

**BEFORE THE FLORIDA  
PUBLIC SERVICE COMMISSION**

**DOCKET NO. 06 0225-EI  
FLORIDA POWER & LIGHT COMPANY**

**IN RE: FLORIDA POWER & LIGHT COMPANY'S  
PETITION TO DETERMINE NEED FOR  
WEST COUNTY ENERGY CENTER UNITS 1 AND 2  
ELECTRICAL POWER PLANT**

**DIRECT TESTIMONY & EXHIBIT OF:**

**ALAN S. TAYLOR**

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**DIRECT TESTIMONY OF ALAN S. TAYLOR**

**DOCKET NO. \_\_\_\_\_ - EI**

**MARCH 13, 2006**

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

A. My name is Alan S. Taylor, and my business address is 5511 Northfork Court, Boulder, Colorado, 80301.

**Q. By whom are you employed and what position do you hold?**

A. I am President of Sedway Consulting, Inc.

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

A. I perform consulting engagements in which I assist utilities, regulators, and customers with the challenges that they may face in today's dynamic electricity marketplace. My area of specialization is in the economic and financial analysis of power supply options.

**Q. Please describe your education and professional experience.**

A. I earned a Bachelor of Science Degree in energy engineering from the Massachusetts Institute of Technology and a Masters Degree in Business Administration from the Haas School of Business at the University of

1 California, Berkeley, where I specialized in finance and graduated  
2 valedictorian.

3  
4 I have worked in the utility planning and operations area for 20 years,  
5 predominantly as a consultant specializing in integrated resource planning,  
6 competitive bidding analysis, utility industry restructuring, market price  
7 forecasting, and asset valuation. I have testified before state commissions in  
8 proceedings involving resource solicitations, environmental surcharges, and  
9 fuel adjustment clauses.

10  
11 I began my career at Baltimore Gas & Electric Company, where I performed  
12 efficiency and environmental compliance testing on the utility system's power  
13 plants. I subsequently worked for five years as a senior consultant at Energy  
14 Management Associates (EMA, now New Energy Associates), training and  
15 assisting over two dozen utilities in their use of EMA's operational and  
16 strategic planning models, PROMOD III and PROSCREEN II. During my  
17 graduate studies, I was employed by Pacific Gas & Electric Company  
18 (PG&E), where I analyzed the utility's proposed demand-side management  
19 (DSM) incentive ratemaking mechanism, and by Lawrence Berkeley  
20 Laboratory (LBL), where I evaluated utility regulatory policies surrounding  
21 the development of brownfield generation sites.

1 Subsequently, I worked at PHB Hagler Bailly (and its predecessor firms) for  
2 ten years, serving as a vice president in the firm's Global Economic Business  
3 Services practice and as a senior member of the Wholesale Energy Markets  
4 practice of PA Consulting Group, when that firm acquired PHB Hagler Bailly  
5 in 2000. In 2001, I founded Sedway Consulting, Inc. and have continued to  
6 specialize in economic analyses associated with electricity wholesale markets.  
7

8 **Q. What is the purpose of your testimony?**

9 A. I was retained to assist Florida Power & Light (FPL) in conducting its 2005  
10 solicitation for competitive power supplies. The purpose of my testimony is  
11 to describe my role as an independent evaluator and present my findings.  
12 I reviewed FPL's solicitation process and performed a parallel and  
13 independent economic evaluation of FPL's Next Planned Generating Units  
14 (NPGU), FPL's Alternative Generating Unit, and the proposals that were  
15 received by FPL. FPL's NPGU are the West County Energy Center (WCEC)  
16 Units 1 and 2 combined-cycle (CC) facilities described in FPL's Need Study,  
17 with in-service dates of June, 2009 and June, 2010, respectively. FPL's  
18 Alternative Generating Unit is the WCEC Unit 1 alone. I will discuss the  
19 process and tools that I used to conduct that parallel economic evaluation.  
20 Based on the results of my independent evaluation, I concluded that the  
21 NPGU portfolio represents the least-cost portfolio to meet FPL's resource  
22 needs for 2009-2011.

23

1 **Q. Are you sponsoring an exhibit in this case?**

2 A. Yes. It consists of the following documents:

3 Document AST-1, Resume of Alan S. Taylor

4 Document AST-2, Sedway Consulting's Independent Evaluation Report.

5  
6 **Q. Please describe the role you performed as an independent evaluator in**  
7 **FPL's solicitation.**

8 A. I reviewed FPL's 2005 Ten-Year Site Plan and participated in the  
9 development of the utility's 2005 Request for Proposals (RFP). I provided  
10 suggestions for refinements to the economic evaluation calculations and  
11 FPL's modeling processes pertaining to its use of the Electric Generation  
12 Expansion and Analysis System (EGEAS) model, originally developed by the  
13 Electric Power Research Institute, and P-MArea, a more detailed production  
14 costing model, that were both used in the economic evaluation of resource  
15 options in this solicitation. Before receiving the proposals, I requested that  
16 FPL run EGEAS and P-MArea and provide production costing results that I  
17 could use to calibrate Sedway Consulting's resource evaluation model. I flew  
18 to Miami to review the proposals on the proposal due date (November 9,  
19 2005), retained one copy of each submitted proposal, and evaluated the  
20 economic/pricing information from each proposal. FPL conferred with me on  
21 a number of issues relating to proposal RFP-noncompliance decisions,  
22 interpretation of proposal information, clarification requests, and economic  
23 evaluation assumptions. As the evaluation progressed, FPL and I discussed

1 appropriate modeling assumptions in both FPL evaluation tools (which I  
2 discuss later in my testimony). Using Sedway Consulting's Response Surface  
3 Model (RSM), I developed rankings of all of the proposals. Also, with the  
4 RSM results, I evaluated portfolios of resources and assessed the overall costs  
5 of such portfolios. I reviewed FPL's EGEAS runs and P-MArea results to  
6 confirm consistency of assumptions and reasonableness of results, and I  
7 documented the entire process in an independent evaluation report (Document  
8 AST-2).

