

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Petition for Determination) DOCKET NO. _____
of Need for Citrus County Combined)
Cycle Power Plant) Submitted for filing: May 27, 2014

DUKE ENERGY FLORIDA, INC.'S NOTICE OF FILING

Duke Energy Florida, Inc. ("DEF" or the "Company") hereby gives notice of filing the Direct Testimony of Jeffrey Patton with Exhibits JP-1 through JP-4 in support of DEF's Petition for Determination of Need for the Citrus County Combined Cycle Power Plant.

Respectfully submitted this 27th day of May, 2014.

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BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

**In re: Petition for Determination
of Need for Citrus County Combined
Cycle Power Plant**

DOCKET NO. _____
Submitted for filing:
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**DIRECT TESTIMONY
OF JEFFREY PATTON**

**ON BEHALF OF
DUKE ENERGY FLORIDA, INC.**

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IN RE: PETITION FOR DETERMINATION OF NEED

BY DUKE ENERGY FLORIDA

FPSC DOCKET NO. _____

DIRECT TESTIMONY OF JEFFREY PATTON

1 **I. INTRODUCTION AND QUALIFICATIONS.**

2 **Q. Please state your name, employer, and business address.**

3 A. My name is Jeffrey Patton and I am employed by Duke Energy Progress, Inc., an affiliate
4 company of Duke Energy Florida, Inc. (“DEF or the Company”). My business address is
5 526 South Church Street, Charlotte, North Carolina 28202.

6
7 **Q. Please tell us your position with Duke Energy Progress and describe your duties and
8 responsibilities in that position.**

9 A. I am a Senior Originator in the Fuel Procurement Section of the Fuels & Systems
10 Optimization Department for Duke Energy’s regulated generation fleet. In this role, I am
11 responsible for the procurement of natural gas supply, transportation and storage services
12 for DEF, Duke Energy Progress, Duke Energy Carolinas, Duke Energy Indiana, and
13 Duke Energy Kentucky electrical power generation facilities. As a result, my
14 responsibilities include developing natural gas planning strategies and negotiating long-
15 term agreements with various pipelines and suppliers.

16

17

18

1 **Q. Please summarize your educational background and employment experience.**

2 A. I hold a Bachelor of Science in Mechanical Engineering from Mississippi State
3 University and a Master of Business Administration from Auburn University. Prior to
4 the merger between Progress Energy and Duke Energy, I served as a Senior Business
5 Financial Analyst at Progress Energy from 2005 to mid-2008, responsible for wholesale
6 electric revenue forecasting and budgeting supporting Progress Energy's regulated
7 commercial operations. In mid-2008 I moved to my current role. Prior to my tenure at
8 Progress Energy, I was employed by Consolidated Edison from 2004 to 2005 as a Senior
9 Rate Analyst responsible for developing gas tariff filings and preparing analyses that
10 formed the basis for Consolidated Edison's natural gas rates and services. Before joining
11 Consolidated Edison I was employed by Southern Company from 1998 to 2003 in
12 various roles in Generation Planning and Development, as well as Energy Marketing,
13 supporting the planning, development and wholesale marketing of Southern Company's
14 natural gas-fired generation portfolio.

15
16 **II. PURPOSE AND SUMMARY OF TESTIMONY.**

17 **Q. What is the purpose of your testimony in this proceeding?**

18 A. I am testifying on behalf of DEF in support of its Petition for Determination of Need for
19 the Citrus County Combined Cycle Power Plant. I will describe the gas supply and
20 transportation plan to support the Citrus County Combined Cycle Power Plant. I will
21 also describe and explain the Company's fuel reliability plans to enhance the fuel supply
22 diversity and reliability of the fuel transportation to the plant.

