

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Petition for Determination that) DOCKET NO. _____
the Osprey Plant Acquisition and,)
alternatively, the Suwannee Simple) Submitted for filing: January 30, 2015
Cycle Project is the most Cost Effective)
Generation Alternative to meet the)
Remaining Need Prior to 2018 for)
Duke Energy Florida, Inc.)
_____)

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 Kris G. Edmondson with Exhibits KGE-1 through KGE-3 in support of DEF's Petition for Determination that the Osprey Plant Acquisition and, alternatively, the Suwannee Simple Cycle Project is the most Cost Effective Generation Alternative to Meet the Remaining Need Prior to 2018 for Duke Energy Florida, Inc.

Respectfully submitted this 30th day of January, 2015.

John T. Burnett
Deputy General Counsel
Dianne M. Triplett
Associate General Counsel
DUKE ENERGY FLORIDA, INC.
Post Office Box 14042
St. Petersburg, FL 33733-4042
Telephone: (727) 820-5587
Facsimile: (727) 820-5519

/s/ James Michael Walls
James Michael Walls
Florida Bar No. 0706242
Blaise N. Gamba
Florida Bar No. 0027942
CARLTON FIELDS JORDEN BURT, P.A.
Post Office Box 3239
Tampa, FL 33601-3239
Telephone: (813) 223-7000
Facsimile: (813) 229-4133

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

**In re: Petition for Determination that
the Osprey Plant Acquisition and,
alternatively, the Suwannee Simple
Cycle Project is the most Cost Effective
Generation Alternative to meet the Remaining
Need Prior to 2018 for Duke Energy Florida, Inc.**

DOCKET NO. _____
Submitted for filing: January 30, 2015

REDACTED

**DIRECT TESTIMONY
OF KRIS G. EDMONDSON**

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

JOHN T. BURNETT
Deputy General Counsel
DIANNE M. TRIPLETT
Associate General Counsel
DUKE ENERGY FLORIDA, INC.
299 1st Avenue North
St. Petersburg, Florida 33733
Telephone: (727) 820-5184
Facsimile: (727) 820-5519

JAMES MICHAEL WALLS
Florida Bar No. 706272
BLAISE N. GAMBA
Florida Bar No. 027942
CARLTON FIELDS JORDEN
BURT, P.A.
4221 W. Boy Scout Blvd., Ste.1000
Tampa, Florida 33607
Telephone: (813) 223-7000
Facsimile: (813) 229-4133

**IN RE: PETITION FOR DETERMINATION THAT THE OSPREY
PLANT ACQUISITION AND, ALTERNATIVELY, THE SUWANNEE SIMPLE
CYCLE PROJECT IS THE MOST COST EFFECTIVE GENERATION
ALTERNATIVE TO MEET THE REMAINING NEED PRIOR TO 2018
FOR DUKE ENERGY FLORIDA, INC.**

BY DUKE ENERGY FLORIDA, INC.

FPSC DOCKET NO. _____

DIRECT TESTIMONY OF KRIS G. EDMONDSON

1 **I. INTRODUCTION AND QUALIFICATIONS.**

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

3 A. My name is Kris G. Edmondson and I am employed by Duke Energy Florida, Inc.
4 (“DEF” or the “Company”). My business address is 299 1st Avenue North, St.
5 Petersburg, Florida 33701.

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

9 A. My current position is General Manager - Florida Fossil Operations. I am responsible for
10 ensuring safe, reliable, and cost effective operations for a significant portion of the
11 combined cycle and combustion turbine fleet in Florida. Provided the acquisition of the
12 Osprey Plant is approved, I would assume responsibility for this Plant in addition to the
13 other DEF plants that currently report to me.

14

15

16

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

2 A. I hold a Bachelor of Science in Civil Engineering and a Masters in Business
3 Administration. I have worked in the regulated utility industry for 17 years. The
4 majority of my experience has been in fossil operations leading organizations within
5 power plants and support teams focused primarily on operations, maintenance,
6 engineering, and project management. I have experience managing power plants,
7 integrating new unit construction into existing plants, directing technical support
8 organizations, and leading outage and project management teams supporting plants.
9