9  
10 **Q. You stated that you were involved in the development of the RFP. What**  
11 **did your involvement entail?**

12 A. As the independent evaluator, I reviewed draft versions of the RFP document,  
13 participated in several discussions by phone, and was given the opportunity to  
14 provide my input and suggestions for improving the RFP.

15  
16 **Q. Do you believe that FPL's RFP was a reasonable document for soliciting**  
17 **proposals?**

18 A. Yes. As one who has developed over a dozen such utility resource RFPs, I  
19 believe that FPL's RFP struck a good balance between being sufficiently  
20 detailed without being burdensome on the respondent. With its RFP, FPL  
21 attached two versions of a draft power purchase agreement (PPA) that  
22 provided the proposers with a clear understanding of the general business  
23 arrangement that FPL contemplated.

1    **Q.    Do you believe that FPL's evaluation process was conducted fairly?**

2    A.    Yes. The outside proposals, FPL's Next Planned Generating Units, and FPL's  
3           single 2009 Alternative Generating Unit were evaluated on an equal footing,  
4           with consistent assumptions applied to all resource options.

5  
6    **Q.    Please describe Sedway Consulting's RSM model and its use in FPL's**  
7           **solicitation.**

8    A.    The RSM is a spreadsheet model that I have used in solicitations around the  
9           country. It is a relatively straightforward tool that allows one to  
10          independently assess the cost impacts of different generating or purchase  
11          resources for a utility's supply portfolio. Most of the evaluation analytics in  
12          the RSM involve calculations that are based entirely on my input of proposal  
13          costs and characteristics. A small part of the model examines system  
14          production cost impacts and needs to be calibrated to simulate a specific  
15          utility's system. In the case of the FPL solicitation, in the weeks prior to the  
16          proposal opening, I requested that FPL execute specific sets of runs with the  
17          two models that it intended to use in the evaluation process, EGEAS and  
18          P-MArea. With the results of these runs, I was able to calibrate the RSM to  
19          approximate the production cost results that EGEAS or P-MArea would  
20          produce in a subsequent evaluation of any proposals or self-build options that  
21          FPL might receive. Thus, I would not have to rely on FPL's modeling of a  
22          proposal; instead, I would be able to insert my own inputs into my own model  
23          and independently evaluate the economic impact of any particular proposal.

1 In short, the RSM provides an independent assessment to help ensure against  
2 the inadvertent introduction of significant mistakes that could cause the  
3 evaluation team to reach the wrong conclusions.

4  
5 **Q. How is the RSM an independent analytical tool if it is based on initial**  
6 **EGEAS and P-MArea results?**

7 A. As I noted above, most of the calculations performed by the RSM are not  
8 based on EGEAS or P-MArea results in any way. There are two main  
9 categories of costs that are evaluated in a resource solicitation: fixed costs and  
10 variable costs. The costs in the first category – the fixed costs of a proposal –  
11 are calculated entirely separately in the RSM, with no reliance on the EGEAS  
12 or P-MArea models for these calculations. The second category – variable  
13 costs – has two parts: (1) the calculation of a resource’s variable dispatch  
14 rates and, (2) the impact that a resource with such variable rates is likely to  
15 have on FPL’s total system production costs. As with the fixed costs, a  
16 proposal’s variable dispatch rates are calculated entirely separately in the  
17 RSM, with no basis or reliance on the EGEAS or P-MArea models. It is only  
18 in the final subcategory – the impact that a resource is likely to have on  
19 system production costs – that the RSM has any reliance on calibrated results  
20 from EGEAS or P-MArea.

21



1    **Q.    Please elaborate on that area of calculations where the RSM is affected by**  
2    **the EGEAS and P-MArea calibration runs.**

3    A.    This is the area of system production costs.  These costs represent the total  
4    fuel, variable operation and maintenance (O&M), SO2 emission, and  
5    purchased power energy costs that FPL incurs in serving its customers' loads.  
6    Given FPL's load forecast, the existing FPL supply portfolio (i.e., all current  
7    generating facilities and purchase power contracts), and many specific  
8    assumptions about future resources and fuel costs, both EGEAS and P-MArea  
9    simulate the dispatch of FPL's system and forecast total production costs for  
10   each month of each year of the study period.  At the outset of the solicitation  
11   project, the RSM was populated with monthly system production cost results  
12   that were created by the EGEAS and P-MArea calibration runs.

13  
14   **Q.    What did the RSM do with this production cost information?**

15   A.    Once incorporated into the RSM, the production cost information allowed the  
16   RSM to answer the question:  How much money (in monthly total production  
17   costs) is FPL likely to save if it acquires a proposed resource, relative to a  
18   reference resource?  The use of a reference resource simply allowed a  
19   consistent point of comparison for evaluating all proposals, FPL's Next  
20   Planned Generating Unit, and FPL's alternative generating unit.  As a  
21   reference resource, I used a hypothetical gas-fired resource with a very high  
22   variable dispatch rate associated with a heat rate of 25,000 Btu/kWh.  In fact, I  
23   could have picked any variable dispatch or heat rate for the reference resource

1 and obtained the same relative ranking of proposals out of the RSM. The cost  
2 of the reference resource has no impact on the relative results – it is merely a  
3 consistent reference point.

4  
5 **Q. Can you provide a numerical example that shows how the RSM works?**

6 **A.** Certainly. Assume that a utility has a one-year resource need of 1,000 MW  
7 and must select one of the two following proposals:

8

	Proposal A	Proposal B
9 Capacity:	1,000 MW	1,000 MW
10 Capacity Price:	\$9.00/kW-month	\$5.50/kW-month
11 Energy Price:	\$20/MWh	\$50/MWh

12

13  
14 For both proposals, the RSM has already calculated the fixed costs (and  
15 represented them in the capacity price) and the variable costs (and represented  
16 them in the energy price). Proposal A is more expensive in terms of fixed  
17 costs, but Proposal B is more expensive on an energy cost basis. The RSM  
18 calculates the final piece of the economic analysis – the different impacts on  
19 system production costs – to determine which proposal is less expensive in a  
20 total sense for the utility system as a whole.

