

**BEFORE THE FLORIDA
PUBLIC SERVICE COMMISSION**

**DOCKET NO. 120015-EI
FLORIDA POWER & LIGHT COMPANY**

**IN RE: PETITION FOR RATE INCREASE BY
FLORIDA POWER & LIGHT COMPANY**

REBUTTAL TESTIMONY & EXHIBITS OF:

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RENE SILVA

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FLORIDA POWER & LIGHT COMPANY
REBUTTAL TESTIMONY OF RENE SILVA
DOCKET NO. 120015-EI
JULY 31, 2012

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1 **I. INTRODUCTION**

2

3 **Q. Please state your name and business address.**

4 A. My name is Rene Silva. My business address is 9250 West Flagler Street,
5 Miami, Florida 33174.

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

7 A. I am employed by Florida Power & Light Company ("FPL") as Senior
8 Director, Resource Assessment and Planning ("RAP").

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

10 A. I manage the RAP group, the department that is responsible for developing
11 FPL's integrated resource plan ("IRP") and other related activities, such as
12 quantifying the need for future resource additions, and analyzing the
13 economic and other impacts to the FPL system from the addition of resource
14 options.

15 **Q. Please describe your educational background business experience.**

16 A. I graduated from the University of Michigan with a Bachelor of Science
17 Degree in Engineering Science in 1974. From 1974 until 1978, I was
18 employed by the Nuclear Energy Division of the General Electric Company in
19 the area of nuclear fuel design. While employed by General Electric, I earned
20 a Masters Degree in Mechanical Engineering from San Jose State University
21 in 1978.

22

1 I joined the Fuel Resources Department of FPL in 1978, as a fuel engineer,
2 responsible for purchasing nuclear fuel. While employed by FPL, I earned a
3 Masters Degree in Business Administration from the University of Miami in
4 1986. In 1987, I became Manager of Fossil Fuel, responsible for FPL's
5 purchases of fuel oil, natural gas, and coal. In 1990, I assumed the position of
6 Director, Fuel Resources Department, and in 1991 became Manager of Fuel
7 Services, responsible for coordinating the development and implementation of
8 FPL's fossil fuel procurement strategy. In 1998, I was named Manager of
9 Business Services in the Power Generation Division ("PGD"). In that
10 capacity, I managed the group that is responsible for coordinating (a) the
11 development of PGD's long-term plan for the effective and efficient
12 construction, operation and maintenance of FPL's fossil generating plants, (b)
13 the preparation of PGD annual budgets and tracking of expenditures, and (c)
14 the preparation of reports related to fossil generating plant performance. On
15 May 1, 2002, I was appointed to my current position.

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

17 A. Yes. I am sponsoring Exhibit RS-1 – Location of McDaniel and Fort Drum
18 Sites.

19 **Q. What is the purpose of your rebuttal testimony?**

20 A. My rebuttal testimony demonstrates that Office of Public Counsel ("OPC")
21 witness Ramas' recommendation to remove \$108,951,000 from FPL's rate
22 base, representing investment in the Fort Drum site and the McDaniel/Hendry
23 County plant site (the "McDaniel site"), which comprise the entire investment

1 in FPL's Plant Held for Future Use - Other Production Future Use (the "OPFU
2 sites"), (a) would jeopardize FPL's ability to provide reliable service in the
3 future at a reasonable cost and (b) would not be in the interest of FPL's
4 customers.

5

6 **II. PLANT HELD FOR FUTURE USE – OTHER PRODUCTION**

7

8 **Q. Please summarize your rebuttal testimony.**

9 A. My testimony presents and discusses the following points:

- 10 1. FPL has a clear plan for the plant sites reflected in FPL's OPFU
11 regardless of whether the sites currently are scheduled in FPL's Ten Year
12 Site Plan.
- 13 2. FPL likely would need to have control of plant sites as early as 2014 and
14 not later than 2016, and then again as early as 2017.
- 15 3. It would not be good utility practice or in the best interest of our
16 customers, consistent with the long-term planning process that is
17 necessary to ensure continued reliable service at a reasonable cost, if FPL
18 were only to acquire property for power plant sites once a specific in-
19 service date, construction date or a need determination filing date for
20 generating units had been selected; yet, witness Ramas' recommendation
21 would be to disallow any such property that does not meet these criteria.