10 **II. PURPOSE AND SUMMARY OF TESTIMONY.**

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

12 A. I am testifying on behalf of the Company in support of its Petition. As explained by other
13 DEF witnesses, DEF is presenting the Osprey Energy Facility Combined Cycle Plant
14 (“Osprey Plant”) acquisition and, alternatively, the Suwannee Simple Cycle Project
15 (“Suwannee Project”) as the most cost effective alternative to meet its need for
16 generation prior to 2018. My testimony and exhibits describe the Osprey Plant
17 technology and location and how acquisition of the Osprey Plant by DEF would
18 complement DEF’s system. I also describe the due diligence process the Company
19 performed on the Osprey Plant prior to agreeing to acquire the Plant subject to regulatory
20 approvals. Lastly, I will present the Company’s forecasts for the operating and
21 maintenance costs for the Osprey Plant and explain why the major maintenance work and
22 associated costs are necessary for the Osprey Plant.
23

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

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

- 3 • Exhibit No. ___(KGE-1), a map showing the location of the Osprey Energy
- 4 Center in Auburndale, Polk County, Florida;
- 5 • Exhibit No. ___(KGE-2), the confidential Technical Due Diligence Evaluation
- 6 report for the Osprey Energy Center prepared by Burns & McDonnell
- 7 Engineering Company, Inc. (“Burns & McDonnell”); and
- 8 • Exhibit No. ___ (KGE-3), the confidential Pro Forma Major Maintenance Cost
- 9 Summary Projections for the Osprey Plant.

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

12
13 **Q. Please summarize your testimony.**

14 A. The Osprey Plant is a reasonable acquisition for the Company that will provide DEF’s
15 customers with an efficient, reliable source of combined cycle energy generation. Prior
16 to executing the asset purchase agreement (“APA”) for the Osprey Plant, DEF conducted
17 a detailed due diligence evaluation of the Plant acquisition. Based on that due diligence
18 review, DEF concluded that the current condition and operating performance of the
19 Osprey Plant was reasonable and that there were no fatal flaws to DEF’s acquisition of
20 the Plant. DEF will complete a final due diligence evaluation prior to closing on the
21 Plant acquisition to ensure there are no material changes in the condition and operating
22 performance of the Osprey Plant before DEF acquires it and integrates it into DEF’s
23 generation system. DEF’s due diligence review did reveal major maintenance

1 requirements for the equipment at the Osprey Plant. DEF prepared cost estimates for the
2 Plant maintenance needs based on equipment manufacturer recommendations and DEF's
3 extensive experience and expertise with the maintenance requirements and costs for
4 similar equipment. These maintenance costs were taken into account in the Company's
5 evaluation of the cost effectiveness of acquiring the Plant. Subject to the results of DEF's
6 initial and final due diligence reviews, DEF's acquisition of the Osprey Plant is
7 reasonable to provide DEF's customers the benefits of the Plant's projected long-term
8 efficient and reliable service.
9

10 **III. THE OSPREY COMBINED CYCLE POWER PLANT ACQUISITION.**

11 **Q. Can you describe the Osprey Plant?**

12 A. Yes. The Osprey Plant is an existing 599 MW natural gas-fired 2x1 combined cycle
13 generation facility in Auburndale, Florida that was originally put in service in 2004. The
14 plant includes two Siemens Westinghouse 501FD2 model Combustion Turbine
15 Generators, two Nooter Erikson Heat Recovery Steam Generators and one Siemens KN
16 Steam Turbine Generator. The Plant produces 534 MW on a base load basis and up to
17 599 MW with additional peaking capacity. The Osprey Plant is a merchant plant
18 currently owned by Osprey Energy Center LLC as the assignee of Calpine Construction
19 Finance Company, L.P. ("Calpine") and provides capacity and energy to DEF under a
20 power purchase agreement ("PPA").
21
22
23

1 **Q. Where is the Osprey Plant located?**

2 A. The Osprey Plant is located at the Osprey Energy Center in Auburndale, Polk County,
3 Florida, in the Tampa Electric Company (“TECO”) balancing area authority (“BAA”).
4 The location of the Osprey Plant is shown on Exhibit No. ___(KGE-1) to my direct
5 testimony.