21

1 Assume that the 25,000 Btu/kWh reference unit has a variable cost of  
2 \$150/MWh and that the RSM has been calibrated and populated with the  
3 following production cost information:

4  
5 For a 1,000 MW proxy resource, the utility's one-year total system production  
6 costs are:

- 7
- 8 • \$2.500 billion for a \$150/MWh energy price reference resource
- 9 • \$2.488 billion for a \$50/MWh energy price resource (Proposal B)
- 10 • \$2.452 billion for a \$20/MWh energy price resource (Proposal A)

11  
12 Thus, the energy savings (relative to the selection of a \$150/MWh reference  
13 resource) are \$48 million for Proposal A with its \$20/MWh energy price and  
14 \$12 million for Proposal B with its \$50/MWh energy price. In its proposal  
15 ranking process, the RSM converts all production cost savings into a \$/kW-  
16 month equivalent value so that the savings can be deducted from the capacity  
17 price to yield a final net cost (in \$/kW-month) for each proposal. Converting  
18 the energy savings in this numerical example into \$/kW-month equivalent  
19 values yields the following:

20

21 
$$\text{\$48 million} / (1,000 \text{ MW} * 12 \text{ months}) = \text{\$4.00/kW-month}$$

22 
$$\text{\$12 million} / (1,000 \text{ MW} * 12 \text{ months}) = \text{\$1.00/kW-month}$$

23

1 The RSM calculates the net cost of both proposals by subtracting the energy  
2 cost savings from the fixed costs:

3	Proposal A	Proposal B
4 Capacity Price:	\$9.00/kW-month	\$5.50/kW-month
5 Energy Cost Savings:	\$4.00/kW-month	\$1.00/kW-month
6 <b>Net Cost:</b>	<b>\$5.00/kW-month</b>	<b>\$4.50/kW-month</b>

7

8 Proposal B is less expensive. This can be confirmed through a total cost  
9 analysis as well:

10

11 Proposal A will require total capacity payments of \$108 million (= 1,000 MW  
12 x \$9.00/kW-month x 12 months), and Proposal B will require \$66 million  
13 (= 1,000 MW x \$5.50/kW-month x 12 months). Thus, Proposal A has fixed  
14 costs that are \$42 million more than Proposal B.

15

16 Proposal A will provide \$36 million more in energy cost savings  
17 (= \$48 million - \$12 million); however, this is not enough to warrant paying  
18 \$42 million more in fixed costs. Therefore, Proposal B is the less expensive  
19 alternative.

20

21 Note that the RSM is described in more detail in the independent evaluation  
22 report that is attached to my testimony as Document AST-2.

23

1 **Q. With that understanding of the RSM process, what did you do to**  
2 **calibrate the RSM to EGEAS and P-MArea?**

3 A. I reviewed the production cost information that FPL provided at the start of  
4 the project and confirmed that the production costs were, for the most part,  
5 exhibiting smooth, correct trends (i.e., they were increasing where they should  
6 be increasing and declining where they should be declining). Having verified  
7 that the RSM production cost values were “smooth,” I was confident that  
8 inputting variable cost parameters into the models for similar proposals would  
9 yield similar production cost results. Although the RSM is not a detailed  
10 model and could not simulate FPL’s production costs with EGEAS’ or  
11 P-MArea’s accuracy, in the end, the independent RSM evaluation results  
12 tracked both models’ results quite well.

13

14 **Q. Once the RSM was calibrated, what was the next step?**

15 A. I flew to Miami on the proposal due date (November 9, 2005) and retained my  
16 own copy of each proposal. There were five proposals; they were labeled P1  
17 through P5. I read each proposal and participated in discussions with FPL  
18 about interpreting the proposals, identifying areas requiring clarification, and  
19 assessing each proposal’s compliance with the RFP’s minimum requirements.  
20 Although it was not immediately clear whether or not all five proposals were  
21 in compliance with the RFP’s minimum requirements, it was decided that the  
22 economic evaluation should proceed with all of the received proposals.  
23 Meanwhile, FPL communicated with proposers to seek clarification and

1 corrections to uncertain areas of the proposals.

2

3 I incorporated pricing and operational information from each proposal into the  
4 RSM. Such information included contract commencement and expiration  
5 dates, summer and winter capacity, capacity pricing, heat rates, fuel supply  
6 assumptions, variable operations and maintenance (O&M) charges, start-up  
7 costs, expected forced outage hours, and expected planned outage hours.  
8 Most of this information was directly input into the RSM. As part of this  
9 process, FPL provided Sedway Consulting with its own modeling input  
10 spreadsheets so that Sedway Consulting could cross-check these inputs and  
11 ensure consistency with the information in the RSM. In some cases, there  
12 were proposal assumptions or modeling issues that required some discussion  
13 with FPL and/or clarifications from the proposers.

14

15 **Q. What significant proposal assumptions or modeling issues did you discuss**  
16 **with the FPL evaluation team during the course of the evaluation?**

17 **A.** There were a number of minor points, but the major ones were addressed in  
18 discussions pertaining to the following five areas:

- 19 1. Long-term guaranteed average heat rate for P1;
- 20 2. Revisions to the fuel supply arrangements for P1;
- 21 3. Revisions to the energy charges for P4;
- 22 4. Retaining P2 and P3 in the RSM portfolios;
- 23 5. Using FPL's best estimates for on-going costs for P2.