23

1 **Q. Are you sponsoring any sections of Duke Energy Florida’s Need Study?**

2 A. Yes. I am sponsoring the “Fuel Supply and Transportation” Section of the Need Study.

3
4 **Q. Are you sponsoring any exhibits to your testimony?**

5 A. Yes. I am sponsoring the following exhibits to my testimony:

- 6 • Exhibit No. ____ (JP-1), a map of the natural gas supply pipelines serving the State
7 of Florida including the Sabal Trail Transmission LLC (“Sabal Trail”) pipeline
8 project;
- 9 • Exhibit No. ____ (JP-2), a map of the gas pipeline interconnection between Sabal
10 Trail and the Citrus County Combined Cycle Plant and the interconnections
11 between Sabal Trail and the FGT pipeline in Suwannee County and Citrus
12 County, Florida ;
- 13 • Exhibit No. ____ (JP-3), a map of the gas supply access at Transco Station 85
14 provided by Sabal Trail; and
- 15 • Exhibit No. ____ (JP-4), a chart illustrating a forecast of United States dry natural
16 gas production from the 2014 Annual Energy Outlook published by the Energy
17 Information Administration (“EIA”).

18 Each of these exhibits was prepared under my direction and control, and each is true and
19 accurate.

20
21 **Q. Please summarize your testimony.**

22 The Company has contracted for an adequate, and reliable, firm natural gas transportation
23 to the Citrus County Combined Cycle Power Plant that provides access to growing,

1 secure and competitively priced onshore natural gas supply. DEF contracted with Sabal
2 Trail for firm gas transportation capacity for the Plant. Sabal Trail is a new Greenfield
3 interstate natural gas pipeline project. Sabal Trail provides DEF and the State of Florida
4 direct access to upstream pipelines that have access to abundant onshore natural gas
5 supplies, including abundant natural gas shale resources. For this reason, Sabal Trail
6 provides DEF and the State of Florida natural gas supply security, supplier diversity,
7 market liquidity, and flexibility that mitigates the curtailment risk of traditional offshore
8 gas supply during storms. Sabal Trail, therefore, will not only meet the needs of the
9 Citrus County Combined Cycle Plant, it will meet the needs of potential, future additional
10 natural gas-fired generation projects in Florida. DEF will also have interconnections
11 between Sabal Trail and Florida Gas Transmission Company, LLC (“FGT”) and an
12 interconnection with Gulfstream Natural Gas Transmission Company, LLC
13 (“Gulfstream”). These alternative gas transportation options provide DEF additional,
14 back-up gas transportation and gas supply reliability at the Citrus County Combined
15 Cycle Plant.

16
17 **III. CITRUS COUNTY COMBINED CYCLE FUEL SUPPLY.**

18
19 **Q. Please describe the type and amount of fuel DEF expects to use for the Citrus**
20 **County Combined Cycle Plant.**

21 A. The Citrus County Combined Cycle Plant consists of state-of-the-art combined cycle
22 units that will operate on natural gas. At peak operation, the Citrus County Combined
23 Cycle Plant will require approximately 300,000 million British thermal units (“MMBtu”)
24 of natural gas a day. Fuel transportation arrangements to support the natural gas needs of

1 the Citrus County Combined Cycle Plant have been made to ensure a reliable supply of
2 natural gas is available for the Plant.

3
4 **Q. What are the natural gas transportation arrangements for the Citrus County
5 Combined Cycle Plant?**

6 A. DEF has contracted with Sabal Trail for 300,000 MMBtu/day of firm gas transportation
7 capacity beginning on October 1, 2017 on the Sabal Trail pipeline to support the Citrus
8 County Combined Cycle Plant's natural gas needs. Sabal Trail is a new Greenfield
9 interstate natural gas pipeline project that originates in Alabama, extends through
10 Georgia, and ends in Central Florida. The Florida Public Service Commission ("FPSC"
11 or the "Commission") approved Florida Power & Light Company's ("FPL") petition for
12 prudence determination regarding a new state pipeline system, including FPL's selection
13 of Sabal Trail for the Northern Pipeline Project, in Commission Order No.PSC-13-0505-
14 PAA-EI.