6
7 **Q. Are there other key operational characteristics of the Osprey Plant?**

8 A. In addition to high fuel efficiency, combined cycle technology delivers strong reliability.
9 This technology offers the flexibility to adjust power output up or down to meet load
10 requirements on DEF’s system. Given the 2x1 configuration, the plant offers flexibility
11 to run the steam turbine with just one combustion turbine for high efficiency at reduced
12 loads when needed. These features position the operator of the combined cycle plant to
13 generate power to match the DEF system load demand. The Osprey Plant has several
14 operating configurations to provide supplemental peaking capability, including power
15 augmentation, inlet fogging, and heat recovery steam generator (“HRSG”) duct firing.
16 These capabilities can increase load on the Plant power block from a base load of 534
17 MW to a peak load of 599 MW when needed. In addition, the HRSG stacks have
18 dampers that help preserve heat when the units are cycled off to allow for quicker start up
19 times to meet customer demands. The combined cycle technology is proven and DEF
20 has significant experience operating equipment of similar design and vintage.

1 **Q. What is the fuel source for the Osprey Plant?**

2 A. The Osprey Plant runs on natural gas. Calpine currently has a firm transportation service
3 agreement with Gulfstream Natural Gas System, LLC (“Gulfstream”), which provides for
4 [REDACTED] of firm capacity. The contract maximum flow rate is [REDACTED]
5 [REDACTED]. Under the Osprey Plant acquisition agreement, the rights to the
6 Gulfstream contracted capacity will be assigned to DEF by Calpine once the Plant
7 acquisition is completed. The current term of the Gulfstream contract is not scheduled to
8 expire [REDACTED]

9
10 **Q. Does the Osprey Plant have dual fuel capability?**

11 A. No. The Osprey Plant does not burn fuel oil and so it does not have dual fuel capability.
12 However, a majority of DEF’s combined cycle and peaking power plants in Florida have
13 dual fuel capability, therefore, the resource reliability from dual fuel already exists on
14 DEF’s system.

15
16 **Q. Can you briefly describe the proposed Osprey Plant acquisition terms?**

17 A. The specific terms of the Osprey Plant acquisition are described in detail in the testimony
18 of Mr. Matthew Palasek and in the APA attached to his testimony. For my purpose in
19 managing the due-diligence review of the Plant acquisition, my understanding is that
20 DEF is proposing to purchase the Osprey Plant following a two-year PPA. The purchase
21 of the Plant would occur on or before January 3, 2017.

22

1 **Q. Will Calpine continue to own and operate the Osprey Plant prior to the closing?**

2 A. Yes. As discussed in the direct testimony of Mr. Palasek, DEF and Calpine agreed to a
3 PPA for DEF's purchase of firm capacity and energy from the Osprey Plant to DEF's
4 system between October 2014 and January 2, 2017. During this PPA period, DEF will
5 seek to obtain the required regulatory approvals for DEF's acquisition of the Osprey
6 Plant and Calpine will continue to own, operate, and maintain the Osprey Plant.

7
8 **Q. Are there advantages to DEF's customers to acquire the existing Osprey Plant?**

9 A. Yes. First, the Osprey Plant is an existing facility that delivers an efficient source of
10 generation for customers. The technology and vintage of equipment is similar to other
11 units in the DEF fleet which will allow DEF to leverage current operations and
12 maintenance programs and expertise for this Plant. Geographically, the Osprey Plant is
13 positioned within 30 miles of the Hines Energy Center and 40 miles of Intercession City,
14 which aligns well with existing DEF generation resources. In addition, buying and
15 continuing to operate an existing plant leverages existing infrastructure and can provide a
16 cost effective resource option under the right conditions.

17
18 **IV. OSPREY PLANT ACQUISITION DUE DILIGENCE PROCESS.**

19 **Q. Following the initial agreement in principle in the term sheet between Calpine and
20 DEF for purchase of the Osprey Plant can you describe what the next steps were?**

21 A. Yes. Calpine provided a due diligence period for DEF to assess and evaluate the
22 condition of the Plant, the operation and maintenance conditions and requirements,
23 environmental, water, and other site related permits and permit requirements for

1 continued operation of the Plant, and complete regulatory and financial assessments
2 associated with the Plant acquisition by DEF.
3

4 **Q. What was the purpose of the due diligence evaluation of the Osprey Plant?**

5 A. Due diligence is a necessary step in the acquisition process to assist the development of
6 the terms and conditions of a final purchase agreement. The due diligence process was
7 used to determine the maintenance status of the Osprey Plant and to investigate and
8 ensure that the Plant had been constructed and operated in an appropriate manner so the
9 Plant will continue to provide dependable long-term service for DEF and its customers.
10

11 **Q. How was the due diligence process structured?**

12 A. DEF and Calpine cooperated in the due diligence process for the Osprey Plant acquisition
13 between September and December 2014. DEF established a due diligence working group
14 in early September, 2014, with teams organized to assess the overall condition of the
15 Osprey Plant and long-term operational requirements as well as the financial and
16 regulatory aspects of the proposed transaction. DEF brought together internal
17 representatives from the following subject matter areas: technical and engineering,
18 environmental, transmission, legal, rates, regulatory, regulatory finance, integrated
19 resource planning analytics, human resources, financial planning & analysis, tax, and
20 corporate development for its working group.