1 **Q. Please describe the heat rate issue associated with P1.**

2 A. In the proposal information tables for P1, the bidder provided a single long-  
3 term heat rate (for average ambient conditions at 75°F) but noted that the  
4 specified value represented a “new and clean” heat rate. FPL’s RFP required  
5 bidders to provide guaranteed heat rates for tolling proposals that represented  
6 average values (i.e., including expected degradation) over the life of the  
7 proposed contract. The bidder acknowledged that the “new and clean” heat  
8 rate was a first-year value and was neither guaranteed nor representative of the  
9 proposed facility’s efficiency over the long term. Ultimately, in response to a  
10 clarification question, the bidder provided a degradation curve that was based  
11 on a manufacturer’s estimate, but was not guaranteed. The estimated curve  
12 appeared to overstate the degradation assumption. In discussions with the  
13 FPL evaluation team, Sedway Consulting and FPL decided to use the same  
14 degradation assumptions as had been employed by FPL’s Power Generation  
15 Division (PGD) in developing long-term heat rate estimates for the NPGU  
16 (which were the same technology as the P1 facility). Thus, the P1 heat rate  
17 was adjusted to reflect expected average lifetime values consistent with FPL’s  
18 NPGU modeling assumptions; however, this adjustment was less than what  
19 would have been warranted by the bidder’s supplemental degradation  
20 information. As noted in Document AST-2 attached to my testimony,  
21 ultimately, the evaluation of P1 was conducted both ways – with the FPL  
22 adjusted heat rate in the “Realistic” scenario and with the original heat rate in  
23 a secondary “As-Bid” scenario.

1 **Q. Please describe the revisions to the fuel supply arrangements for P1.**

2 A. The P1 proposal indicated that the facility would receive its gas supply from  
3 Florida Gas Transmission (FGT). FPL's fuel planning group (Energy  
4 Marketing and Trading, EMT) determined that the facility could achieve a  
5 more beneficial fuel supply arrangement from the Gulfstream pipeline. This  
6 would require constructing an additional 4 miles of pipeline at an estimated  
7 cost of approximately \$16 million (nominal 2010\$). More than offsetting  
8 these additional construction costs, though, would be the lower long-term  
9 commodity costs and a substantial reduction in firm gas transportation  
10 charges.

11  
12 **Q. The third item on your list of discussion issues involved the energy  
13 charges for P4. What was discussed and decided there?**

14 A. P4 entailed a system sale with energy charges that would equal the provider's  
15 actual overall system average energy costs – a value that would not be known  
16 with any certainty until the sale was being scheduled each month. The  
17 original proposal included a single, flat estimate of that charge over the term  
18 of the proposed sale. In response to a clarification question from FPL, the  
19 bidder provided a more refined estimate of the energy charge, varying by year  
20 and with supporting documentation to reflect the fuel price and unit  
21 generation assumptions associated with this refined estimate. The bidder's  
22 gas price assumptions were slightly higher than FPL's. Therefore, Sedway  
23 Consulting modified (lowered) the bidder's estimate to reflect FPL's gas price



1 forecast as the supply cost for the bidder's main gas-fired resources. FPL and  
2 Sedway Consulting agreed to use this modified forecast of P4's energy  
3 charges in the "Realistic" scenario, in addition to evaluating the resource with  
4 the bidder's detailed estimates in the "As-Bid" scenario.

5  
6 **Q. The fourth item on your list of discussion issues involved retaining P2 and**  
7 **P3 in the RSM portfolios. Please describe this issue and note what was**  
8 **decided.**

9 A. After the initial economic ranking of proposals was developed, FPL and  
10 Sedway Consulting reviewed the plausible portfolios that could be assembled  
11 from combinations of the proposed resources, FPL's NPGU, and FPL's  
12 Alternative Generating Unit. As discussed in Dr. Sim's testimony, all  
13 plausible portfolios required the selection of the West County Energy Center  
14 Unit 1 in 2009 (i.e., as the FPL Alternative Generating Unit or as part of the  
15 NPGU portfolio). Absent P1, none of the other proposals – even taking all of  
16 the remaining proposals together – were sufficient to meet FPL's 2010  
17 resource needs. Thus, there were two primary foundation portfolios (one with  
18 the NPGU, a second with West County Energy Center Unit 1 in 2009 and P1  
19 in 2010) that could generally meet FPL's needs themselves. Additional  
20 resource portfolios could be developed from these foundation portfolios by  
21 adding one or more of the remaining proposals. Thus, the remaining  
22 proposals (namely, P2, P3, and P4) were considered "extras." FPL decided to  
23 consider the addition of P4 to each of the two foundation portfolios because

1 the resource was a system sale with a blend of fuel sources that might provide  
2 some fuel diversity benefits. P2 and P3 were both gas-fired, peaking capacity  
3 proposals that would not provide any fuel diversity or system efficiency  
4 benefits and were substantially more expensive in the individual proposal  
5 ranking than P4. Thus, FPL decided to drop P2 and P3 from further  
6 consideration. Retaining P2 and P3 in the RSM modeling system involved  
7 very little work effort. Therefore, it was decided that Sedway Consulting  
8 would develop some sensitivity portfolios that included P2 and P3 for  
9 completeness sake.

10

11 **Q. The fifth item on your list of discussion issues involved using FPL's best**  
12 **estimates for the on-going costs of P2. Please describe this issue and note**  
13 **what was decided.**

14 A. P2 involved a proposed generating asset transfer where FPL would assume  
15 ownership of the facility and the responsibilities for on-going costs (e.g., fixed  
16 O&M, variable O&M, capital replacement). The bidder had provided some  
17 estimates of these costs; however, it was necessary for FPL's Power  
18 Generation Division to determine their own values following a certain amount  
19 of due diligence. On net, the Power Generation Division values were lower  
20 overall – thereby improving the economics of the proposal relative to the  
21 bidder's estimates. Both FPL's evaluation team and Sedway Consulting used  
22 the Power Generation Division estimates as the basis for P2's costs.  
23 However, Sedway Consulting employed escalation factors for the fixed O&M

1 and variable O&M estimates that were consistent with the escalation practices  
2 used elsewhere in the evaluation. The FPL evaluation team decided to use the  
3 main Power Generation Division forecast without modification. On a net  
4 basis, the differences in the escalation assumptions between FPL and Sedway  
5 Consulting had very little impact on the economic results for P2.

