parties must seek access to each utility's share of the ties through that utility's individual open access transmission tariff ("OATT") and associated Open Access Same-Time Information System ("OASIS") queues. For transfers from North to South, tie capacity allocated to FPL, DEF, and JEA is all fully subscribed on a long-term firm basis.³ Tallahassee is restricted under the allocation agreement from using its share to wheel power through its system to serve other parts of Florida.

In 2011, FMPA was approached to participate in two power supply projects north of the Florida to Georgia interface. After discussions with the transmission service providers involved, FMPA soon discovered significant barriers in achieving transmission service across the SE-SERC/FRCC interface to either DEF or FPL.

FMPA reviewed the then-current queues for service on the OASISs of DEF and FPL to determine the availability of relevant System Impact Studies (SIS) and Facilities Studies (FS) that could provide insights into the current transmission system limitations into Florida and potential costs associated with the opportunities. FMPA found that two customers with requests for service across the SE-SERC/FRCC interface occupied queue positions one through seven on FPL's OASIS, and these requests were already in study mode. FMPA decided to wait for the results of these studies before applying for service on FPL's system. FMPA found no customers in the queue for service across the SE-SERC/FRCC interface on DEF's OASIS, and therefore decided to apply for service at two levels of possible service across the SE-SERC/FRCC interface on DEF's OASIS – one request for 90 MWs and one request for 220 MWs. Following

³ Use of JEA's share of the interface capacity, even if available, would require an additional wheel across JEA's system and the availability of ATC from JEA to FPL or other points south and west.

the timeline in DEF's OASIS, FMPA applied for service and entered into both SIS and FS Agreements with DEF.

FMPA's findings from the posted studies completed for the two customers requesting service from FPL in queue positions one through seven, and the findings from the SIS and FS prepared by DEF for FMPA are illuminating as to the interface situation during that timeframe, and can be summarized as follows:

- FPL's system could accommodate an incremental transfer of up to 100 MW of energy across the SE-SERC/FRCC interface starting in 2013 and ending in 2025 with a \$7 million improvement to an FPL 500 kV substation via new capacitor banks. The customer requesting this profiled transmission service occupied queue positions 1 through 3. (Note that this improvement was built, and the transmission service was granted; however, the 100 MWs are now fully subscribed and unavailable to others.)
- The next FPL-queued customer's request (queue position 4) for approximately 26 MW of service across the SE-SERC/FRCC interface, for six years starting in 2014, triggered system impacts that would require investment of approximately \$113 million for, among other things, new static VAR compensators at an FPL 500 kV substation. This same customer held queued positions 5 through 7 for an additional 126 MW of transfer for the same six years, which, according to additional System Impact Studies by FPL, could be accommodated on the condition that the \$7 million and \$113 million investments from prior queued customers' requests were made.

- FMPA's request for service across the SE-SERC/FRCC interface on DEF's transmission system at the 90 MW level could be accommodated with the installation of approximately 55 miles of new 230 kV transmission lines between DEF and a Southern Company substation, and various capacitor bank and transformer upgrades. DEF estimated that this work would take up to 5 years to complete. Part of the transmission line upgrades would most likely trigger review by the Florida Public Service Commission under the Florida's Transmission Line Siting Act (TLSA), which DEF estimated would add an additional 2 years to the construction schedule. DEF estimated the costs of network upgrades at \$195 million. In addition, impacts on two other transmission systems would need to be mitigated.
- FMPA's request for service across the SE-SERC/FRCC interface on DEF's transmission system at the 220 MW level could be accommodated with the installation of approximately 140 miles of new 500 kV transmission lines which would need to be installed between DEF and a Southern Company substation. DEF estimated that this work, which also triggers TLSA review by the FPSC, would take up to ten years to complete, and would cost approximately \$1.1 billion. In addition, impacts on the transmission systems of two other parties would need to be mitigated.

The results of these studies are obvious: transmission constraints across the Florida – Georgia border has thwarted numerous attempts to consummate a power supply project north of the Georgia to Florida border since the necessary transmission upgrades are extremely cost prohibitive. In fact, the cost impact to FMPA from the currently constrained SE-SERC/FRCC

interface can be estimated as a transmission-related increase in the hypothetical installed costs associated with each resource opportunity of approximately \$2000/kW to \$5000/kW, which was the straw that broke the camel's back for these potential power supply opportunities. For reference, the installed cost of a combined cycle natural gas plant in Florida typically ranges from \$1000/kW to \$1500/kW.

C. Lack of Firm and Non-Firm ATC Across Florida – Georgia Interface

Furthermore, FMPA reviewed OASIS in mid-2011, which showed that there was extremely limited available transmission capacity – firm and non-firm – across the Florida – Georgia interface during the Study period. The following is a summary of firm and non-firm ATC across the Florida – Georgia interface for 2011 – 2012 from our review in mid-2011:

Firm ATC

	ATC Into Florida (Import - MW)			ATC Out of Florida (Export - MW)		
	PEF	FPL	JEA	PEF	FPL	JEA
July-11	0	0	0	91	95	661
August-11	0	0	0	91	95	661
September-11	0	0	0	91	95	661
October-11	0	0	0	91	95	661
November-11	0	0	0	91	95	661
December-11	0	0	0	91	95	661
January-12	0	0	35	0	95	661
February-12	0	0	35	0	95	661
March-12	0	0	0	0	95	661
April-12	0	0	0			
May-12	0	0	0			
June-12	20	0	0			

Non Firm ATC

	ATC Into Florida (Import - MW)			ATC Out of Florida (Export - MW)		
	PEF	FPL	JEA	PEF	FPL	JEA
July-11	11	103	151	91	95	661
August-11	16	145	251	91	95	661
September-11	20	179	301	91	95	661
October-11	0	0	0	91	95	661
November-11	0	0	0	91	95	661
December-11	0	0	0	91	95	661
January-12	0	6	586	0	95	661
February-12	0	176	586	0	95	661
March-12	0	136	179	0	95	661
April-12	0	66	354			
May-12	0	0	551			
June-12	74	0	240			

D. Conclusion

Based on the foregoing, FMPA respectfully request DOE to recognize the known constraint across the Florida – Georgia interface in its findings in the final 2014 National Electric Transmission Congestion Study.

Respectfully submitted,

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