

**BEFORE THE FLORIDA
PUBLIC SERVICE COMMISSION**

**DOCKET NO. 09 0172 EI
FLORIDA POWER & LIGHT COMPANY**

**IN RE: FLORIDA POWER & LIGHT COMPANY'S
PETITION TO DETERMINE NEED FOR
FLORIDA ENERGYSECURE LINE**

DIRECT TESTIMONY & EXHIBIT OF:

SAM FORREST

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BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION
FLORIDA POWER & LIGHT COMPANY
DIRECT TESTIMONY OF SAM FORREST
DOCKET NO. 09 _____ -EI

Q. Please state your name and business address.

A. My name is Sam Forrest. My business address is Florida Power & Light Company, 700 Universe Boulevard, Juno Beach, Florida 33408.

Q. By whom are you employed and what is your position?

A. I am employed by Florida Power & Light Company (“FPL” or the “Company”) as Vice President of the Energy Marketing & Trading (EMT) Business Unit.

Q. Please describe your duties and responsibilities in that position.

A. I am responsible for the overall direction and management of the EMT Business Unit, which handles FPL’s short-term and long-term fuel management and operations. These fuels include natural gas, residual and distillate fuel oils and coal. Additionally, EMT is responsible for FPL’s fuel hedging program, long-term fuel transportation and storage contracts, power origination activities and short-term power trading and operations. EMT is an active participant in the daily spot natural gas supply market throughout the southeastern United States.

1 **Q. Please describe your educational background and professional**
2 **experience.**

3 A. I hold a Bachelor of Science in Electrical Engineering from Texas A&M
4 University and a Masters of Business Administration from the University of
5 Houston. Prior to being named Vice President of EMT for FPL in June 2007,
6 I was employed by Constellation Energy Commodities Group (CECG) as
7 Vice President, Origination. In this capacity, I was responsible for managing
8 a team of power originators marketing structured electric power products in
9 Texas, the Western United States and Canada. Prior to my responsibilities
10 with CECG in the West, I was responsible for CECG business development
11 activities in the Southeast U.S.

12
13 Before joining CECG, from 2001 to 2004, I held a variety of energy
14 marketing and trading management positions at Duke Energy North America
15 (DENA). Prior to DENA, I was employed by Entergy Power Marketing
16 Corporation (EPMC) in several positions of increasing responsibility,
17 including Vice President - Power Marketing, following EPMC's entry into a
18 joint venture with Koch Energy Trading.

19
20 From 1996 to 1998, I was Director of Installations at Dealer Solutions, a
21 successful start-up organization in the automotive industry. My staff was
22 responsible for installing a customized software application across the U.S.

1 From 1987 to 1996, I worked for AlliedSignal Aerospace at the Johnson
2 Space Center in Houston, Texas in increasing roles of responsibility. My last
3 role there was as Branch Leader of engineers responsible for implementing
4 change requests to NASA ground support equipment, including the Mission
5 Control Center and Software Production Facility.

6 **Q. Are you sponsoring any exhibits in this case?**

7 A. Yes. I am sponsoring the following exhibit which is attached to my
8 testimony:

- 9 • SF-1 Florida EnergySecure Line Fact Sheet and Map

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

11 A. FPL is seeking an affirmative determination of need to develop, construct and
12 operate the Florida EnergySecure Line (or the “Project”), a new Florida
13 intrastate natural gas pipeline, which will serve the needs of FPL’s Cape
14 Canaveral Next Generation Clean Energy Center and Riviera Beach Next
15 Generation Clean Energy Center (respectively, CCEC and RBEC;
16 collectively, the “Modernization Projects”), as well as other current and future
17 gas transportation needs of FPL and the state of Florida. Generally, my
18 testimony provides: (1) an overview of FPL’s request; (2) a description of the
19 benefits the Florida EnergySecure Line will provide for FPL’s customers and
20 the state; and (3) the adverse consequences of delaying or denying approval of
21 the Project. I also address these key considerations concerning the Project: (1)
22 the importance of the Florida EnergySecure Line in supplying natural gas
23 transportation to FPL’s CCEC and RBEC facilities; (2) the need to provide for

1 increased reliability of the natural gas infrastructure in Florida; (3) the need to
2 continue to diversify sources of gas supply to Florida; and (4) the potential to
3 expand this new resource to meet future natural gas needs of the state.

4 **Q. Please provide an overview of the testimony filed on FPL's behalf.**

5 A. The testimony submitted on behalf of FPL in this proceeding is offered to
6 explain and support:

- 7 1) The need for incremental natural gas transportation capacity in Florida,
8 specifically in FPL's service territory;
- 9 2) The benefits of the Florida EnergySecure Line, including its role in
10 improving the deliverability and reliability of natural gas transmission
11 in Florida;
- 12 3) The Project's access to adequate and diverse natural gas supplies and
13 upstream natural gas transmission pipeline capacity;
- 14 4) The safety and integrity FPL will employ in constructing and operating
15 the Florida EnergySecure Line;
- 16 5) The Project's capability to accommodate FPL's projected load growth;
- 17 6) The Florida EnergySecure Line's favorable economics for natural gas
18 transmission within Florida; and
- 19 7) The unique opportunity Florida has at this time to expand the existing
20 pipeline infrastructure into and within Florida, which may not present
21 itself again for some time.