6

7 **Q. What were the results of Sedway Consulting's RSM analysis?**

8 A. There were two primary analyses – a ranking of individual proposals and a  
9 ranking of portfolios of resources. The individual proposal analysis was  
10 performed with two sets of RSM surface results, one set that was calibrated to  
11 EGEAS and a second set that was calibrated to P-MArea. Both sets of results  
12 yielded the same ranking of individual proposals and matched the ranking that  
13 was generated by FPL using EGEAS. Sedway Consulting's portfolio analysis  
14 was based on the RSM surface that had been calibrated to P-MArea. The  
15 ranking of portfolios was the same as FPL's portfolio ranking. The results are  
16 described in detail in Sedway Consulting's independent evaluation report that  
17 is attached as Document AST-2.

18

1 **Q. What did those rankings reveal?**

2 A. The individual proposal ranking showed that P1 was the most cost-effective  
3 proposal, followed by P4 which was found to be \$141 million more expensive  
4 (on a 2005-2037 cumulative present value of revenue requirements [CPVRR]  
5 basis), relative to P1.

6  
7 In the portfolio ranking, FPL's NPGU portfolio was found to be the most cost-  
8 effective combination of resources to meet FPL's 2009-2011 capacity needs.  
9 Adding P4 to this least-cost portfolio increased the CPVRR by \$15 million.  
10 Adding either P2 or P3 to this least-cost portfolio increased the CPVRR by  
11 \$38 million and \$71 million, respectively. Replacing West County Energy  
12 Center Unit 2 with P1 increased the CPVRR by \$753 million.

13  
14 **Q. What do you conclude about FPL's solicitation?**

15 A. I conclude that the portfolio of FPL's NPGU (i.e., West County Energy  
16 Center Unit 1 in 2009 and West County Energy Center Unit 2 in 2010) is the  
17 least-cost portfolio for meeting FPL's 2009-2011 capacity needs and concur  
18 with FPL's decision to move forward with those projects. The solicitation  
19 process yielded the best results for FPL's customers while treating proposers  
20 fairly. The RFP was sufficiently detailed to provide necessary information to  
21 proposers. The economic evaluation methodology and assumptions were  
22 appropriate and unbiased, and the independent evaluation procedures provided  
23 a cross-check of FPL's proposal representation in both EGEAS and P-MArea

1           and confirmed FPL's results. Finally, I conclude that FPL's NPGU portfolio  
2           is \$753 million less expensive than the next best portfolio that does not  
3           include both of the West County units.

4

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

6   **A.    Yes.**

## RESUME OF ALAN S. TAYLOR

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### AREAS OF QUALIFICATION

Competitive bidding resource selection, integrated resource planning, market analysis, risk assessment, and strategic planning

### EMPLOYMENT HISTORY

- ◆ President, Sedway Consulting, Inc., Boulder, CO, 2001-present
- ◆ Senior Member of PA Consulting, Inc., Boulder, CO, 2001
- ◆ Vice President, Global Energy Business Sector, PHB Hagler Bailly, Inc., Boulder, CO, 2000
- ◆ From Senior Associate to Principal, Utility Services Group, Hagler Bailly Consulting, Inc., Boulder, CO, 1991-1999
- ◆ Senior Consultant, Energy Management Associates, Atlanta, GA, 1983-1988
- ◆ Internships at: Pacific Gas & Electric Company, San Francisco, CA (1990)  
Lawrence Berkeley Laboratory, Berkeley, CA (1989-1991)  
MIT Resource Extraction Laboratory, Cambridge, MA (1982)  
Baltimore Gas and Electric Company, Baltimore, MD (1980)

### EDUCATION

- ◆ Walter A. Haas School of Business, University of California at Berkeley, MBA, Valedictorian, Corporate Finance, 1991
- ◆ Massachusetts Institute of Technology, BS, Energy Engineering, 1983

### PROFESSIONAL EXPERIENCE

- ◆ Developed and/or reviewed dozens of requests for proposals for utility resource solicitations.
- ◆ Conducted numerous competitive bidding project evaluations for conventional generating resources, renewable facilities, and off-system power purchases.
- ◆ Assisted in contract negotiations with shortlisted bidders in utility resource solicitations.
- ◆ Testified on utility competitive bidding solicitation results, affiliate transactions, cost recovery procedures, rate case calculations, and incentive ratemaking proposals.
- ◆ Managed the development of market price forecasts of North American and European electricity markets under deregulation.
- ◆ Performed financial modeling of electric utility bankruptcy workout plans.
- ◆ Managed the technical and economic appraisal of cogeneration facilities and brownfield generation sites.
- ◆ Trained and assisted many of the nation's largest electric and gas utilities in their use of operational and strategic planning computer models.

RESUME OF ALAN S. TAYLOR

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**SELECTED PROJECTS**

**2005- California Solicitations for Conventional and Renewable Resources**

2006 Client: Pacific Gas & Electric

Serving as the Independent Evaluator in two solicitations for new power supplies in California – one for 2,200 MW of conventional resources and a second for between 700 and 1,400 GWh/year of renewable energy purchases. Mr. Taylor is managing a Sedway Consulting team that is performing a parallel evaluation of all proposals, monitoring communications with power suppliers, and supporting the review of the final selected proposals by the Procurement Review Group – a collection of non-market-participant stakeholders and regulators who have been provided confidential access to the evaluation results at intermediate stages.

**2004- Regulatory Support of Commission Staff**

2005 Client: Utah Division of Public Utilities

Assisted staff for the Utah Division of Public Utilities in the division's efforts to analyze PacifiCorp's 2005 rate case. Mr. Taylor reviewed production cost modeling results and forecasts of system-wide fuel and purchase power costs.

**2004- Minnesota Solicitation for New Resources**

2005 Client: Minnesota Power

Provided independent evaluation services in a solicitation for 200 MW of firm power supplies. Mr. Taylor reviewed all proposals and performed a parallel economic evaluation among proposed turnkey facilities and power purchases.

**2004 Canadian Solicitations for Conventional and Renewable Resources**

Client: Ontario Energy Ministry

Participated in a broader consulting team and provided assistance in the development of RFPs for 2,500 MW of conventional resources and 300 MW of renewable resources. New long-term sources of power were sought to replace regional coal-fired generation.