- 1 4. Ms. Ramas' position fails to take into account the time needed to locate,
2 evaluate, select and acquire sites as well as the dynamic nature of the
3 planning process. These sites by definition are "held for future use."
- 4 5. It is essential that FPL hold and maintain both a primary and an alternate
5 site for future firm generating capacity additions because there is never
6 complete certainty regarding FPL's ability to construct and operate new
7 generation needed to meet customers' demand at the primary site until all
8 required approvals and permits are obtained.
- 9 6. Between 2001 and 2016, all but one of the sites used by FPL to add new
10 generation capacity required to meet the growing needs of its customers
11 were existing sites; however, in the future all new generation except for
12 Turkey Point 6 and 7 will likely be built on new plant sites.
- 13 7. These OPFU sites, the locations of which are marked by star symbols on
14 Exhibit RS-1, were selected after an extensive search and detailed
15 evaluation concluded that the sites meet all the very demanding criteria.
16 As shown on Exhibit RS-1, these OPFU sites are located very close to
17 existing transmission lines and near FPL's area of greatest load
18 concentration in Southeast Florida. Therefore, these OPFU sites are the
19 best sites that FPL could find and acquire.
- 20 8. Disallowing these plant sites in Property Held For Future Use would be a
21 clear indication not only that these sites are deemed not needed for future
22 use and not prudent to retain, but in fact that they should be sold, thus

1 putting the future availability of these properties at risk to the detriment
2 of customers.

3 9. If these OPFU sites are disallowed from FPL's 2013 rate base, when FPL
4 re-enters the market to urgently search, evaluate, select and acquire viable
5 sites for future generation, available sites likely will be fewer, more
6 costly and less desirable.

7 10. Neither the immediate effect of adopting witness Ramas'
8 recommendation – placing FPL in a position where it must urgently
9 acquire more costly, less favorable sites for the next needed generating
10 units - nor the ongoing longer-term effect of such a decision on the utility
11 planning process – clearly implying that FPL should not take advantage
12 of opportunities to acquire sites on beneficial terms when those
13 opportunities present themselves - would be in the best interest of FPL's
14 customers.

15 **Q. Does FPL have a clear plan for the use of the OPFU sites?**

16 A. Yes. These are the sites where FPL plans to build its next non-nuclear
17 generating units. FPL plans to build three combined cycle units at the
18 McDaniel site and another two combined cycle units at the Fort Drum site, for
19 a total generating capacity of up to 6,385 MW.

1 **Q. Does the fact that FPL's planning process has not yet identified specific**
2 **in-service, construction, or need determination filing dates for generating**
3 **units at these sites mean that FPL's plans are uncertain or that the sites**
4 **do not provide value in FPL's planning process?**

5 A. No. The in-service dates of these additions are uncertain at present, but such
6 dates would be consistent with the timing of FPL's next need for new capacity
7 to meet demand growth in FPL's system. Building the plants would be
8 subject to their being deemed the most cost-effective choice, and subject also
9 to the Commission's approval. These sites represent an important and
10 valuable component of FPL's planning process.

11 **Q. What is the purpose of having the OPFU sites as Plant Held for Future**
12 **Use?**

13 A. Simply stated, the purpose of the OPFU sites is to serve FPL's customers.
14 FPL has a responsibility to serve not only the load and energy of existing
15 customers, but also the load and energy requirements of its customers in the
16 future. To meet those future needs, FPL will have to build additional power
17 plants, and some of those power plants will be Other Production plants – gas
18 fired combined cycle and combustion turbine plants - like FPL has added and
19 is scheduled to add from 2001-2016.

20

21 It is important to recognize that the process of identifying, evaluating and
22 acquiring suitable properties to build and operate future power plants
23 necessarily must occur well in advance of any specific anticipated need to

1 build generating units at the site. FPL and its customers cannot afford to wait
2 until FPL has an identified need for new resources to begin procuring sites.
3 FPL has to have some site specific information to make informed decisions
4 about the proper selection of resources. So, FPL cannot wait until there is
5 imminent need determination, construction and in-service dates to go out and
6 identify and procure generating sites. Such sites are limited; they must meet a
7 host of criteria; and they must be analyzed before purchase.

8 **Q. When does FPL expect it will build a new generating unit at one of the**
9 **OPFU sites?**

10 A. After its addition of the new Port Everglades modernized unit in 2016, FPL
11 could require additional new generation resources as early as 2019, and FPL
12 expects that the needed new generation would be built at one of the OPFU
13 sites.

14 **Q. When will FPL need to have control of a plant site to meet such**
15 **generation capacity need?**

16 A. FPL would need to have control of a viable site as early as 2014. Based on a
17 resource need between 2019 and 2021, FPL will have to make a decision
18 regarding how to best meet that resource need as early as 2014, and not later
19 than 2016. This would, in turn, require FPL to have control of one or more
20 plant sites as early as 2014, and not later than 2016.