1 Q. Please identify FPL's witnesses in this proceeding and the areas they
2 cover.

3 A. The following is a listing of FPL's witnesses and the areas they cover (note:
4 listed in anticipated order of appearance):

- 5 • Robert G. Sharra, Director, Project Development, FPL – FPL's current
6 firm natural gas transportation commitments; detailed description of
7 the Florida EnergySecure Line and its upstream sources of supply;
- 8 • Clinton M. Collins, Director, FPL Group, US Gas Assets –
9 Operational and construction details of the Florida EnergySecure Line;
10 pipeline safety and integrity; and projected cost of the Project;
- 11 • Heather C. Stubblefield, Manager, Project Development, FPL – FPL's
12 solicitation process and evaluation of proposals; and inputs to the
13 economic analysis of the Florida EnergySecure Line and alternatives;
- 14 • Dr. Rosemary Morley, Director, Load Forecasting and Analysis, FPL
15 – FPL's load forecast;
- 16 • Juan E. Enjamio, Supervisor - Integrated Analysis, Resource Analysis
17 and Planning, FPL – Need for additional natural gas transmission
18 capacity for FPL under FPL's long term resource plan and two
19 alternate resource plans including the addition of reasonably
20 anticipated levels of renewable resources and demand side
21 management (DSM); evaluation of the total cost to FPL's customers of
22 the Florida EnergySecure Line and alternatives for meeting the need
23 for additional natural gas transmission capacity; and projecting the

1 approximate bill impact of the Florida EnergySecure Line to FPL's
2 customers;

- 3 • Timothy C. Sexton - Vice President, Gas Supply Consulting, Inc –
4 Overview of existing natural gas infrastructure in Florida; need for
5 additional natural gas transportation capacity in Florida; description of
6 upstream natural gas supplies and capacity; third-party review of
7 FPL's solicitation analysis; improvement of reliability and economics
8 of natural gas transportation in Florida resulting from the Florida
9 EnergySecure Line.

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SUMMARY OF FPL'S REQUEST

12

13 **Q. Please summarize FPL's need determination request in this proceeding.**

14 A. On September 12, 2008, the Florida Public Service Commission ("FPSC" or
15 "Commission") approved the need for modernizations at FPL's Cape
16 Canaveral and Riviera Plants. The Modernization Projects will result in new
17 natural gas combined cycle facilities that require approximately 400 million
18 cubic feet of natural gas per day (MMcf/d). FPL does not currently have
19 enough firm gas transportation capacity under contract to meet this increased
20 need for natural gas in addition to its already substantial gas transportation
21 requirements. Accordingly, FPL sought proposals from a wide range of firms
22 in the natural gas transportation industry to meet this increased need. FPL
23 evaluated these proposals and compared them to a potential project in which

1 FPL would build and operate an intrastate pipeline to transport natural gas to
2 FPL's generating units and to other delivery points within Florida.

3
4 FPL has determined that this self-build alternative, the Florida EnergySecure
5 Line, is the most strategic and cost-effective solution available to meet the
6 natural gas demands of the Modernization Projects, as well as having the
7 overall effect of strengthening Florida's natural gas infrastructure and
8 positioning it to meet future natural gas transportation needs. Consequently,
9 FPL seeks from the Commission an affirmative determination of need for the
10 Florida EnergySecure Line.

11
12 Furthermore, it is important to understand there is no viable "do nothing"
13 alternative in this case. The need for additional gas at the CCEC and RBEC
14 facilities, or any future natural gas-fired generating units, dictates significant
15 pipeline infrastructure must be added, whether it is through new infrastructure
16 such as the Florida EnergySecure Line or a substantial upgrade of existing
17 pipelines.

18 **Q. Please describe FPL's energy resource needs as they relate to the need for**
19 **the Florida EnergySecure Line.**

20 A. As discussed by FPL witness Enjamio, from 2013 through 2040 FPL will
21 need 17,357 MW of incremental gas-fired capacity, including 1,610 MW to
22 replace expiring purchase power agreements (PPA), to continue to meet its
23 reliability criteria. At the same time, FPL continues to advance energy

1 efficiency and load management techniques through industry-leading
2 conservation efforts and other DSM programs, and actively cultivates and
3 pursues the development of additional renewable generating capacity within
4 Florida. For example, FPL estimates that it can offset approximately
5 1,121 MW of resource needs through energy efficiency and DSM gains
6 between 2009 and 2018. Regarding renewable resources, FPL has already
7 received approval by the Commission to develop 110 MW of solar projects at
8 FPL's DeSoto, Space Center and Martin sites. Those projects are taken into
9 account in all of the scenarios under which FPL evaluated its resource needs.
10 Beyond those projects, FPL cannot predict the precise outcome of the
11 Renewable Portfolio Standard (RPS) proposals being discussed in Florida or
12 in the U.S. Congress. But we do expect to see some form of RPS in place
13 over the near to midterm planning horizon. Accordingly, one of the scenarios
14 under which FPL has evaluated the need for additional generating resources
15 assumes the addition of 3,290 MW of incremental renewable resources from
16 2010 through 2040.

17

18 These efforts by themselves, however, are not enough to meet FPL's resource
19 commitments. As a result, FPL must also construct large, baseload natural
20 gas-fueled generation additions if the Company is to continue providing
21 reliable service at reasonable prices. A key component of that resource mix is
22 the Modernization Projects which, by themselves, will require approximately
23 400 MMcf/d.