**2003- Florida Solicitation for New Resources**

2004 Client: Florida Power & Light

Provided independent evaluation services in Florida Power & Light's solicitation for 1,100 MW of new power supplies for 2007. Mr. Taylor performed a parallel economic evaluation to that which was undertaken by the utility. His work efforts allowed all proposal parameters to be cross-checked and corrected where necessary. He sponsored testimony before the Florida Public Service Commission concerning the results of the solicitation evaluation.

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2002- **Minnesota Solicitation for New Resources**  
2003 Client: Northern States Power

Assisted in the evaluation of a large number of multi-option proposals for new power supplies in the 2005-2009 time frame. Mr. Taylor was the independent evaluator in two separate solicitations. He managed a team of individuals in the evaluation of responses for both Requests for Proposals (RFPs). In the first solicitation, contingent proposals were received that could serve as replacement contracts for 1,100 MW of nuclear capacity if NSP were forced to decommission its Prairie Island power plant in 2007. In the second solicitation, NSP sought approximately 1,000 MW of new supplies to supplement its existing supply portfolio. The evaluation included the review of over a dozen proposed wind projects.

2002 **Florida Revisions to Bidding Rule**  
Client: Consortium of utilities

Provided the Florida Public Service Commission with recommendations concerning appropriate revisions to the state's bidding rule. Mr. Taylor participated in public workshops to provide the benefits of his extensive experience in performing competitive bidding solicitations and to convey what changes should or should not be made to Florida's existing bid rule to ensure the selection of the best resources for the state's electricity customers.

2002 **Arizona Testimony Concerning Competitive Bidding Solicitations**  
Client: Harquahala Generating Company, LLC

Filed testimony before the Arizona Corporation Commission in the Generic Proceedings Concerning Electric Restructuring Issues and Associated Proceedings. Mr. Taylor's testimony provided the Commission with information about competitive bidding processes that he had seen work in other states. Also, his testimony addressed various concerns that were raised by Arizona Public Service as to the feasibility of implementing competitive bidding in Arizona.

2002 **Florida Solicitation for New Resources**  
Client: Florida Power & Light

Provided independent evaluation services in Florida Power & Light's solicitation for 1,750 MW of new power supplies in the 2005-2006 time frame. Mr. Taylor performed a parallel economic evaluation to that which was undertaken by the utility. His work efforts allowed all proposal parameters to be cross-checked and corrected where necessary. Also, he provided suggestions on resource optimization modeling approaches that ensured the most comprehensive examination of thousands of potential combinations of proposals.



RESUME OF ALAN S. TAYLOR

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**2001 Wisconsin Testimony Concerning Competitive Bidding Solicitations**  
Client: MidWest Independent Power Suppliers

Provided testimony in a proceeding before the Wisconsin Public Service Commission on behalf of a consortium of independent power producers. Mr. Taylor testified on the benefits and timing of a competitive bidding solicitation that Wisconsin Electric Power Company (WEPCO) should be ordered to conduct prior to the utility's development of \$2.8 billion in self-build generation facilities (embodied in a WEPCO proposal called Power the Future – 2). Without the benefits of a competitive solicitation, there would be no defensible means of ensuring that the utility's customers were being offered the best, most cost-effective resources.

**2001 Negotiation of Full-Requirements Purchase Contract**  
Client: Georgia cooperative utility

Assisted in negotiation of a \$2 billion power purchase contract. Mr. Taylor worked with a team of legal experts and other consultants to assist the client in negotiating a 15-year full-requirements contract with a large, national power supplier. Detailed modeling simulations were performed to compare the complex transaction to the utility's own self-build alternatives. Mr. Taylor helped investigate and negotiate detailed provisions in the power supply contract concerning ancillary services and other operational parameters.

**2001 Evaluation of Resource Proposals**  
Client: North Carolina municipal utility

Reviewed responses to a utility resource solicitation and assisted the client in developing a short list of the best bidders. Mr. Taylor reviewed the results of the client's economic analysis of the proposals and provided insights on various nonprice factors related to each of the top-ranked proposals. Mr. Taylor helped the client in structuring and strategizing for the negotiation process.

**2000- Solicitation for New Resources**  
2001 Client: Public Service of Colorado

Assisted in the evaluation of a large number of multi-option proposals for new power supplies in the 2002-2005 time frame. Mr. Taylor managed a team of a dozen individuals who performed economic and nonprice evaluations of conventional and renewable proposals. Mr. Taylor developed recommendations for a short list of the best resources and managed a supplemental evaluation of second-tier bidders when the client's capacity needs subsequently increased. Ultimately, over \$2 billion of contracts were negotiated for over 1,700 MW of new power supplies under terms of up to 10 years. Mr. Taylor testified before the Colorado Public Utilities Commission on the processes and results of both the primary and supplemental evaluations.

RESUME OF ALAN S. TAYLOR

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1999- **Solicitation for New Resources**

2000 Client: MidAmerican Energy

Reviewed MidAmerican's solicitation for new power supplies for the 2000-2005 resource planning period. Mr. Taylor managed a team of individuals who performed an independent parallel evaluation of MidAmerican's analysis of responses to the utility's request for proposals (RFP). Mr. Taylor reviewed MidAmerican's evaluation and negotiation process and testified to the fairness and appropriateness of MidAmerican's actions. He filed testimony before the utility regulatory commissions in Iowa, Illinois, and South Dakota.

2000 **Electricity Market Assessments**

Client: various American and European clients

Helped develop electricity market prices for regional electricity markets in North America (California, New England, Arizona/New Mexico, Louisiana) and Europe (Austria, Belgium, France, Germany, and the Netherlands). Mr. Taylor worked with project teams in the U.S. and Europe to develop simulation models and databases to forecast energy and capacity prices in the deregulating power markets.