21 Starting in September 2014, DEF put together extensive Requests for Information
22 (“RFIs”) directed to Calpine covering multiple aspects of the Plant, its components and
23 parts, maintenance, financials, contracts, transmission, environmental, historical

1 performance and multiple other categories of information. In addition to providing
2 responses to these RFIs, Calpine set up a data room where hundreds of documents were
3 made available to DEF's working group. DEF's initial assessment included an
4 equipment condition assessment, operation and maintenance ("O&M") cost studies, and a
5 unit performance assessment. The basic goal of this assessment was to determine if there
6 were any fatal flaws with the Osprey Plant for which DEF would not proceed with the
7 Osprey Plant acquisition.

8 The next phase of due diligence involved development of a more detailed
9 evaluation of DEF's projected operating and capital costs to operate and maintain the
10 Osprey Plant in 2017 and beyond. These cost projections were prepared based on
11 condition information provided by Calpine in response to the RFI's and incorporated
12 DEF's planned O&M strategy, consistent with current operations of similar units in the
13 Company's fleet.

14
15 **Q. Did DEF hire a consultant to independently evaluate the Osprey Plant?**

16 A. Yes. DEF hired Burns & McDonnell to conduct an independent due diligence evaluation
17 and engineering assessment for the Osprey Plant as part of phase one of DEF's due
18 diligence evaluation of the Osprey Plant acquisition. The purpose of the Burns &
19 McDonnell evaluation was to assess whether the Plant had been constructed and operated
20 in a manner that provided DEF assurance that the Plant had the capability to provide long
21 term, dependable service as a combined cycle power plant. Burns & McDonnell also sent
22 Calpine an extensive RFI regarding the Plant, accessed the Calpine data room, and

1 conducted a site visit of the Osprey Plant during its three-month evaluation of the Osprey
2 Plant.

3
4 **Q. Who is Burns & McDonnell?**

5 A. Burns & McDonnell is an engineering firm that provides engineering, architectural,
6 construction, environmental, and consulting services to a broad range of clients across a
7 multitude of industries. They are a large national engineering consultation company
8 (5,000 employees), have extensive experience in engineering assessment, and are well
9 known in the power generation industry. They provide engineering services and
10 consulting services to the Company on a wide variety of projects, and are currently
11 engaged as DEF's owner's engineer on the Citrus County Combined Cycle facility and a
12 number of other projects related to the generation units in the existing fleet. The Burns &
13 McDonnell team that performed the review of the Osprey Plant is routinely engaged in
14 due diligence reviews for existing power generation facilities.

15
16 **Q. Did Burns & McDonnell find any fatal flaws with the Osprey Plant acquisition?**

17 A. No. Burns & McDonnell concluded that the Osprey Plant is capable of providing long-
18 term reliable service as a combined cycle facility if the Osprey Plant continues to be
19 properly operated and maintained in accordance with good utility practice. Burns &
20 McDonnell provided DEF with a Technical Due Diligence Evaluation report to support
21 its conclusion. Burns & McDonnell included in its report recommendations on plant
22 operations and maintenance and performance, key contracts and agreements, and
23 environmental considerations. A copy of the Burns & McDonnell technical due diligence

1 evaluation report for the Osprey Plant is attached as Exhibit No. ____ (KGE-2) to my
2 direct testimony.

3
4 **Q. Is the initial due diligence process complete?**

5 A. Yes. The initial due diligence evaluation, phases one and two, were completed in
6 November 2014 with the Burns & McDonnell report finalized in December 2014.

7
8 **Q. What were DEF's final conclusions from its initial due diligence review of the
9 Osprey Plant acquisition?**

10 A. DEF concluded that the Osprey Plant was in reasonable physical condition and has
11 reasonable operating performance with no foreseeable major flaws that prevent DEF
12 from proceeding with the Osprey Plant acquisition. As to environmental permitting
13 (based on information provided) the Plant is currently in compliance and there were no
14 significant findings. Based on the due diligence review DEF was able to establish
15 estimates for projected Plant O&M costs, including costs for upcoming, necessary major
16 maintenance, and provide appropriate cost and performance inputs for the integrated
17 resource planning analyses.