21 **Q. Why would FPL need site control so early?**

22 A. It takes FPL not less than five years, from the time the best FPL self-build
23 alternative is identified, to obtain all required approvals, build the generating

1 unit and place it in service. The process first requires that FPL evaluate self-
2 build alternatives and identify the one that is the most cost-effective. Then,
3 well in advance of filing a petition for a determination of need, FPL must
4 issue a request for proposals (“RFP”), in compliance with the Commission’s
5 bid rule, to request third-party bids that would compete with FPL’s self-build
6 choice. The Commission’s bid rule requires that FPL provide a detailed
7 technical description of the proposed generating unit on which the RFP is
8 based, the financial assumptions associated with the unit, its location, a
9 description and costs required for associated facilities such as gas laterals and
10 transmission facilities and FPL actions necessary to comply with
11 environmental requirements. In order to comply with these bid rule
12 provisions, it is necessary that FPL have control of the proposed plant site at
13 the time it issues the RFP.

14
15 After FPL evaluates the submitted bids and selects the best alternative, it
16 must, either jointly with the winning bidder or on its own, file a petition for a
17 determination of need. If the determination of need is granted, either FPL and
18 the contract supplier or FPL alone, must obtain a site certification under the
19 Power Plant Siting Act (“PPSA”). Only after the site certification is granted
20 can construction begin. Construction takes at least two years. Recent
21 experience shows that the entire process requires a minimum of five years.

1 **Q. Would it then be necessary for FPL to have completed a thorough review**
2 **of viable plant sites and selected the best available sites by the end of**
3 **2013?**

4 A. Yes. In order for FPL to effectively compare self-build generation
5 alternatives and select the best self-build alternative, it must know with
6 certainty where the various self-build generating unit alternatives would be
7 located, so that a high confidence cost estimate could be developed for all
8 aspects of the construction and operation of each self-build alternative to use
9 in economic analyses. In order for FPL to evaluate its self build alternatives,
10 compare the best of these to third party bids and select in 2014 the best option
11 to be placed in service by 2019, FPL would need to know by late 2013 where
12 those self build alternatives would be sited. And in order to be able to select
13 the best alternative by late 2013, it would have been necessary for FPL to
14 have already begun the process of searching for potentially viable sites, so that
15 there would be adequate time to find and evaluate such candidate sites.

16 **Q. If FPL would need to select a site by late 2013, why did FPL purchase the**
17 **McDaniel and Fort Drum sites in 2011?**

18 A. FPL made those purchases for several reasons:

- 19 • FPL projected that it would have to add new generating capacity to its
20 system in the near future, and it knew that these new resources would
21 have to be built at new sites;
- 22 • these OPFU sites were determined to meet all of the criteria required
23 to build and operate a generating plant;

- 1 ● these OPFU sites were relatively close to the area of FPL's load
2 concentration and very close to FPL's 500 kV transmission lines;
- 3 ● these OPFU sites were reasonably cost-competitive with the best
4 alternative selected by FPL to meet its need in 2016;
- 5 ● the challenges FPL faced in the process of searching, identifying,
6 evaluating and selecting these OPFU sites indicated to FPL how
7 lengthy and uncertain the process would be in the future and how
8 difficult, if not impossible, it would be for FPL to find sites as
9 favorable as the OPFU sites; and
- 10 ● the owners of these sites were willing to sell them to FPL at a time
11 when real estate prices were depressed, and it was FPL's judgment that
12 prices for any viable plant sites would be higher in the future.

13

14 In short, FPL determined that sites would be needed, and that acquiring the
15 OPFU sites at that time was the most appropriate course of action in meeting
16 its obligation to serve its customers. Conversely, not acquiring the very
17 beneficial OPFU sites would have been inconsistent with the process of long-
18 term planning that is necessary to ensure continued reliable service at a
19 reasonable cost.

20 **Q. Do the OPFU sites meet all the criteria required to build and operate**
21 **generating units in Florida?**

22 A. Yes. FPL initiated, in 2010, a search for candidate plant sites to build new
23 generating capacity required to meet FPL's 2016 resource need. This search

1 and the subsequent evaluation resulted in the determination that the OPFU
2 sites met all the required criteria, and that the McDaniel and Fort Drum sites
3 were the best sites available for new FPL generation from among many
4 properties that were initially considered possible sites. The criteria that
5 potential sites must meet to be deemed viable are described later in my
6 testimony.

7 **Q. Did FPL consider the OPFU sites as alternatives with its evaluation of the**
8 **best alternative selected to meet FPL's 2016 need?**

9 A. Yes. As part of its normal planning process FPL compared adding a new
10 generating unit in 2016 at each of these sites to modernizing the existing Port
11 Everglades steam units to build the Port Everglades Next Generation Clean
12 Energy Center ("PEEC"). Although PEEC was ultimately chosen as the best
13 choice for 2016 due to the significant advantages specific to the Port
14 Everglades site, the evaluation that led to that conclusion also indicated that
15 building new generation at the OPFU sites were viable and cost-effective
16 alternatives, second only to PEEC.