1999 **Evaluation of New Resources**

Client: Florida Power Corporation

Helped prepare the FPC's RFP for long-term supply-side resources and assisted in the independent evaluation of responses. Mr. Taylor oversaw the review of FPC's computer simulations (in PROVIEW and PROSYM) of the proposals that were received. The project team also evaluated the proposals by using a response surface model to approximate the results that might be produced in the more detailed simulations. Mr. Taylor testified before the Florida Public Service Commission concerning his assessment of FPC's solicitation and the results of the analysis.

1998 **Evaluation of New Resources**

Client: Public Service of Colorado

Assisted the evaluation of proposals for PSCo's near-term 1999 resource additions and managed the complete third party evaluation of proposals for resources in the 2000-2007 time frame. Such resources included third-party facilities and power purchases, as well as company-sponsored interruptible tariffs. Mr. Taylor assisted with the development of the request for proposals and oversaw the evaluation of all responses. He and his team monitored subsequent negotiations with shortlisted bidders. Mr. Taylor testified before the Colorado Public Utilities Commission on the fairness of the solicitation and the results of the evaluation.

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RESUME OF ALAN S. TAYLOR

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**1997- Evaluation/Negotiation of Transmission Interconnection Solicitation**

1999 Client: New Century Energies

Managed a solicitation for participation in a major transmission project interconnecting Southwestern Public Service (a Texas member of the Southwest Power Pool) and Public Service of Colorado (a member of the Western Systems Coordinating Council). As the first major inter-reliability-council transmission project in the era of open access, FERC required that SPS and PSCo solicit third-party interest in participation. This project required the development of an RFP and evaluation of responses for both equity participation and long-term transmission service for over 21 alternative high-voltage AC/DC/AC transmission projects. The evaluation focused on the costs and intangible risks of different transmission alternatives relative to the benefits and savings associated with increased economy interchange, avoided future generating capacity, and reductions in single-system spinning reserve and reliability requirements.

**1996- Evaluation/Negotiation of All-Source Solicitation**

1997 Client: Southwestern Public Service

Managed the evaluation of a broad array of responses to an all-source solicitation that was issued by Southwestern Public Service (SPS). Resources in the areas of conventional supply-side generation, renewable resources, off-system transactions, DSM, and interruptible loads were proposed. The evaluation entailed scoring the proposals for a variety of price and nonprice attributes. Mr. Taylor assisted Southwestern in its negotiations with the bidders and performed the detailed evaluation of the best and final offers.

**1996- Risk Assessment for 1,000-MW Solicitation**

1997 Client: Seminole Electric Cooperative

Managed the review and assessment of risks associated with responses to a 1,000-MW solicitation that was issued by Seminole Electric Cooperative. The evaluation entailed reviewing selected proposals' financial feasibility, performance guarantees, fuel supply plans, O&M plans, project siting, dispatching flexibility, and bidder qualifications.

**1997 Analysis/Testimony Concerning Louisville Gas & Electric's Fuel Adjustment Clause**

Client: Kentucky Industrial Utility Customers

Performed a detailed examination of Louisville Gas & Electric's (LG&E) fuel adjustment clause and identified misallocated costs in the areas of transmission line losses and purchased power fuel costs. Mr. Taylor also critiqued LG&E's rate adjustment methodology and recommended closer scrutiny of costs associated with jurisdictional and non-jurisdictional sales. Mr. Taylor testified before the Kentucky Public Service Commission and presented the findings of his analysis.

RESUME OF ALAN S. TAYLOR

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**1995 Development of All-Source Solicitation RFPs**

Client: Southwestern Public Service

Managed the development of five RFPs that solicited resources in the areas of conventional supply-side generation, renewable resources, off-system transactions, DSM, and interruptible loads. The RFPs were issued by SPS as part of an all-source solicitation to identify resources that may be competitive with two generation facilities that SPS intended to develop.

**1994 Development of Competitive Bidding RFP**

Client: Empire District Electric Company

Based on knowledge gained from the review of dozens of other utility RFPs, developed a combined-cycle resource RFP for Empire District Electric Company. The project team was responsible for the RFP's entire development, including the development of scoring provisions for price and nonprice project attributes.

**1993 Selection of Developer for 25 MW Wind Facility**

Client: Northern States Power

Evaluated ten bids that were received by NSP in a solicitation for the development of a 25 MW wind facility in Minnesota. The proposals were scored and ranked through a point-based evaluation system that was developed prior to the solicitation. The scoring involved an assessment of operational and financial feasibility, power purchase pricing terms, construction schedules, and community acceptance issues.

**1993 Competitive Bidding Design**

Client: Northern States Power

Assisted NSP in the utility's effort to design a generic competitive bidding RFP that could be issued for a variety of generation resources. Two dozen RFPs from other utilities were reviewed to determine the appropriate weights and mechanisms that should be used to score various project attributes.

**1993 Evaluation of 500 MW Supply-Side Solicitation**

Client: San Diego Gas & Electric

Assisted in the evaluation of 15 bids that were received from a 500 MW solicitation for power by SDG&E. The utility wanted to determine whether or not there were less expensive alternatives to the implementation of its plan to repower one of its own units. The 15 projects represented over 4,000 MW. The bids were evaluated using extensive production costing modeling, in which over 1,000 model runs were performed to evaluate each bid under a variety of scenarios.

RESUME OF ALAN S. TAYLOR

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**SELECTED PUBLICATIONS AND PRESENTATIONS**

“Ancillary Services, A Market unto Itself” Financial Times Energy Conference: Navigating the New Transmission Roadmap Under FERC Order 2000, June 2000.

“Forecasting Ancillary Service Prices,” Infocast Conference: How to Buy, Sell, and Price Ancillary Services in Competitive Markets, October 1999.

“Fundamentals of Electricity Deregulation,” American Association of Petroleum Geologists/Electric Power Research Institute Conference, April 1999.

“The Coal/Natural Gas Balance in a Reconfigured Utility Industry,” American Bar Association Conference on Electricity Law and Regulation, February 1998.

“Asset Divestitures in the Deregulating Power Markets,” Hybrid U.S. Power Market Conference, February 1998.

*Modeling Renewable Energy Resources in Integrated Resource Planning*, D. Logan, C. Neil, and A. Taylor, National Renewable Energy Laboratory, May 1994.