18
19 **Q. You testified that DEF completed its initial due diligence review, does DEF plan
20 another due diligence review before it completes the acquisition of the Osprey
21 Plant?**

22 A. Yes. Because DEF must obtain regulatory approvals to complete the acquisition of the
23 Osprey Plant, DEF and Calpine agreed to the PPA through January 2, 2017, with a

1 closing for the Osprey Plant acquisition on January 3, 2017. As a result, Calpine will
2 continue to operate and maintain the Osprey Plant during this PPA period even though
3 DEF and Calpine have entered into the APA for the Osprey Plant. Because DEF will not
4 close on the Plant for over two years, during which time Calpine, not DEF, will operate
5 and maintain the Plant, [REDACTED]

6 [REDACTED]

7 [REDACTED]

8 [REDACTED]

9 [REDACTED]

10 [REDACTED]

11 [REDACTED]

12 [REDACTED]

13 [REDACTED]

14 [REDACTED]

15 [REDACTED]

16 [REDACTED]

17 [REDACTED] and pursuant to the provisions of the APA as discussed in Mr.

18 Palasek's testimony.

19
20 **Q. Once DEF acquires ownership of the Plant does DEF expect to incur further costs to**
21 **operate the Plant on DEF's system?**

22 **A. Yes. Combined cycle plants like the Osprey Plant require routine maintenance and major**
23 **maintenance overhauls at various intervals based on an understanding of the pedigree of**

1 the key components and parts and recommendations from the equipment manufacturers
2 or Original Equipment Manufacturers (“OEMs”). In the case of the Osprey Plant, since it
3 was put in service in 2004, the combustion turbines and steam turbines, principally, will
4 be coming up on their major maintenance intervals in the 2017 and 2018 time frame.
5 Accordingly, DEF estimates that it will incur ██████████ (\$2014) in 2017 and ██████████
6 ██████████ (\$2014) in 2018 to perform these major maintenance requirements.

7 In addition to the costs for the major maintenance requirements for the Plant, DEF
8 will also incur costs to re-stock and maintain equipment and material inventory for the
9 continued operation of the Osprey Plant on DEF’s system consistent with DEF’s standard
10 policies and practices. Similarly, DEF expects to incur additional costs to integrate the
11 Osprey Plant into the DEF fleet. All these costs are reflected in the Major Maintenance
12 Cost Summary Projection Pro Forma Forecast (\$2014) attached to my direct testimony as
13 Exhibit No. __ (KGE-3). The exhibit includes the Forecast of estimated O&M major
14 maintenance and capital major maintenance for the Osprey Plant through 2030, and
15 provides an itemized list of the maintenance or replacement costs needed for each
16 category of equipment and the year in which it must be incurred.

17
18 **Q. What makes up the major maintenance costs in 2017 and 2018?**

19 **A.** A significant portion of these major maintenance needs are tied to major inspections that
20 are coming due on both Plant gas turbines, the steam turbine, and all three generators,
21 during which a substantial number of the parts and components are typically inspected
22 and likely replaced. DEF has a robust plant maintenance program for combined cycle
23 plants that demands a high-level of quality for parts used in the plants and regular interval

1 based maintenance. The strategy behind the cost estimates for these major maintenance
2 needs in the Forecast is to remove and replace a number of gas turbine parts that are
3 either due to be replaced or would not be qualified by DEF's Combustion Turbine ("CT")
4 engineering team for continued operation. This strategy ensures the components and
5 parts are well known and documented and the units are well positioned to reliably and
6 cost effectively operate through the remaining life cycle of the Plant. In addition, these
7 initial major maintenance investments will properly align the Plant assets with DEF's
8 maintenance philosophy and current combined cycle programs. The estimated cost
9 projections for the major maintenance needs are based on DEF's due diligence reviews
10 and they do not reflect information typically available from site-specific commercial
11 discussions or detailed outage planning that will only begin to take place as part of the
12 integration effort once regulatory approvals for the Plant acquisition are obtained. This
13 maintenance is necessary to ensure the continued and long-term operation of the Plant in
14 an efficient and reliable manner for the benefit of DEF's customers.