17 **Q. If FPL's need for new generating capacity were to be in 2021 rather than**
18 **2019, by what time would FPL have to select the best sites available?**

19 A. FPL would have to select the best sites before the end of 2015 and have
20 control of such sites not later than early 2016. But as discussed in my
21 testimony, because the OPFU sites have such advantages, FPL believes that it
22 would not be possible to obtain equally beneficial sites at comparable prices at
23 any time in the foreseeable future.

1 **Q. In FPL's Ten Year Site Plan filed on April 2 of 2012, when did FPL**
2 **project its next generation capacity need?**

3 A. FPL's recently filed Ten Year Site Plan indicated that if all factors that drive
4 the need for new generating capacity in the future were to behave consistent
5 with assumptions developed by early 2012, FPL would have a need for new
6 capacity in 2021, and that the need in 2021 could be met by means of an
7 unspecified power purchase. However, many of the factors that FPL relied on
8 in projecting future resource needs and how those needs could be met in the
9 future can change significantly between now and the time when FPL must
10 make definitive decisions to add new resources.

11

12 For those reasons, FPL's plan reflected in its Ten Year Site Plan typically
13 changes significantly from year to year, especially after the first five years.
14 That is also the reason why, in order to ensure that it will be able to meet its
15 customers' future needs, FPL cannot limit its resource planning process and
16 the timing of site acquisitions to consideration of only one static set of
17 assumptions of future conditions.

18 **Q. What are the factors that would define the timing and magnitude of need**
19 **for new generation after 2016 and for subsequent generation additions?**

20 A. These factors include, but are not necessarily limited to:

- 21 ● the growth in peak demand for electricity in the future;
- 22 ● the growth in megawatts of DSM that FPL's customers subscribe to;
- 23 ● the criteria that FPL uses in the future to ensure reliability of service;

- 1 • environmental regulations that could limit the use of FPL's older units
- 2 in the future, or could contribute to reductions in
- 3 Commercial/Industrial Load Control or Commercial/Industrial
- 4 Demand Reduction by limiting the use of backup generators on which
- 5 participating Commercial/Industrial customers rely;
- 6 • the actual in service dates of future unit additions already reflected in
- 7 FPL's plan, including Turkey Point units 6 and 7; and
- 8 • the size (MW) of each future resource addition to FPL's system.

9 **Q. How would changes in these factors from the assumptions reflected in**
10 **FPL's recent Ten Year Site Plan affect the timing of need for new**
11 **resources in FPL's system and the type of resource that FPL would select**
12 **to meet that need?**

13 A. Many possible combinations of changes in the above factors could accelerate
14 the timing of resource need. For example, any combination of a reduction in
15 the rate of growth in DSM megawatts, a delay in the in service date of Turkey
16 Point 6 and 7, and a moderate increase in the rate of peak load growth after
17 2016 would result in a need for resources in 2019, and again in 2022. Also, a
18 decision that FPL maintain a minimum generation-only reserve of, for
19 example, nine percent to ensure system reliability in the future would result in
20 a need for resources in 2019, even if all other factors were to occur as
21 currently projected. Changes in the other factors listed above would also affect
22 the timing and magnitude of future resource needs.

23

1 Changes in the above factors, as well as in projections of future fuel prices,
2 environmental requirements, emission costs and a number of other resource-
3 specific characteristics such as the capital costs and fuel efficiencies of the
4 various resource alternatives would affect the analysis FPL will perform to
5 make a definitive decision regarding the type of new resources to be added
6 after 2016 that would be most beneficial for its customers.

7 **Q. How does uncertainty regarding these factors relate to keeping the OPFU**
8 **sites in rate base?**

9 A. Holding the OPFU sites is a legitimate, necessary part of FPL's long-term
10 resource planning process. Effective long-term resource planning must
11 anticipate future needs under various scenarios of the future, and it also must
12 implement measures that would enable a utility to meet the needs of its
13 customers even if future conditions are markedly different from what is
14 deemed the most likely forecast. Having control of the OPFU sites enables
15 FPL to eliminate one significant area of uncertainty regarding its ability to
16 reliably meet its customers' needs at a reasonable cost. Therefore, the OPFU
17 sites are properly included in rate base as property held for future use.