1 **Q. Please provide an overview description of the Florida EnergySecure Line.**
2 A. The Florida EnergySecure Line is an approximately 300-mile natural gas
3 pipeline connecting at a receipt point near Florida Gas Transmission, LLC's
4 (FGT) Compressor Station 16 (FGT Station 16), located near Starke, Florida
5 in Bradford County, to a termination point at FPL's Martin Plant located near
6 Indiantown in Martin County. There are additional delivery points at FPL's
7 modernized CCEC and RBEC facilities. The 30-inch diameter Florida
8 EnergySecure Line will have an initial capacity of 600 MMcf/d, with a
9 delivery capability of 200 MMcf/d to the CCEC and 200 MMcf/d to the
10 RBEC. The remaining 200 MMcf/d will be delivered to FPL's Martin Plant
11 for reliability purposes, but will also be offered to other entities within
12 Florida. The 200 MMcf/d delivered to the Martin Plant can displace
13 deliveries from FGT or Gulfstream to that site, which can then be redirected to
14 other FPL facilities or to other entities within the state. As discussed in FPL
15 witness Sharra's testimony, FPL is currently seeking public and regulatory
16 input on the proposed corridor which is subject to change based on public
17 input and the Natural Gas Transmission Pipeline Siting Act (NGPSA)
18 application review process. A Fact Sheet and Map of the Florida
19 EnergySecure Line containing additional information on the Project are
20 attached to my testimony as Exhibit SF-1.

1 **Q. What is the relationship between the timing of the Modernization**
2 **Projects and the Florida EnergySecure Line?**

3 A. The CCEC and RBEC are currently expected to be in service by June 2013
4 and June 2014, respectively. The Florida EnergySecure Line is currently
5 scheduled to be in operation in January 2014.

6
7 While not a permanent solution, FPL has developed appropriate plans that will
8 allow the gas needs of the CCEC to be met utilizing existing delivery rights
9 during the interim period until the Florida EnergySecure Line is operational.
10 Those plans are covered in more detail by FPL witness Sharra.

11 **Q. Please describe the importance of proceeding expeditiously with the**
12 **permitting process for the Florida EnergySecure Line.**

13 A. The permitting of a Florida-based intrastate pipeline is a relatively new
14 process within Florida, as siting a pipeline under the NGPSA has only been
15 attempted once previously. There is the potential for possible unforeseen
16 issues. Therefore, it is important to start the permitting process now in order
17 to build in adequate buffers in the schedule for contingencies. Initiating the
18 permitting process now will best position the Company to meet the gas
19 requirements of the Modernization Projects, regardless of the ultimate in-
20 service dates for these projects.

21 **Q. Where will the Florida EnergySecure Line obtain its upstream supply?**

22 A. As discussed by FPL witness Stubblefield, FPL has executed a Letter of Intent
23 (LOI) with a third party natural gas transmission company (referred to as

1 “Company E” for confidentiality purposes) to negotiate a Precedent
2 Agreement based upon the proposal submitted by Company E in response to
3 FPL’s Solicitation Letter. The LOI expresses FPL’s and Company E’s intent
4 to negotiate a Precedent Agreement on or before October 1, 2009 that would
5 provide for 600 MMcf/d of gas transportation from Transcontinental Gas Pipe
6 Line Company’s (Transco) Station 85 to be delivered to the Florida
7 EnergySecure Line at FGT Station 16, beginning on January 1, 2014. The
8 agreement will provide for the necessary access to natural gas supply and
9 delivery rights required to deliver natural gas into the Florida EnergySecure
10 Line. The agreement will be similar to FPL’s current firm transportation
11 agreements with FGT and Gulfstream. I will refer to the Company E pipeline
12 that will supply the Florida EnergySecure Line as the “Upstream Pipeline.”

13 **Q. Can the capacity of the Upstream Pipeline and the Florida EnergySecure**
14 **Line be expanded economically to accommodate future growth in gas**
15 **requirements?**

16 **A.** Yes. As FPL’s load growth increases and creates the need for additional
17 generation on its system, the Florida EnergySecure Line will be capable of
18 expanding to as much as 1.25 billion cubic feet per day (Bcf/d). These future
19 expansions will come at a greatly reduced price to our customers as there will
20 be minimal infrastructure required to add the additional capacity. FPL will
21 likewise have access to additional capacity on the Upstream Pipeline to supply
22 the Florida EnergySecure Line’s expanded capacity.

1 **Q. Is FPL qualified to construct and operate the Florida EnergySecure**
2 **Line?**

3 A. Yes. As discussed by FPL witness Collins, FPL has built a number of
4 transmission and piping systems with much more complex operating and
5 engineering conditions than the proposed Project. FPL has demonstrated in
6 previous projects its ability to engineer and construct numerous electric
7 transmission corridors and generating plants throughout Florida. In many
8 respects, a gas pipeline construction project is very similar to a transmission
9 line construction project which involves similar land and permitting issues, as
10 well as many of the same construction techniques. FPL brings established
11 project management skills, a highly-qualified staff, and the necessary ancillary
12 support services, procedures and staff to undertake projects of this magnitude.
13 FPL is also making use of key personnel within affiliate companies that have
14 years of experience in the design, construction and operation of pipelines
15 throughout North America.

16 **Q. Please summarize why the Commission should grant an affirmative**
17 **determination of need for the Florida EnergySecure Line.**

18 A. As explained in the testimonies of FPL witnesses Sharra and Sexton, natural
19 gas is currently delivered to FPL from the U.S. Gulf Coast on-shore and off-
20 shore regions via two interstate pipelines: FGT and Gulfstream Natural Gas
21 System, L.L.C. (Gulfstream). There are two other pipelines that deliver gas to
22 Florida (Gulf South Pipeline Company, LP and Southern Natural Gas
23 Company's (SNG) Cypress Pipeline), but as discussed in FPL witness

1 Sexton’s testimony, those pipelines do not provide for the gas supply
2 dynamics required by FPL.

3
4 While FGT and Gulfstream have provided reliable service to FPL over the
5 years, the demands on both pipelines from FPL and other users have
6 continued to grow. In fact, FGT’s existing firm capacity is fully subscribed
7 and a significant percentage of the firm capacity on its recently-announced
8 820 MMcf/d Phase VIII expansion has been subscribed as well. By mid-
9 2009, Gulfstream’s firm capacity likewise will be fully subscribed. Added
10 together, FPL’s modernized CCEC and RBEC facilities, each with a firm
11 capacity demand of 200 MMcf/d, necessitate an expansion of the gas
12 transportation infrastructure in Florida. Neither FGT’s nor Gulfstream’s
13 existing pipelines nor currently planned upgrades to their pipelines can meet
14 the firm gas requirements of FPL’s Modernization Projects.