15 Sabal Trail is a joint venture between affiliates of Spectra Energy Corporation and
16 NextEra Energy, Inc. The Sabal Trail Project ("Project") will create a new pipeline
17 system with a planned capacity to transport 1,100,000 dekatherms per day ("Dth/d") of
18 natural gas into Central Florida. Sabal Trail will have an initial capacity of 800,000
19 Dth/d with an in-service date beginning May 1, 2017. As part of the Project, Sabal Trail
20 will acquire by lease the mainline capacity to be created by Transcontinental Gas Pipe
21 Line Company, LLC ("Transco"). Transco will expand the existing Transco system from
22 Transco's Station 85 located in Choctaw County, Alabama to a location in Tallapoosa
23 County, Alabama ("Transco Hillabee Project"). Sabal Trail will construct approximately

1 460 miles of greenfield mainline facilities from the interconnection with Transco in
2 Tallapoosa County, Alabama to a point in Osceola County, Florida south of Orlando at
3 the Central Florida Hub. At or near the Central Florida Hub, Sabal Trail will
4 interconnect with Gulfstream Natural Gas System, L.L.C. (“Gulfstream”) and Florida
5 Gas Transmission Company, LLC (“FGT”). A map showing the routes of the Sabal
6 Trail, FGT and Gulfstream natural gas pipelines is included as Exhibit No. ____ (JP-1) to
7 my direct testimony.
8

9 **Q. How will DEF connect the Citrus County Combined Cycle Plant to Sabal Trail?**

10 A. Sabal Trail will construct a gas pipeline lateral (the “Citrus County Line”) and a metering
11 and regulation (“M&R”) station at the plant site in order to connect Sabal Trail to the
12 Citrus County Combined Cycle Plant. The Citrus County Line will be a new 24-inch
13 diameter gas pipeline extending approximately 22 miles from the Sabal Trail mainline in
14 Marion County, Florida across Citrus County, Florida to the M&R station at the Citrus
15 County Combined Cycle Plant.
16

17 **Q. When is Sabal Trail projected to be completed to deliver natural gas to the Citrus**
18 **County Combined Cycle Plant?**

19 A. The contractual target in-service date for Sabal Trail is October 1, 2017 to support the
20 start-up and commissioning of the Citrus County Combined Cycle Power Plant before the
21 planned commencement of operation of the first 820MW power block in May 2018 and
22 the second 820MW power block in December 2018. In addition, Sabal Trail has
23 committed to FPL to an in-service date of May 1, 2017 that is five months prior to DEF’s

1 October 1, 2017 in-service date. Given these commitments, DEF expects the Sabal Trail
2 pipeline to be in commercial service prior to commercial operation of the Citrus County
3 Combined Cycle Plant.
4

5 **Q. Why did DEF contract with Sabal Trail for the gas transportation to the Citrus**
6 **County Combined Cycle Plant?**

7 A. DEF determined that Sabal Trail was the best gas transportation solution for the Citrus
8 County Combined Cycle Plant because Sabal Trail provides new gas infrastructure that
9 enhances reliability, diversifies DEF's gas transportation portfolio, and directly accesses
10 onshore natural gas supply receipt point locations at Transco Station 85 to provide access
11 to abundant, onshore unconventional natural gas resources.

12 DEF's existing natural gas-fired generation plants are served by FGT and/or
13 Gulfstream. Sabal Trail is a large new pipeline that expands into central Florida and has
14 planned interconnection points with FGT and Gulfstream near Orlando, Florida, creating
15 a Central Florida Hub, and with FGT in Suwannee and Citrus Counties. These
16 interconnects will provide DEF operational flexibility opportunities with DEF's existing
17 transportation on FGT and Gulfstream.

18 FGT and Gulfstream currently serve the vast majority of natural gas
19 transportation needs in the State of Florida. DEF's capacity from long term firm
20 transportation agreements that support DEF's existing gas plants is nearly equally divided
21 between Gulfstream and FGT. Sabal Trail allows DEF to diversify its transportation
22 service by utilizing three large, separate pipelines as DEF's gas generation grows with the
23 addition of the Citrus County Combined Cycle Power Plant. Gas transportation service

1 on Sabal Trail increases competition among gas transportation providers, diversifies
2 DEF's gas transportation providers, and reduces DEF's dependence on the existing gas
3 transportation systems. The estimated percentages of DEF's firm transportation service
4 with DEF's arrangement with Sabal Trail are Gulfstream (36%), FGT (34%) and Sabal
5 Trail (30%). This diversification represents a significant improvement to the current mix
6 of transportation providers across DEF's gas-fired generation fleet.