15
16 **Q. What is the difference between O&M major maintenance and capital major**
17 **maintenance in Exhibit No. ___ (KGE-3)?**

18 A. The distinction is based on the nature of the maintenance required. O&M major
19 maintenance generally involves the preservation of the parts and equipment, and capital
20 major maintenance generally involves the replacement of parts and equipment. So, for
21 example, the steam turbines are listed under O&M because the steam turbines require
22 cleaning, polishing, repairs and other preservation-type activities while the majority of
23 the combustion turbines major maintenance is listed under capital because the

1 combustion turbines require replacement of a significant number of parts and
2 components.

3
4 **Q. What are examples of the capital major maintenance for the Osprey Plant in 2017**
5 **and 2018?**

6 A. The majority of the capital portion of the forecasted costs is made up of part replacements
7 on the combustion turbines. The remaining projected capital investments are in the heat
8 recovery steam generator (LP Evaporator tube bundle replacements and HRSG Stop
9 Valve replacements), SCR catalyst replacements, heat exchanger tube replacements, and
10 investments in the plant control system.

11
12 **Q. What are examples of the O&M major maintenance for the Osprey Plant in 2017**
13 **and 2018?**

14 A. The majority of the O&M major maintenance expenses projected are tied to the steam
15 turbine major inspection and the rotor out generator inspections on both combustion
16 turbines and the steam turbine. Other O&M major maintenance forecasts are tied to
17 inspections on the HRSG, high energy piping systems, and balance of plant systems.
18 These inspections include condition assessments and repair cost to remedy any findings
19 to ensure reliable operation of the equipment.

1 **Q. How did DEF determine when the maintenance items shown on the Pro Forma**
2 **Forecast were necessary?**

3 A. The Osprey Plant working group created the recommended maintenance program for the
4 Osprey Plant depicted in the Pro Forma Forecast attached as Exhibit No. __ (KGE-3).
5 Power plant components have OEM recommended, routine schedules for major
6 maintenance to preserve optimal performance of the equipment. Maintenance is typically
7 “triggered” based on cumulative hours of operation and OEM recommendations. DEF
8 has an established maintenance program and practice which incorporates these OEM
9 recommended service intervals, service bulletins and the Company’s own experience
10 with similar equipment.

11 Since the Osprey Plant was put in service in 2004, it is coming up on major
12 scheduled maintenance overhauls, in particular for its largest components, the steam
13 turbines and combustion turbines, in 2017 and 2018. The major maintenance items
14 shown on the Pro Forma Forecast are based on a combination of Calpine's projected
15 maintenance schedule for 2017, condition items identified by DEF during due diligence,
16 and conformity with DEF's standards for major maintenance. DEF determined these
17 major maintenance needs based on a thorough review of due diligence information
18 provided by Calpine coupled with DEF subject matter experts forecasting needs based on
19 DEF standards. See Exhibit No. __ (KGE-3).

20 In addition, some portions of the maintenance work that the working group
21 included in the Pro Forma Forecast cost projections for the Osprey Plant are needed to
22 bring the Osprey Plant into compliance with DEF fleet standards. For example, DEF has
23 specific standards and specifications for qualifying OEM and third-party combustion

1 turbine parts prior to use. Many of the parts in the Osprey Plant combustion turbines are
2 non-OEM parts and have unknown qualifications. DEF plans to integrate the Osprey
3 Plant into its fleet and conform the O&M practices at the Osprey Plant to DEF's
4 standards. This means that DEF will either re-qualify or replace parts to ensure that the
5 operation and maintenance of the Osprey Plant conforms to DEF's O&M program
6 standards used at its other combined cycle generation plants.

7 The only way that DEF can ensure that the Osprey Plant meets its maintenance
8 program standards will be inspection and likely replacement of non-qualifying parts
9 during the major maintenance. For this reason, the investment in major maintenance
10 projected in 2017 and 2018 in each of the combustion turbines includes assumptions that
11 a majority of the turbine and compressor parts will be replaced. This assumption is based
12 on the pedigree of parts provided by Calpine coupled with a maintenance strategy to
13 ensure that DEF understands component condition well enough to operate the Plant
14 reliably until the next maintenance outage under DEF's maintenance standards.