15
16 It is important to understand there is no viable “do nothing” alternative in this
17 case. The need for additional gas at CCEC and RBEC, or any future natural
18 gas-fired generating units, dictates significant pipeline infrastructure must be
19 added, whether it is through new infrastructure such as the Florida
20 EnergySecure Line or a substantial upgrade of existing pipelines. Once either
21 path is taken, FPL expects that it will be a long time before future gas
22 requirements will again require comparably substantial new gas transportation
23 infrastructure. Thus, if the Commission does not grant the need for the

1 Florida EnergySecure Line, the opportunity to capture the benefits described
2 in FPL's testimony will be lost for many years to come.

3 **Q. How did FPL determine the Florida EnergySecure Line was the best**
4 **alternative to meet its projected load growth?**

5 A. As described in FPL witness Enjamio's testimony, even with conservation,
6 renewables and nuclear expansion, FPL will continue to rely on natural gas-
7 fueled generation for the foreseeable future to meet customer demand.
8 Therefore, it is imperative that FPL consider alternatives to maintain
9 reliability of the gas supply. Consequently, FPL analyzed the various
10 alternatives available for incremental firm capacity through a comprehensive
11 solicitation process. Ultimately, this solicitation process (described by FPL
12 witness Stubblefield) and an economic analysis of the resulting alternatives
13 (described by FPL witness Enjamio) led FPL to conclude that the Florida
14 EnergySecure Line in combination with the Upstream Pipeline offered FPL
15 and its customers the most strategic and cost-effective solution to meet the gas
16 supply needs now and into the future.

17 **Q. What scenarios did FPL look at to analyze the different proposals**
18 **submitted in response to their solicitation?**

19 A. In addition to FPL's long-term resource plan described by FPL witness
20 Enjamio, two alternate scenarios were developed to analyze firm gas
21 transportation alternatives. These alternate scenarios are the Renewable
22 Portfolio Standard (RPS) Scenario resource plan (RPS Scenario) and the
23 Nuclear Delay Scenario resource plan (Nuclear Delay Scenario). The RPS

1 Scenario assumes that the state will adopt an RPS rule with a target of 20%
2 renewable energy by 2020, constrained by a 2% cap on increased retail
3 revenues. In addition, because of the licensing and construction uncertainties
4 surrounding new nuclear construction, FPL developed the Nuclear Delay
5 Scenario that assumes a four year delay in the construction of the Turkey
6 Point Units 6 and 7 until 2022 and 2024, respectively.

7 **Q. Will FPL reduce its current capacity on the FGT or Gulfstream**
8 **transportation systems if the Florida EnergySecure Line is approved?**

9 A. No. FPL has numerous long-term firm transportation agreements with both
10 FGT and Gulfstream to meet gas requirements for other existing FPL facilities
11 that are not impacted by a decision to proceed with the Florida EnergySecure
12 Line. In fact, FGT and Gulfstream currently provide gas supplies to FPL and
13 other generation facilities throughout the state and will continue to do so for
14 many years to come.

15 **Q. Is it possible to meet the needs of 400 MMcf/d for FPL's CCEC and**
16 **RBEC with the FGT and/or Gulfstream pipelines as they are currently**
17 **configured?**

18 A. No. FPL's current facilities at Cape Canaveral and Riviera Beach have low
19 gas-pressure requirements due to the nature of the technology used on these
20 older conventional steam units. The plants are currently connected to FGT
21 and are served contractually at low pressure (less than 100 pounds per square
22 inch). The new modernized CCEC and RBEC units, however, will require a
23 much higher inlet pressure that cannot be served with the existing pipeline

1 infrastructure. Additionally, the need for 400 MMcf/d must be met with
2 increased supply beyond what FPL has currently contracted. The combination
3 of the need for both a delivery system with a higher pressure capability and
4 increased capacity dictates new infrastructure.

5 **Q. How does FPL plan to use the 200 MMcf/d of initial capacity on the**
6 **Florida EnergySecure Line beyond the 400 MMcf/d required for the**
7 **CCEC and RBEC Modernizations?**

8 A. The remaining 200 MMcf/d will be delivered to the Martin Plant, where it will
9 displace deliveries from FGT or Gulfstream that can then be redirected to
10 other FPL facilities or to other entities within the state. FPL will market the
11 200 MMcf/d to other entities within the state to help meet their needs and to
12 further increase the reliability of the fuel infrastructure on a statewide basis.
13 Revenues received from any such sales would flow back to the benefit of
14 FPL's retail customers via the Fuel Cost Recovery Clause and would offset a
15 portion of the costs associated with the pipeline.

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17 Eventually, FPL expects that its own gas requirements will utilize the full
18 capacity of the pipeline and likely warrant expansion of that capacity over
19 time, which can be done inexpensively when compared to other alternatives.

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BENEFITS OF THE FLORIDA ENERGYSECURE LINE

Q. What benefits will result from the Florida EnergySecure Line being built?

A. Construction of the Florida EnergySecure Line will provide the following benefits for FPL’s customers and the state of Florida:

- Increased reliability of natural gas transmission within Florida;
- Increased deliverability of natural gas within Florida with the addition of 600 MMcf/d of new gas supply;
- Enhanced reliability and options in the event of any interruption on either of the existing Gulfstream or FGT pipelines;
- Additional diversification of the gas supplies available to Florida;
- Provision of the most cost-effective solution to meet the needs of the modernizations, as well as other natural gas delivery needs of the state;
- Creation of efficiencies of pipeline to pipeline and gas to gas competition; and
- The Florida EnergySecure Line will provide growth in state and local economies, new construction jobs, as well as substantial local purchases of materials and supplies.