7 In addition, the new greenfield natural gas infrastructure provided by Sabal Trail
8 ensures DEF and other utilities in the State of Florida direct, secure access to an abundant
9 onshore natural gas supply. The Sabal Trail gas infrastructure available to DEF and the
10 State adds gas transportation and supply diversity not only to support the reliable
11 operations of the Citrus County Combined Cycle Plant but also to reliably meet the
12 natural gas needs of potential future natural gas-fired generation in the State.

13 With respect to the firm transportation agreement supporting the Citrus County
14 Combined Cycle Plant, the available onshore receipt point locations at Transco Station 85
15 and near Transco Station 85 provide significant supply access, superior market liquidity,
16 and are in close proximity to other large pipelines, including the Midcontinent Express
17 Pipeline ("MEP") and Gulf South, which have interconnections near Transco Station 85.
18 Gulf South and MEP combine for a receipt capacity of approximately 3.3 Bcf/day from
19 the Mid-continent onshore gas production areas and can deliver natural gas in close
20 proximity to Transco Station 85. These pipelines provide access to the Barnett Shale,
21 Fayetteville Shale, Haynesville Shale, Woodford Shale, and Perryville Hub. Sabal Trail
22 provides direct upstream onshore contractual receipt points at Transco Station 85, Gulf
23 South, MEP and the Transco Zone 4 Pool. Additionally, the Transco mainline capacity

1 within Transco Zone 4 in close proximity to Station 85 is approximately 5.3 Bcf/day.
2 The natural gas supply receipt points provided by Sabal Trail are shown in the map
3 included as Exhibit No. ____ (JP-3) to my direct testimony.

4 These onshore natural gas supply receipt points available to Sabal Trail provide
5 DEF and the State of Florida direct access to upstream pipelines that have access to
6 abundant onshore natural gas supplies. As a result, Sabal Trail provides DEF and the
7 State of Florida natural gas supply security, supplier diversity, market liquidity, and
8 flexibility that mitigates the risk of curtailment of traditional Gulf of Mexico and Mobile
9 Bay offshore gas supply during storms, and meets the needs of the Citrus County
10 Combined Cycle Plant and potential, additional natural gas-fired generation projects in
11 the future.

12
13 **Q. Is natural gas transportation supply available to the Citrus County Combined Cycle**
14 **Plant from other pipelines in the state if it is needed?**

15 A. Yes. Sabal Trail will have bi-directional interconnections between Sabal Trail and FGT
16 in Suwannee County, Florida and Orange County, Florida, and a bi-directional
17 interconnection with Gulfstream in Osceola County, Florida. Additionally, Sabal Trail
18 and DEF plan an additional receipt-only interconnect between Sabal Trail and FGT in
19 Citrus County, Florida. These interconnections are shown in the map included as Exhibit
20 No. ____ (JP-2) to my direct testimony. The interconnections with FGT in Suwannee
21 County, Florida and Citrus County, Florida would be within the primary transportation
22 paths on DEF's current portfolio of firm gas transportation contracts on FGT. In the
23 event of a pipeline disruption or curtailment on Sabal Trail, these interconnects would

1 allow DEF the ability to utilize its FGT contracts or market supply to deliver gas supply
2 into Sabal Trail's mainline in Suwannee County, Florida or into the Citrus County Line
3 in Citrus County, Florida, which is interconnected with the Citrus County Combined
4 Cycle Plant. These alternative gas transportation options provide additional, back-up gas
5 transportation and gas supply reliability at the Citrus County Combined Cycle Plant for
6 the Company and its customers.