18

19 Some of the factors that affect the timing of future resource needs, such as the
20 growth in peak load and operating constraints due to changes in
21 environmental regulations are beyond the control or influence of FPL. There
22 are other factors that FPL can influence to some extent, but over which FPL
23 does not have complete control, such as future growth in DSM capacity, the

1 resource reserve criteria needed to ensure that FPL can continue to provide
2 reliable service even if conditions are markedly different from what had been
3 assumed, and the timing and size of new units. All of the above factors
4 contribute significant uncertainty to FPL's planning process, so FPL must
5 contend with this inherent and unavoidable uncertainty as it has done in the
6 past.

7
8 Not having sites under its direct control and in its rate base would
9 unnecessarily add even greater uncertainty to FPL's ability to serve its
10 customers at a reasonable cost in the future and would be inconsistent with an
11 effective long-term planning process. I say unnecessarily because this is one
12 area of uncertainty that is within FPL's control and that FPL has effectively
13 minimized by selecting and securing control of the McDaniel site as a primary
14 site and the Fort Drum site as an alternate site to support base load generation
15 in the future.

16 **Q. Does FPL need to have an alternate site?**

17 A. Yes. Until all the required approvals and permits are granted for construction
18 and operation of the proposed generating unit(s) at the primary site there will
19 continue to be some uncertainty as to whether FPL will be able to build the
20 proposed generating unit at that site. Therefore, it is essential for FPL to hold
21 and maintain an alternate site to proceed with timely construction of the
22 required generating facility if the primary site is later determined to be

1 unsuitable or subject to unavoidable delays that extend beyond the project's
2 required timeline.

3

4 It should also be noted that securing the alternate site also provides additional
5 future security if the primary site does turn out to be viable. In that instance,
6 then FPL has control of the best site available to meet its next forecasted need.

7 **Q. What factors could cause the primary site to be deemed unsuitable or the**
8 **overall approval and construction process to be delayed?**

9 A. A number of factors could delay the process and/or ultimately result in
10 rendering the primary site unusable for the intended purpose. These factors
11 include challenges to the title of the property; challenges to local zoning or
12 land use provisions, or denial of required changes to those provisions;
13 challenges to favorable State or federal approvals and permits, or denial of
14 those required approvals and permits; the imposition of conditions as part of
15 the approvals and permits that would make use of the primary site impractical,
16 cost-prohibitive, or unacceptably delayed; encountering unexpected site
17 features or conditions such as archeological or cultural items, environmental
18 contamination; or other attributes that could adversely affect the primary site's
19 viability.

20

1 **Q. Would it be better for customers if FPL removed the OPFU sites from**
2 **rate base, sold them and then sought to acquire plant sites again when**
3 **FPL determines with certainty when it will add generating facilities?**

4 A. No. Power plant sites are not like townhouses. There is no assurance that
5 sites with similarly favorable characteristics as those of the OPFU sites, which
6 would also effectively meet all known requirements to construct and operate
7 large electric generating facilities to serve FPL's customers, could be found in
8 the future – at any cost. In addition, it is almost certain that the cost of such
9 replacement sites will be higher than what FPL paid for the OPFU sites.

10
11 The process of searching for plant sites, identifying potentially viable sites,
12 thoroughly evaluating those candidate sites, selecting the best sites and
13 acquiring the sites, as well as obtaining the water necessary to operate the
14 required generating facilities at those sites is extremely challenging and
15 unpredictable. As stated in the rebuttal testimony of FPL witness Deason, the
16 Commission noted over 40 years ago how limited power plant sites were and
17 that they are valuable assets necessary to serve customers. Their scarcity and
18 value have increased over time. The combined effect of population growth,
19 greater residential and commercial development and more restrictive
20 environmental regulations will make it more difficult for FPL to find and
21 acquire suitable sites, even as early as one or two years from now. It will be
22 even more difficult to obtain property to build the necessary transmission

1 facilities (including new transmission lines on new transmission corridors)
2 and fuel delivery facilities.

3

4 Additionally, the price of replacement sites in the future will almost certainly
5 be higher, because the OPFU sites were acquired at a time when real estate
6 prices in Florida were depressed. Also, if FPL were to wait until it has
7 determined with certainty when it must add new generation, the fact that FPL
8 is searching for plant sites that it must acquire with urgency would be known
9 to prospective sellers. This would result in FPL and its customers paying
10 higher prices. Therefore, relinquishing the OPFU sites would not be in FPL's
11 customers' best interest.

12

13 As FPL witness Deason states in his rebuttal testimony, the Commission has
14 previously concluded that failure to include Property Held For Future Use in
15 rate base is essentially a Commission signal that the property should be sold,
16 and that is certainly the conclusion FPL would draw from such a decision. If
17 these properties were sold, it is uncertain whether they would be available
18 again to FPL at a later date. Moreover, even if they were, there is no reason to
19 believe that FPL could buy them again at the prices it was able to pay in 2011
20 in a depressed real estate market. So, selling the best properties available to
21 meet known system needs and running the risk of losing them or paying more
22 from their reacquisition is not in customers' best interest.