1 **Q. Please describe how the Florida EnergySecure Line will improve the**
2 **reliability, deliverability and integrity of natural gas transmission within**
3 **the state of Florida.**

4 A. FPL, as well as the rest of Florida, is already heavily dependent on both the
5 FGT and Gulfstream systems. With the estimated 2011 completion of FGT's
6 Phase VIII project, FPL will have 1.274 Bcf/d of firm gas transportation on
7 that pipeline, which represents approximately 66% of FPL's peak gas supply.
8 Similarly, by the end of 2009, Gulfstream will supply 695 MMcf/d of FPL's
9 gas load, representing 33% of FPL's peak gas supply. Together, this is almost
10 2 Bcf/d, which on a peak day at maximum flow serves approximately three
11 million FPL customers, all relying on two interstate pipelines whose available
12 natural gas transportation capacity is almost fully subscribed.

13
14 Currently, approximately 53% of all energy generated on FPL's system is
15 produced using natural gas. This is expected to increase to 63% by 2011 and
16 would continue to grow as additional gas-fired generation is added to meet the
17 resource needs of the state, in conjunction with wind, nuclear and solar
18 projects aggressively being pursued to meet the power supply needs within
19 FPL's service territory. FPL's dependence on natural gas could grow to as
20 high as 69% in 2018 under the nuclear delay scenario described earlier.
21 Additionally, FPL is among the largest users of natural gas in the United
22 States. In 2007, FPL burned 450 Bcf of natural gas, which ranks number one
23 in the country among users of natural gas to generate electricity according to

1 the Department of Energy's (DOE) Energy Information Administration (EIA).

2

3 By facilitating the introduction of a third major interstate pipeline into Florida
4 and offering a uniquely routed pipeline that has the potential to be connected
5 at multiple points with the existing infrastructure of the state, the Florida
6 EnergySecure Line will increase the reliability of the natural gas infrastructure
7 of Florida and reduce Florida's overall capacity concentration on the FGT and
8 Gulfstream pipelines. The resulting integrated pipeline system will enhance
9 reliability of pipeline operations and provide additional options in the event of
10 any interruption on either of the existing Gulfstream or FGT pipelines, as well
11 as make gas available when and where it is needed within the state.

12

13 As described by FPL witness Sharra, the interconnection of the Florida
14 EnergySecure Line with the Upstream Pipeline and FGT in the northern part
15 of the state, and the opportunity to interconnect with FGT and Gulfstream at
16 the Martin Plant in the southern part of the state, will provide significant
17 operational flexibility. As planned and unplanned outages occur on any of the
18 pipelines, the ability to receive gas through existing delivery rights within the
19 state will ensure reliable delivery of service. Additionally, as greater than
20 50% of FPL's gas supply comes from the Gulf of Mexico, having a unique
21 physical pipeline route receiving gas from on-shore sources will reduce the
22 dependence on the Gulf of Mexico and will provide further protection against
23 weather-related supply disruptions to which the Gulf supply is extremely

1 susceptible.

2 **Q. Please describe how the Florida EnergySecure Line will improve the**
3 **diversity of supply of natural gas coming into the state.**

4 A. As explained by FPL witness Sexton, fuel reliability and operational flexibility
5 would be enhanced by the Florida EnergySecure Line through diversification of
6 FPL's sources of natural gas supply. The proposed pipeline into Florida
7 would be largely supplied from unconventional shale gas production
8 discoveries in Texas, Arkansas, Oklahoma and Louisiana. The addition of the
9 Upstream Pipeline as a major supply source into Florida will give FPL, as
10 well as other natural gas users in Florida, access to unconventional shale gas
11 in the Mid-Continent, liquefied natural gas (LNG), and traditional Gulf Coast
12 supply through a large existing pipeline infrastructure. The Upstream Pipeline
13 also provides access to newly developing and existing LNG regasification
14 facilities. Having access to several supply basins, which the Upstream
15 Pipeline offers, protects against declining production in a given supply basin.

16 **Q. Please explain how the Florida EnergySecure Line will improve the**
17 **economics of gas delivery within the state.**

18 A. As demonstrated in the testimony of FPL witnesses Enjamio and Sexton, the
19 Florida EnergySecure Line is the most cost-effective, economically beneficial
20 solution to meet FPL's future gas requirements for FPL's customers, even
21 before taking into account the potential for offsetting revenues from sales of
22 capacity to third parties and its other reliability and diversity benefits. Using
23 the conventional measure of the cumulative net present value of revenue

1 requirements (CPVRR), FPL witness Enjamio projects that the Florida
2 EnergySecure Line will reduce costs for FPL's customers by between \$204
3 million and \$513 million, compared to the next-best gas transportation
4 alternative. This range of values was independently corroborated by FPL
5 witness Sexton using a different valuation methodology than the CPVRR
6 method. Thus, the Project has lower long term life-cycle costs as compared to
7 multiple smaller expansions of the existing pipeline infrastructure every two
8 to three years as new generation is added.

9 **Q. Are there other economic benefits associated with the Florida**
10 **EnergySecure Line?**

11 A. Yes. As has been mentioned previously in my testimony, there will be an
12 opportunity to market the initial 200 MMcf/d of excess transportation to other
13 entities within the state. FPL witness Sexton will describe different scenarios
14 for capturing value through this marketing effort, showing a potential range of
15 \$220 million to \$660 million of additional value. This range of values would
16 be in addition to the overall economics described by FPL witness Enjamio and
17 would be returned to FPL's retail customers through the Fuel Cost Recovery
18 Clause. While it is not possible to predict the extent of any such
19 opportunities, it is important to emphasize that this range of possible benefits
20 would be in addition to the Florida EnergySecure Line's overall economic
21 benefit to customers that is described by FPL witness Enjamio.