7
8 **Q. Does DEF's gas transportation plan support a single, natural gas fuel source for the**
9 **Citrus County Combined Cycle Power Plant?**

10 A. Yes. DEF's gas transportation plan for the Citrus County Combined Cycle Plant
11 enhances the fuel diversity and reliability to the Plant. As I explained above, having
12 transportation service on Sabal Trail provides DEF with new gas infrastructure which
13 enhances reliability, diversifies DEF's gas transportation portfolio, and directly accesses
14 recommended onshore receipt point locations at Transco Station 85. Given the additional
15 gas transportation reliability provided by Sabal Trail as the third main gas pipeline in
16 Florida, the interconnections between Sabal Trail and the other pipelines in the state, and
17 direct access to secure, growing shale gas supply from Transco Station 85, DEF's gas
18 transportation plan supports a single, natural gas fuel source for the Citrus County
19 Combined Cycle Plant. As discussed above, the interconnections between Sabal Trail
20 and FGT provide additional, back-up gas transportation and gas supply reliability in the
21 event of a pipeline disruption or curtailment on Sabal Trail. Furthermore, as Mr.
22 Landseidel explains in his testimony, the Company determined that the risk and extent of
23 gas supply curtailments or interruptions in the Florida Reliability Coordinating Council

1 (“FRCC”) area were very low, and even that minimal risk was mitigated by the additional
2 gas transportation reliability provided by adding Sabal Trail as the third main gas pipeline
3 in Florida. Sabal Trail will increase reliability, diversity, and firm capacity throughout
4 Florida by introducing a new supply source and interconnecting with FGT and
5 Gulfstream. These redundancies further mitigate the risk of gas supply disruptions and
6 curtailments for the Citrus County Combined Cycle Plant.

7
8 **Q. Will DEF be able to obtain sufficient natural gas supplies for the Citrus County**
9 **Combined Cycle Plant at a reasonable cost?**

10 A. Yes. As I explained above and as shown in Exhibit No. ___ (JP-3), Sabal Trail provides
11 direct upstream onshore contractual receipt points at Transco Station 85, Gulf South,
12 MEP, and the Transco Zone 4 Pool. Gulf South and MEP combine for a receipt capacity
13 of approximately 3.3 Bcf/day from the Mid-continent onshore production areas and can
14 deliver natural gas to the proximity of Transco Station 85. These pipelines provide
15 access to gas supplies from the Barnett Shale, Fayetteville Shale, Haynesville Shale, and
16 Woodford Shale. In addition, Sabal Trail provides access to receipt points in the Transco
17 Zone 4 Pool through the lease with Transco, which includes additional pipelines that
18 access growing onshore supply from the Marcellus Shale and Utica Shale.

19 A review of the EIA 2014 Annual Energy Outlook shows that United States
20 natural gas production is projected to increase by 56% from 2012 to 2040, with
21 production of natural gas from shale approximately doubling within that time frame.
22 Additionally, the EIA projects shale gas to be the largest source of United States natural
23 gas production at over 50% by 2040. A graph of United States dry natural gas production