23

1 **Q. What criteria must a potential plant site meet to be deemed viable?**

2 A. In order for a property to be deemed suitable to construct and operate a base
3 load generating plant it must have all the following attributes:

4 ▪ Adequate size consistent with the planned generating technology and
5 size, including fuel storage facilities and the buffer that may be
6 required;

7 ▪ Continuous access to very significant water resources (which are very
8 scarce), sufficient to operate the generating units continuously
9 throughout the year;

10 ▪ Access to reliable and economic delivery of both primary and backup
11 fuels in sufficient quantities to support continuous unit operation;

12 ▪ Access to FPL's electric grid via interconnection to existing FPL
13 transmission facilities, or within reasonable proximity of such
14 facilities;

15 ▪ Appropriate zoning and land use designations needed for construction
16 and operation of the planned generating facility, or reasonable
17 assurance that the needed zoning and land use designations can be
18 obtained within an acceptable timeframe;

19 ▪ Adequate access to the site from existing or new roads to
20 accommodate the types and numbers of vehicles necessary for plant
21 construction;

- 1 ▪ Site characteristics that would enable the proposed generating facilities
- 2 to comply with all federal, state and local requirements including, but
- 3 not limited to, issues related to:
- 4 i. Wetlands
- 5 ii. Threatened or endangered species
- 6 iii. Air quality
- 7 iv. Water quality
- 8 v. Solid waste;
- 9 ▪ Local community acceptance and support for the construction and
- 10 operation of the proposed generating unit(s), including power
- 11 transmission lines, gas pipelines, fuel oil delivery by truck, and
- 12 wastewater disposal facilities;
- 13 ▪ Appropriate physical attributes that enable the construction and
- 14 operation of the proposed generating unit(s), regarding site
- 15 topography, elevation and geology; and
- 16 ▪ A willing seller, at a reasonable price.

17 It is extremely difficult to find potential plant sites that will meet all these
18 critical requirements, especially sites like the McDaniel and Fort Drum sites
19 that are relatively close to the area of FPL's service territory with the greatest
20 load concentration. This is a major consideration for a service territory like
21 FPL's where the load concentration is very distant from low population areas
22 without "not in my back yard" opposition to generating plants. Because the

1 OPFU sites meet all the required criteria and are relatively close to FPL's area
2 of greatest load, they are irreplaceable.

3 **Q. Is it likely that FPL would find other viable potential plant sites that**
4 **would be as close to FPL's area of load concentration in Southeast**
5 **Florida, and to transmission lines as are the McDaniel and Fort Drum**
6 **sites?**

7 A. No. In fact, FPL has not been able to identify any viable generation plant sites
8 that are located nearer to the areas of high load concentration than the OPFU
9 sites. FPL anticipates that in the future most available sites would be farther
10 North and West than the OPFU sites, in more remote areas, farther away from
11 areas that will be the focus of development for residential and commercial use
12 to accommodate Florida's growing population. Use of sites in such locations
13 would, all else equal, result in higher electricity costs due to greater system
14 losses because electricity would be generated farther away from the areas of
15 high load concentration in Southeast Florida. The areas of highest load
16 concentration are highlighted in Exhibit RS-1.

17
18 In addition, it is important to note that because, as also shown on Exhibit RS-
19 1, the OPFU sites are adjacent to 500 kV transmission lines. FPL's use of the
20 OPFU sites will minimize the impact of the needed transmission facilities.
21 Conversely, it is impossible to know how long a new transmission line would
22 have to be built in the future to connect other replacement sites to FPL's
23 electric grid, or whether new transmission corridors would be required, or

1 what the increased cost to FPL's customers would be. For example, if the
2 OPFU sites are relinquished, it is possible that new lengthy transmission
3 corridors and very costly transmission lines would be required, not only to
4 connect the new generators to the grid, but also to transmit electricity over
5 long distances.