1 Additionally, with FPL in an ownership position, the Florida EnergySecure
2 Line will allow for greater influence over the timing, location and cost of
3 future expansions, thus providing for significant long term customer benefits.
4 Future expansions of the Florida EnergySecure Line up to 1.25 Bcf/d are
5 extremely cost effective and will be among the least expensive transportation
6 contracts in FPL's supply portfolio.

7
8 Finally, as described in FPL witness Sharra's testimony, projects such as the
9 Florida EnergySecure Line and the Southeast Supply Header (SESH) can
10 create market dynamics that have a significant positive impact on the
11 economics of the overall portfolio. While other alternatives FPL has
12 considered also offer the diversity that comes from accessing supplies at
13 Transco Station 85, the Florida EnergySecure Line also is unique among the
14 alternatives in establishing a new natural gas receipt point in northern Florida
15 through a potential interconnection with FGT Station 16.

16 **Q. Please describe other benefits that the Florida EnergySecure Line will bring**
17 **to the state of Florida.**

18 A. Construction and operation of the Florida EnergySecure Line will provide a
19 much-needed boost to state and local economies in the form of new
20 construction jobs and substantial local purchases of materials and supplies. At
21 a time when Floridians are feeling the effects of the current economic
22 slowdown, this Project will have significant positive impacts. As discussed in
23 FPL witness Sharra's testimony, there will be over 3,500 direct construction

1 jobs created in Florida from the Florida EnergySecure Line and the state and
2 local economic impact of construction and non-construction could reach \$1.2
3 billion. Additionally, this Project will generate over \$400 million in life-cycle
4 tax benefits to local governments, while generating approximately \$20 million
5 in Florida Sales and Use tax revenues.

6

7 Florida will also benefit from the environmental benefits that the Florida
8 EnergySecure Line will facilitate. The gas that it supplies to the CCEC and
9 RBEC will allow them both to displace the burning of fuel oil and to burn
10 natural gas more efficiently, thereby supporting FPL's and Florida's long term
11 plan to reduce greenhouse gas emissions. Additionally, to minimize
12 environmental and other impacts, the proposed corridor of the Florida
13 EnergySecure Line would locate much of the Project along an existing
14 Commission-approved FPL transmission corridor. FPL witnesses Sharra and
15 Collins will discuss this in greater detail.

16

17 Finally, in contrast to the existing four pipelines serving the Florida market,
18 the Florida EnergySecure Line will be regulated by this Commission.
19 Therefore, the state will have control over the rates charged, the siting of the
20 pipeline (through the Florida Department of Environmental Protection
21 NGPSA process), and expansion approval authority.

1 **Q. Has the Commission previously recognized the need to encourage**
2 **pipeline infrastructure in Florida?**

3 A. Yes. In approving both Progress Energy Florida's (PEF) and FPL's contracts
4 for gas deliveries via the SESH, the Commission previously recognized the
5 need to increase the reliability of gas supply by gaining access to more on-
6 shore gas, thus reducing the likelihood of disruptions due to weather events.
7 Additionally, the Commission recognized that diversifying by supply basin is
8 important, because diversification increases reliability of supply and the
9 number of suppliers, which potentially can lead to fuel savings passed on to
10 FPL customers.

11
12 Three recent orders illustrate the Commission's commitment to expanding and
13 diversifying the sources of gas supply to Florida. In Order No. PSC-07-0294-
14 PAA-EI, Docket No. 060793-EI, at page 5, the Commission said: "[w]e
15 believe diversifying by supply basin is important. Such diversification
16 increases reliability of supply. Also, diversification increases the number of
17 suppliers, which potentially could lead to fuel savings. Furthermore, having
18 access to several supply basins protects against declining production,
19 temporary or permanent, in a particular basin."

20
21 Similarly, the Commission stated in Order No. PSC-06-1057-FOF-EI, Docket
22 No. 060001-EI, at page 6, that: "[i]t is appropriate to diversify by supply basin
23 and to pick up additional supply basins given the current dependence by

1 Florida utilities on the Gulf of Mexico and Mobile Bay area for supply,
2 because those two areas are showing a decline in production.”

3

4 Finally, the Commission’s December 2007 “Review of 2007 Ten-Year Site
5 Plans for Florida’s Electric Utilities,” states the following at page 15: “[a]s the
6 state’s dependence on natural gas-fired generation continues to grow, gas
7 supply and deliverability become increasingly important. Therefore, utilities
8 should continue evaluation of natural gas supply and delivery options, such as
9 liquefied natural gas, alternate gas pipelines, and natural gas storage. Having
10 multiple options can serve as risk mitigation to unforeseen supply and
11 delivery disruptions.”

12

13 **CONSEQUENCES OF DELAY OR DENIAL**

14

15 **Q. What would be the adverse consequences of delay in issuing an**
16 **affirmative determination of need?**

17 **A. Any significant delay in the construction and in-service dates of the Florida**
18 **EnergySecure Line could jeopardize FPL’s ability to supply natural gas to the**
19 **Modernization Projects in sufficient quantity and at the required gas pressure**
20 **when those projects go into service.**

1 **Q. What would be the adverse consequences of denying an affirmative**
2 **determination of need?**

3 A. The important thing to appreciate in this case is there is no viable “do
4 nothing” alternative. Currently, the Cape Canaveral and Riviera Plants are
5 connected to the east leg of FGT’s pipeline system. Current contractual
6 requirements only require a delivery pressure of 50 pounds per square inch.
7 FGT’s pipeline infrastructure must be upgraded to ensure delivery of 400
8 MMcf/d of natural gas to the modernized CCEC and RBEC facilities, at a
9 much higher delivery pressure than is currently guaranteed by FGT.