15 Moreover, notwithstanding the extensive due diligence conducted by DEF and the
16 comprehensive review of records kept on the various parts of the Plant, DEF will not be
17 able to know the condition of the Osprey Plant parts until the Plant components are
18 opened up and inspected during the maintenance outages. During these unit outages,
19 some parts assumed to be replaced in the Pro Forma Forecast cost projection may be re-
20 qualified for use based on DEF combustion turbine engineering evaluation, which could
21 lower the total costs shown in the Pro Forma Forecast; however, other parts that are not
22 planned on being replaced or work that is not planned on being performed during the
23 outage may be necessary once DEF commences the outage work, requiring higher costs

1 than are currently projected. Actual major maintenance costs will not be fully known
2 until the outage work is completed, but based on DEF's detailed due diligence
3 assessment, the Pro Forma Forecast cost projections in Exhibit No. ____ (KGE-3)
4 represent the Company's best available information regarding the major maintenance
5 costs for the Osprey Plant.

6
7 **Q. How were the major maintenance costs estimated?**

8 A. The major maintenance cost projections were based on the Company's operating
9 experience and program cost baselines for Siemens-based combustion turbines and steam
10 turbines in combined cycle operation – which DEF has significant experience with
11 including the units at the Bartow plant and the Hines Energy Center. The operating cost
12 forecasts include both detailed major maintenance and program upgrade requirements in
13 the early years and typical program maintenance projections thereafter. These cost
14 projections are budgetary estimates based on the Company's extensive experience
15 operating and maintaining similar combined cycle power plants.

16
17 **Q. Why isn't Calpine paying for this major maintenance?**

18 A. Per Calpine's maintenance schedule and in accordance with Calpine's maintenance
19 standards, these maintenance outages are not coming due during Calpine's ownership
20 period. Calpine, however, likewise projected that the same major maintenance intervals
21 would be required in a maintenance outage in the 2017 timeframe, which was taken into
22 consideration by DEF and Calpine when the terms and conditions for the acquisition of
23 the Calpine Plant in the APA were negotiated. The costs for the maintenance work in

1 this time frame were also taken into account in the cumulative present value revenue
2 requirements (“CPVRR”) analysis of the cost effectiveness of acquiring the Osprey Plant
3 that was prepared by the Company. The Pro Forma Forecast in Exhibit No. ___ (KGE-3)
4 was used to develop the Osprey Plant acquisition revenue requirements that were used in
5 the CPVRR evaluation of the cost effectiveness of the acquisition that is included in an
6 exhibit to and discussed in the direct testimony of Mr. Benjamin Borsch in this
7 proceeding.

8
9 **Q. Are the major maintenance costs that are projected reasonable and necessary?**

10 A. Yes. The major maintenance costs are based on industry standard, required major
11 maintenance that is needed in 2017 and 2018 for the Osprey Plant steam turbine,
12 combustion turbines, and balance of plant, including, for example, the heat recovery
13 steam generators. Other major maintenance costs are for work and material that are
14 necessary to incorporate the Osprey Plant into the DEF system and ensure that the Osprey
15 plant provides reliable service as a part of DEF’s fleet. All of these cost estimates take
16 into consideration OEM recommendations, standard interval maintenance schedules, and
17 DEF’s extensive expertise with operating and maintaining similar equipment through its
18 plant maintenance program. The costs presented in the Pro Forma Forecast in Exhibit
19 No. ___ (KGE-3) are reasonable costs for work and material that are necessary for the
20 reliable, long-term operation of the Osprey Plant for the benefit of DEF’s customers.

1 **V. CONCLUSION.**

2 **Q. Is DEF's acquisition of the Osprey Plant reasonable?**

3 A. Yes. Based on the due diligence review by the DEF working group and our outside
4 consultant Burns & McDonnell, and subject to the final due diligence review and
5 conditions prior to closing on the Plant acquisition in January 2017, the Osprey Plant
6 should continue to provide long-term reliable service for DEF and its customers. DEF's
7 acquisition of the Osprey Plant with the requisite capital and maintenance costs is
8 reasonable to incorporate the Osprey Plant into DEF's system for the benefit of DEF's
9 customers.

10

11 **Q. Does this conclude your testimony?**

12 A. Yes, it does.

Docket No. _____
Duke Energy Florida
Exhibit No. ____ (KGE-2)
Pages 1 through 84

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

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**EXHIBIT KGE-2 OF
DIRECT TESTIMONY
OF KRIS G. EDMONDSON
IS CONFIDENTIAL IN ITS ENTIRETY**

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