6 **Q. Would adding such transmission facilities affect the lead times required**
7 **to place new resources in service?**

8 A. Yes. Obtaining new transmission corridors and building extensive
9 transmission lines would add to the five-year minimum lead time required to
10 place new generating capacity in service, from the date of decision to the in
11 service date of the generating facility. As a result, if the OPFU sites were
12 removed from FPL's rate base and FPL's choice of future potential sites were
13 subsequently limited to sites that would require new transmission corridors
14 and transmission lines, it would take far longer for FPL to be able to add and
15 connect new generation. As a result FPL would likely have to purchase
16 power produced by existing less efficient units to defer the need for new
17 capacity so that it would have more time to acquire not only replacement plant
18 sites, but also transmission corridors. Such power purchases would increase
19 costs to FPL's customers, as would purchasing replacement plant sites and
20 transmission corridors

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1 **Q. Is access to water resources an important consideration in selecting a**
2 **viable generating plant site?**

3 A. Yes. Power generating facilities require significant quantities of cooling
4 water to operate. For example, each generating unit currently planned for the
5 McDaniel site will require approximately seven million gallons of water per
6 day. The water must be from a reliable source, be of good quality, and must
7 be available without interruption, twenty-four hours a day. This is a critical
8 issue because there is great competition for water access since water resources
9 are scarce in Florida.

10 **Q. What actions has FPL taken to obtain water resources in conjunction**
11 **with the McDaniel and Fort Drum sites?**

12 A. Because of the importance of this scarce resource, during the last year FPL
13 has taken steps to acquire land parcels that are part of what I am calling the
14 McDaniel site and that currently have large water permits from the South
15 Florida Water Management District. FPL believes that although water rights
16 cannot be purchased in Florida, control of these parcels that already have
17 water access will increase the likelihood that FPL will be able to successfully
18 and cost-effectively obtain the necessary water resources to allow for plant
19 operation at the McDaniel site.

20

21 For the Fort Drum site, the Floridan Aquifer is currently deemed to be an
22 adequate water source, at least in the short term. In the longer term, the C-25
23 canal reconnection project that would be capable of storing 135 acre-feet of

1 water that would otherwise be lost as discharge to the ocean is currently being
2 explored and could provide an even better source of surface water.

3 **Q. Regarding access to water, what would be the impact of relinquishing the**
4 **OPFU sites?**

5 A. Relinquishing the OPFU sites would undo the results of FPL's recent efforts
6 to reduce uncertainty regarding access to water in the future. Water
7 availability has become a critical consideration for any type of development in
8 Florida, and competition for the available water resources will be even greater
9 in the future. For that reason, with every future potential plant site there will
10 be increasing uncertainty regarding FPL's ability to obtain the necessary
11 permits to operate generating units continuously to meet its customers'
12 electricity demand. Ownership of the OPFU sites will place FPL in a much
13 more favorable position to have access to water. Relinquishing those sites
14 will significantly increase uncertainty regarding FPL's ability to construct and
15 operate new generating units in the future.

16 **Q. What other adverse consequences would result if the OPFU sites were to**
17 **be removed from rate base as recommended by OPC witness Ramas?**

18 A. A decision to remove the OPFU sites from rate base would also send a
19 message to FPL and other Florida utilities that in the future they should wait
20 until they have identified and confirmed a specific resource need at a definite
21 point in the near future, and publicly announce that need before proceeding to
22 search for potentially viable sites, evaluate them, and then select and acquire
23 the best one available. This would imply that utilities should not take

1 advantage of opportunities to acquire viable sites that such utilities know they
2 will need at some time in the near future, but not at a definite point in time,
3 even on beneficial terms, when those opportunities present themselves. The
4 adverse consequences to utility customers include those described above
5 regarding replacement of the OPFU sites, as well as the added costs resulting
6 from utilities not taking advantages of advantageous opportunities in the
7 future.

8 **Q. Will the range of possible properties from which FPL will be able to**
9 **select viable plant sites for new generating units be diminished in the**
10 **future?**

11 A. Yes. There are two reasons for this. First, as explained above, the growth in
12 Florida's population and increased residential and commercial development
13 have contributed to reduce the area of the State that remains viable for siting
14 large electric generating plants and associated fuel delivery systems and
15 transmission facilities, and have resulted in increased competition for limited
16 water resources. This increase in population, development and competition
17 for water will reduce the number of new properties that can be candidate sites
18 for power generation.

19
20 Second, FPL will no longer have existing plant sites that could be used to
21 economically add new generating capacity, other than those that have already
22 been approved by the Commission and are in development. As a result,
23 unlike the present and recent past, when most of FPL's capacity additions

1 have been built on existing sites, in the future FPL will need to build most of
2 its new generation at new plant sites.

3 **Q. How much new generation capacity will FPL have built in the period**
4 **2001 through 2016?**

5 A. During the sixteen-year period ending in 2016 FPL will have placed in service
6 about 15,100 MW of new generation capacity. The construction of some of
7 this capacity has required or will require the removal of old generators with
8 about 3,850 MW of capacity to make room for the new construction, so the
9 resulting net capacity addition by 2016 from this new construction will be
10 about 11,250 MW.