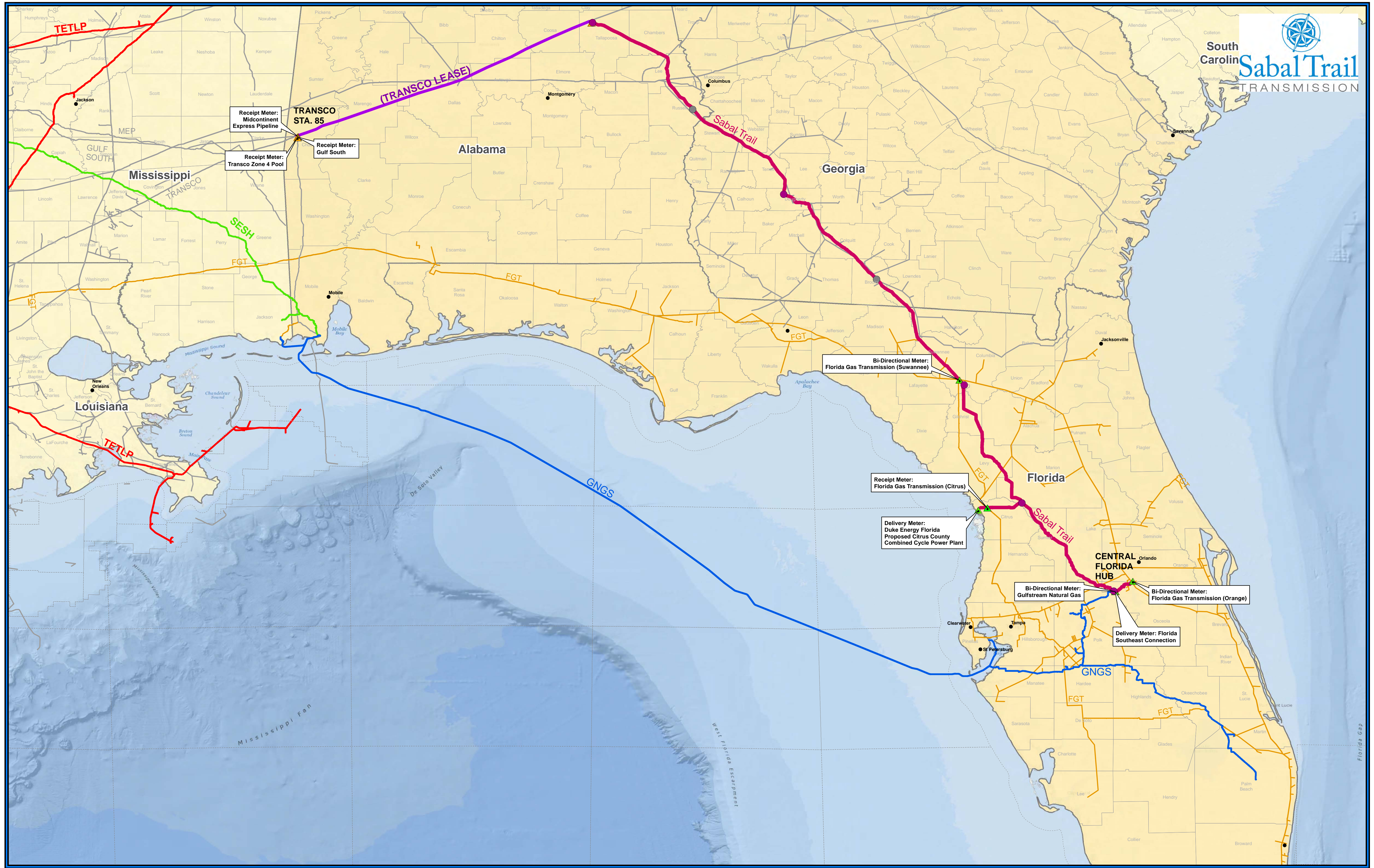
1 from the 2014 Annual Energy Outlook published by EIA is included as Exhibit No. ____
2 (JP-4) to my direct testimony. Given the growing onshore supply, access, and supplier
3 diversity provided by Sabal Trail, DEF anticipates being able to obtain sufficient natural
4 gas supplies for the Citrus County Combined Cycle Plant at a reasonable cost.