10

11 If a determination of need is not granted in this case, FPL will most likely
12 contract with Company B for an expansion of their system with an increase in
13 delivery capability of 400 MMcf/d and with substantial infrastructure
14 increases needed to ensure proper operation of the Modernization Projects.
15 While this would meet the gas needs of the CCEC and RBEC, it would do so
16 at a higher life-cycle cost and would forfeit the numerous benefits of the
17 Florida EnergySecure Line that I described above. The substantial reliability
18 benefits that will be realized by a third major pipeline into the state of Florida,
19 which accesses new gas supplies from sources outside of the Gulf of Mexico,
20 will be lost.

21 **Q. Does this conclude your direct testimony?**

22 A. Yes.

Florida EnergySecure Line Fact Sheet

Name of Project:	Florida EnergySecure Line
Description:	Intrastate natural gas pipeline in Florida
Ownership:	Florida Power & Light Company (FPL)
Initial Capacity:	600 million cubic feet per day (MMcf/d); incremental expansions possible up to 1.25 billion cubic feet per day (Bcf/d)
Planned Pipeline In-Service Date:	January 2014
Planned Construction Start:	Fourth quarter of 2012
Planned Delivery of Initial Gas Capacity (600 MMcf/d):	<ul style="list-style-type: none">- FPL's Cape Canaveral Next Generation Clean Energy Center (CCEC) – 200 MMcf/d- Riviera Beach Next Generation Clean Energy Center (RBEC) – 200 MMcf/d- FPL's Martin Plant – 200 MMcf/d¹

¹ The 200 MMcf/per day to FPL's Martin Plant will displace deliveries from FGT or Gulfstream that can then be redirected to other FPL facilities or to other entities within the State. FPL will market the 200 MMcf/per day to other entities within Florida to help meet their needs and to further increase the reliability of the fuel infrastructure on a statewide basis.

Florida EnergySecure Line Fact Sheet

Length of Pipeline:	Pipeline is approximately 300 miles, including laterals; mainline is approximately 280 miles; one lateral to CCEC is approximately 17 miles; one lateral from the Florida Gas Transmission (FGT) mainline to the 45th Street terminal and on to RBEC is six miles
Proposed Mainline Corridor:²	Eastern Florida - From Bradford County to Martin County, Florida; approximately 280 miles in length with approximately 250 miles co-located in FPL's transmission right-of-way (ROW)
Florida Counties Impacted:	The proposed pipeline may impact as many as 14 Florida counties: Bradford, Clay, Putnam, Flagler, Volusia, Seminole, Orange, Osceola, Brevard, Okeechobee, Indian River, St. Lucie, Martin, Palm Beach
Mainline Origin:	Near Florida Gas Transmission, LLC (FGT) Station No. 16 in Starke, Florida (Bradford County)
Mainline Terminus:	Near Florida Power & Light Company's Martin Plant (Martin County)
Number of Pipeline Laterals (Initial):	Two laterals (approximately 17-mile lateral from mainline to CCEC in Orange and Brevard counties, six mile lateral from FGT mainline to the 45th Street Terminal and on to RBEC in Palm Beach County)

² Subject to the Natural Gas Transportation Pipeline Siting Act (NGPSA). Through the NGPSA stakeholder engagement and outreach process, including open houses, FPL will seek input from regulatory agencies and the public on the results of FPL's preliminary recommendation. From the results of this process, FPL will identify a preferred corridor and any alternate corridors.

Florida EnergySecure Line Fact Sheet

RBEC Connection: From FPL's Martin Plant: Existing 36-mile, 18-inch oil/gas dual-fuel line to FPL's 45th St. Terminal (See Note 3). Six mile lateral from FGT mainline to the 45th St. Terminal and on to the RBEC

CCEC Connection: From mainline to CCEC via 17-mile lateral

**Diameter of
Florida EnergySecure
Lines:**

- Florida EnergySecure Line mainline – 30 inches
- CCEC 17-mile lateral – 24 inches
- Riviera six mile lateral – 20 inches

**Compression
(initial):**

Two compressor facilities:

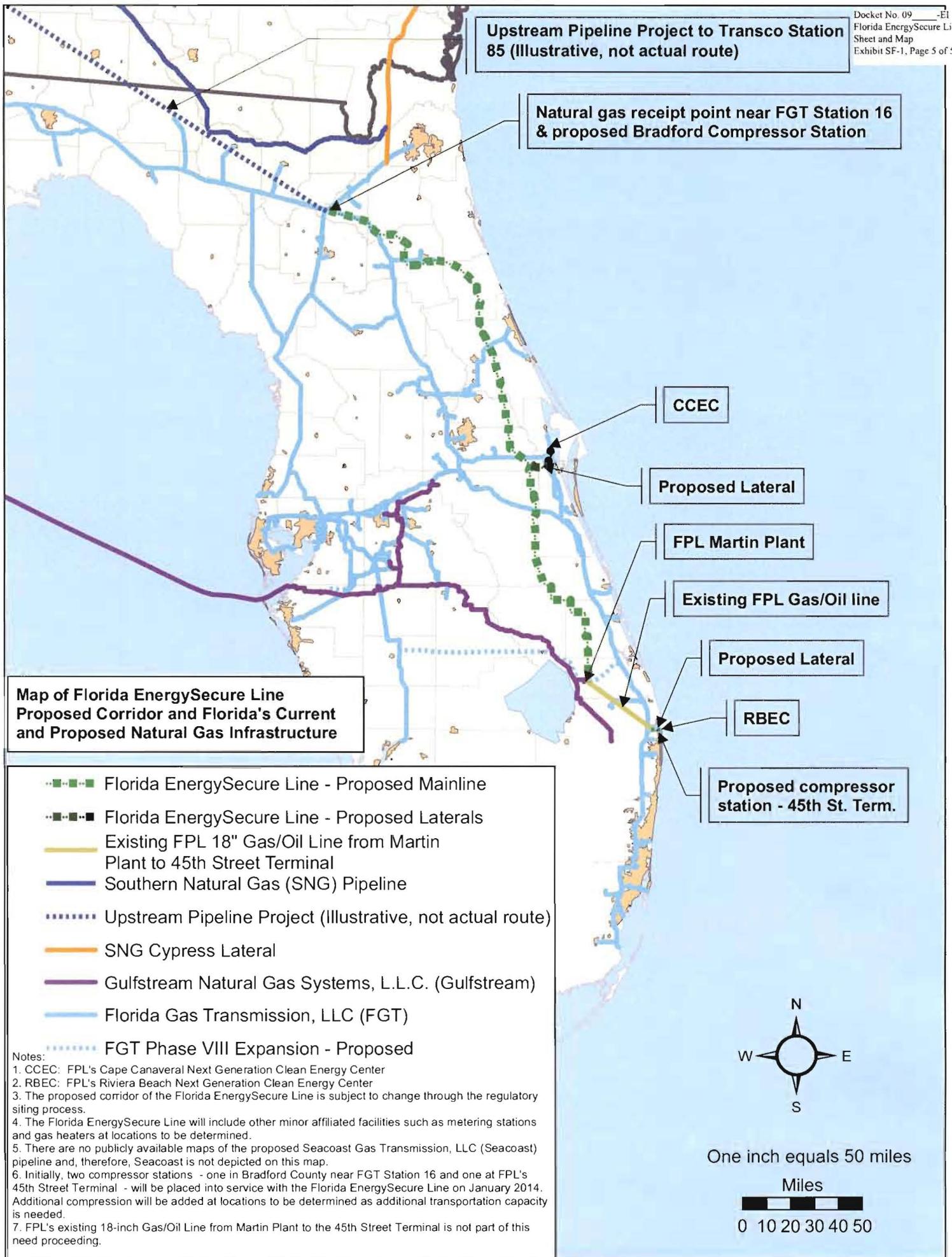
- One 20,000 horsepower compressor station included in initial operation near mainline origin in Bradford County, Florida
- One 4,700 horsepower compressor station at the 45th Street Terminal

**Operating Pressure
(initial):**

Mainline and lateral pressure will be approximately 1,480 pounds per square inch

Florida EnergySecure Line Fact Sheet

Upstream Pipeline Interconnectivity:	The Upstream Pipeline Project ("Company E") – a new, FERC-regulated interstate pipeline; and potentially, Florida Gas Transmission, LLC (FGT) and SNG's Cypress Pipeline
Upstream NG supply:	Mid-Continent natural gas in Texas, Arkansas, Louisiana and Oklahoma, Gulf supplies, and liquefied natural gas (LNG) via Cypress pipeline
Downstream Pipeline Interconnectivity:	With FERC approval, potential interconnections with FGT and Gulfstream to further enhance overall system supply and reliability
Cost of Florida EnergySecure Line:	Approximately \$1.588 billion



Upstream Pipeline Project to Transco Station 85 (Illustrative, not actual route)

Natural gas receipt point near FGT Station 16 & proposed Bradford Compressor Station

CCEC

Proposed Lateral

FPL Martin Plant

Existing FPL Gas/Oil line

Proposed Lateral

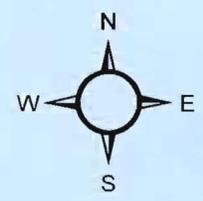
RBEC

Proposed compressor station - 45th St. Term.

Map of Florida EnergySecure Line Proposed Corridor and Florida's Current and Proposed Natural Gas Infrastructure

- Florida EnergySecure Line - Proposed Mainline
- Florida EnergySecure Line - Proposed Laterals
- Existing FPL 18" Gas/Oil Line from Martin Plant to 45th Street Terminal
- Southern Natural Gas (SNG) Pipeline
- Upstream Pipeline Project (Illustrative, not actual route)
- SNG Cypress Lateral
- Gulfstream Natural Gas Systems, L.L.C. (Gulfstream)
- Florida Gas Transmission, LLC (FGT)
- FGT Phase VIII Expansion - Proposed

Notes:
 1. CCEC: FPL's Cape Canaveral Next Generation Clean Energy Center
 2. RBEC: FPL's Riviera Beach Next Generation Clean Energy Center
 3. The proposed corridor of the Florida EnergySecure Line is subject to change through the regulatory siting process.
 4. The Florida EnergySecure Line will include other minor affiliated facilities such as metering stations and gas heaters at locations to be determined.
 5. There are no publicly available maps of the proposed Seacoast Gas Transmission, LLC (Seacoast) pipeline and, therefore, Seacoast is not depicted on this map.
 6. Initially, two compressor stations - one in Bradford County near FGT Station 16 and one at FPL's 45th Street Terminal - will be placed into service with the Florida EnergySecure Line on January 2014. Additional compression will be added at locations to be determined as additional transportation capacity is needed.
 7. FPL's existing 18-inch Gas/Oil Line from Martin Plant to the 45th Street Terminal is not part of this need proceeding.



One inch equals 50 miles
 Miles
 0 10 20 30 40 50