11 **Q. What portion of the 11,250 MW of newly constructed generation was**
12 **built at new plant sites?**

13 A. Less than one third. The three West County Energy Center units, with a
14 combined capacity of about 3,660 MW, or 32 percent of the 11,250 MW total,
15 were built at a new plant site. The other 7,590 MW, or 68 percent, were
16 added or will be added at existing FPL sites – Ft. Myers, Sanford, Manatee,
17 Martin, Turkey Point, Cape Canaveral, Riviera, Port Everglades and St. Lucie.

18 **Q. How much of FPL's future generating capacity is projected to be built at**
19 **existing sites?**

20 A. In the future, only the proposed new nuclear units at FPL's Turkey Point,
21 which will add 2,200 MW, are planned to be built at an existing plant site.
22 Therefore, if FPL were to construct the same quantity of new generation
23 capacity in the sixteen-year period, beginning in 2017 as in the previous

1 sixteen-year period, FPL would have to build 9,050 MW of firm capacity at
2 new sites. This is almost 2.5 times more than the generating capacity FPL
3 built at a new site between 2001 and 2016. This much greater need for new
4 sites makes it essential that FPL keep control of the OPFU sites.

5 **Q. Why don't any of FPL's operating plant sites provide viable alternatives**
6 **for building new, cost-effective, firm, base load fossil generation?**

7 A. The Ft. Myers and Sanford sites were repowered only ten years ago and will
8 have their CTs upgraded before 2016. In addition, it is anticipated that
9 increasing gas deliverability to the Fort Myers site to support additional
10 generation would be very costly. The Riviera, Cape Canaveral and Port
11 Everglades sites will be modernized between 2013 and 2016. The Cutler,
12 Turkey Point and Lauderdale sites are not viable candidates for added gas-
13 fired capacity because it is estimated that the cost of the necessary
14 enhancements in gas deliverability to those sites would exceed \$1 billion.

15
16 The Martin and Manatee sites have the only generating units in FPL's system
17 that can use either residual fuel oil or natural gas and thus contribute much
18 desired fuel diversity to the FPL system. Therefore, these units are not
19 candidates for replacement.

20
21 Also, some of FPL's existing plant sites, such as Martin and West County
22 already have significant concentrations of generating capacity, and adding yet
23 more generation at those sites could make the reliability of the FPL system

1 more susceptible to a single adverse event. In summary, the operating FPL
2 sites are not candidates for large new generation additions in the foreseeable
3 future. Only by maintaining control of the OPFU properties would FPL have
4 readily available sites to economically add new non-nuclear firm generation in
5 the future.

6 **Q. Are the OPFU sites also being considered for generation other than firm
7 capacity, base loaded generating units?**

8 A. Yes. In addition to the approximately 6,385 MW of firm, highly efficient
9 combined cycle generating capacity planned in the aggregate for the
10 McDaniel and Fort Drum sites, these sites could also enable FPL to add
11 significant solar photovoltaic (“PV”) generation capability after the DeSoto
12 site has been used for this purpose. One of the key considerations in siting
13 solar PV facilities is to place these facilities in geographically separate
14 locations so that they are not all affected simultaneously by the same weather
15 conditions. Building solar PV generation at DeSoto, McDaniel and Fort Drum
16 would help FPL achieve this objective of effectively separating its solar PV
17 generation.

18
19 These OPFU sites would be needed for solar PV generation expansion when
20 the cost of such generation becomes a competitive alternative in FPL’s
21 system, or earlier, if State or federal legislation is enacted that enables or
22 requires FPL to add it to its system. Solar PV generation requires very large
23 tracts of land. Thus, removing these sites from FPL’s rate base would also

1 adversely affect FPL's ability to add renewable generation in the most cost-
2 effective manner and thereby reduce the fuel diversity benefits that such
3 generation would contribute to FPL's system.

4 **Q. How should OPC witness Ramas' Other Production adjustment be**
5 **treated?**

6 A. It should be rejected in its entirety. When one examines the many adverse,
7 short-term and long-term consequences to FPL's customers of removing the
8 OPFU sites from FPL's rate base, it is very clear that FPL customers' interest
9 would be best served if these sites remain in FPL's control and in the rate
10 base. Therefore, the adjustment recommended by OPC witness Ramas to
11 reduce FPL's rate base by \$108,951,000 should be rejected.

12 **Q. Does this conclude your rebuttal testimony?**

13 A. Yes.



★ Ft. Drum, McDaniels/Hendry properties
» Close to load
» Close to 500kV line

- Service Area
(FPL serves all or parts of these counties)
- Power Plants
- 500 KV line
- High Load Concentration



Service Territory