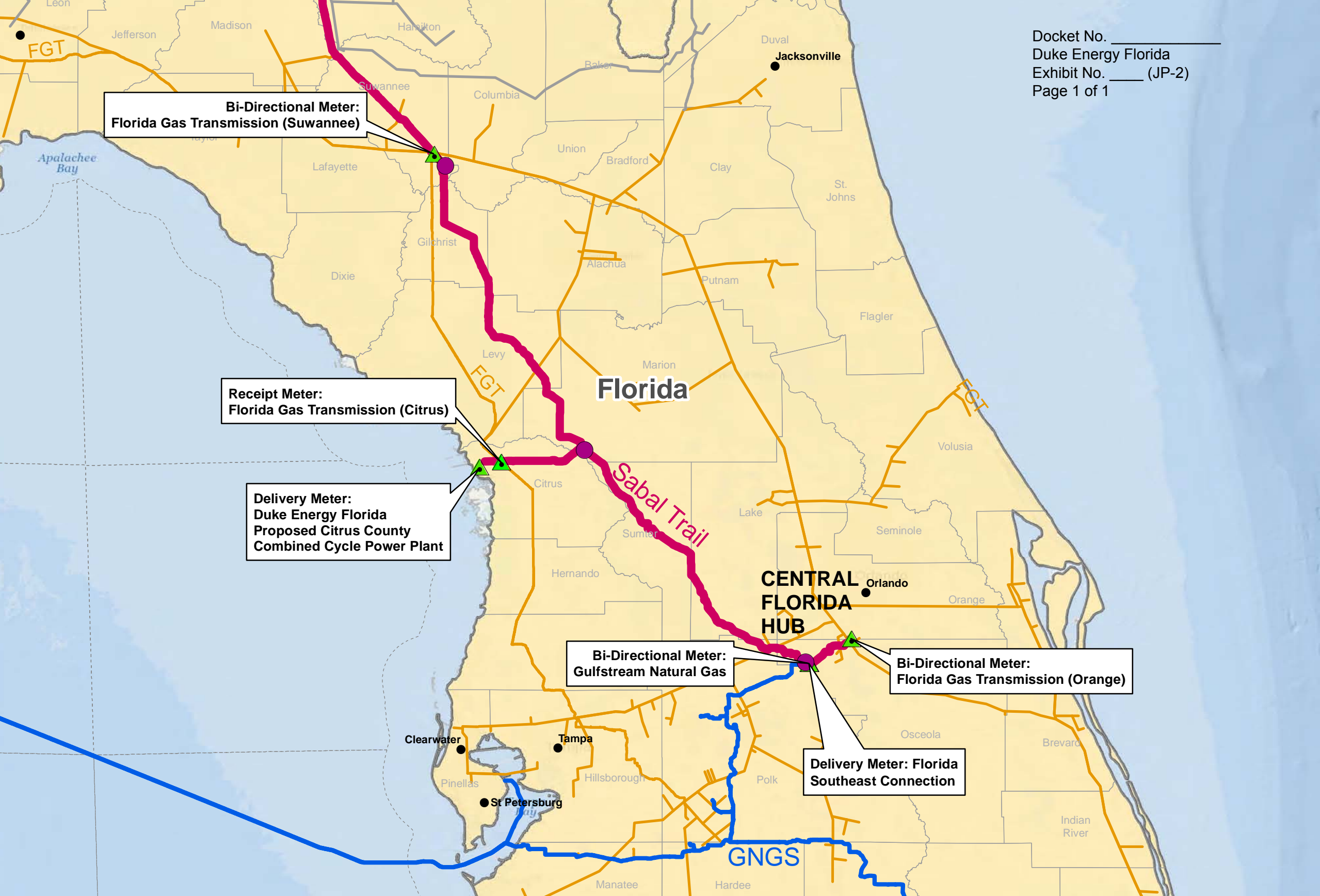
5
6 **Q. How will DEF contract for its gas supply for the Citrus County Combined Cycle
7 Plant?**

8 A. The Company has a long-term gas supply procurement process that outlines the process
9 by which DEF procures competitively priced natural gas to meet its longer-term projected
10 fuel needs at its owned and tolled gas generation facilities in Florida. The process will
11 typically begin for the next calendar period for which natural gas supplies are projected to
12 be needed to meet DEF's annual, seasonal, monthly, and/or daily needs. Through this
13 process DEF will contract for a portion of its forecasted gas supply needs at market based
14 indexed pricing for terms typically ranging from one to three years.

15
16 **Q. Does this conclude your direct testimony?**

17 A. Yes.
18
19





**Bi-Directional Meter:
Florida Gas Transmission (Suwannee)**

**Receipt Meter:
Florida Gas Transmission (Citrus)**

**Delivery Meter:
Duke Energy Florida
Proposed Citrus County
Combined Cycle Power Plant**

**Bi-Directional Meter:
Gulfstream Natural Gas**

**Bi-Directional Meter:
Florida Gas Transmission (Orange)**

**Delivery Meter: Florida
Southeast Connection**