*Regulatory Treatment of Electric Utility Clean Air Act Compliance Strategies, Costs, and Emission Allowances*, K. Rose, M. Harunuzzaman, and A. Taylor, The National Regulatory Research Institute, December 1993.

“Risk Management Under the 1990 Clean Air Act Amendments: A Study of Emissions Allowance Reserves,” Electric Power Research Institute, November 1993.

“Regulatory Accounting for Acid Rain Compliance Planning,” 8th Biennial Regulatory Information Conference, September 1992.

“A Seminar on the Techniques and Approaches to Integrated Resource Planning,” Hawaii Public Utilities Commission, September 1992.

“A Comparison of the Uranium and Emissions Allowance Markets,” A. Taylor and M. Yokell, Electric Power Research Institute, February 1992.

“State Regulation of Utility Compliance Plans and Its Impact on the Emissions Allowance Marketplace,” 103rd National Association of Regulatory Utility Commissioners Annual Convention, November 1991.

“Repowering and Site Recycling in a Competitive Environment,” A. Taylor and E.P. Kahn, Lawrence Berkeley Laboratory, March 1991.

Sedway Consulting, Inc.

INDEPENDENT EVALUATION REPORT  
FOR FLORIDA POWER & LIGHT'S  
2005 SOLICITATION  
FOR NEW POWER SUPPLIES

*Submitted by:*

*Alan S. Taylor  
Sedway Consulting, Inc.  
Boulder, Colorado*

March 7, 2006

## Introduction and Background

On September 9, 2005, Florida Power & Light Company (FPL) issued a Request for Proposals (RFP) for capacity and energy to satisfy the utility's projected incremental resource needs for 2009-2011. The RFP noted that power supply proposals would compete with a pair of FPL power plant construction options in addressing a projected cumulative capacity need of 2,371 MW. These FPL options entailed two natural-gas-fired 3-on-1 combined-cycle (CC) power plants at the West County Energy Center site in Palm Beach County, each with a summer capacity rating of 1,219 MW; these resources were referred to as the Next Planned Generating Units (NPGU).

Sedway Consulting, Inc. (Sedway Consulting) was retained to advise FPL in the economic evaluation of responses to the RFP and to provide a parallel economic evaluation of the proposals. Alan Taylor, Sedway Consulting's President and the individual who provided the primary consulting services for this project, has assisted numerous utilities around the country in similar solicitations for power supplies.

On November 9, 2005, FPL received five proposals from three power suppliers. Sedway Consulting's representative traveled to Miami on the proposal due date and retained a copy of each proposal for the firm's review and evaluation. In addition to the five proposed power supplies and FPL's Next Planned Generating Units, another FPL generation option was considered – namely, just the first of the two NPGU facilities (West County Energy Center Unit 1 in 2009). This Alternative Generating Unit was intended to be combined with proposals from outside suppliers to meet the 2,371 MW capacity need. Table 1 provides a summary of the proposed and available resources.

Resource	Summer Capacity (MW)	Start Year	Technology	Location *	Term/ Economic Life (years)
P1	1050	2010	CC	St. Lucie Co.	25
P2	298	2009	CT	DeSoto Co.	28**
P3	298	2009	CT	DeSoto Co.	15
P4	50	2009	System Sale	Florida system	5
P5	50	2011	System Sale	Florida system	3
FPL NPGU	2438	2009 & 2010	CC	Palm Beach Co.	28 & 27**
FPL Alternative Generating Unit	1219	2010	CC	Palm Beach Co.	28**

\* All projects were located in Florida.  
 \*\* These projects had life-of-facility terms and were assumed to generate throughout the study period.

Several of the proposals included elements or conditions that appeared not to meet the minimum requirements of FPL's RFP. In the interest of completeness and expediency, FPL and Sedway Consulting decided to conduct an economic evaluation of all proposals while FPL worked with the proposers of questionably-compliant proposals in an effort to rectify any RFP minimum requirements compliance issues. Part way through the evaluation process, the proposer of P5 decided to withdraw that proposal rather than pay the required RFP Evaluation Fee.

Although mathematically speaking there were numerous potential resource combinations or portfolios that would meet or exceed FPL's capacity need, many of such combinations would result in FPL acquiring far in excess of its 2,371 MW cumulative requirements for 2009-2011. Thus, for FPL's current solicitation, Sedway Consulting condensed the universe of potential combinations down to eight specific portfolios that are depicted in Table 2. The portfolios were labeled #1-#12 to be consistent with the portfolio numbering adopted by FPL's evaluation team. Gaps in the portfolio numbering were caused by the withdrawal of P5. In other words, P5 had been in Portfolios #3, #6, #7, and #8, so its withdrawal reduced the number of evaluated portfolios from 12 to 8.

<b>Table 2 Evaluated Portfolios</b>		
<b>Portfolio Number</b>	<b>2009 Resource(s)</b>	<b>2010 Resource(s)</b>
1	WCEC 1, P4	WCEC 2
2	WCEC 1	WCEC 2
4	WCEC 1, P4	P1
5	WCEC 1	P1
9	WCEC 1, P2	P1
10	WCEC 1, P3	P1
11	WCEC 1, P2	WCEC 2
12	WCEC 1, P3	WCEC 2
WCEC = FPL's West County Energy Center		

Sedway Consulting conducted its parallel economic evaluation of the proposals by using its proprietary response surface model (RSM). The RSM is a power supply evaluation tool that can be calibrated to simulate the expected resource dispatch and resulting production costs of a specific utility's operations. Prior to the opening of the proposals, Sedway Consulting requested FPL to execute several dozen runs of its system simulation planning tools – the Electric Generation Expansion and Analysis System (EGEAS) and P-MArea (a more detailed production cost model that would be used in the later phases of the evaluation). The results of these runs were used to calibrate the RSM and allowed Sedway Consulting to evaluate the production cost impacts of all proposed resources.



This independent evaluation report documents Sedway Consulting's evaluation process and presents the results of Sedway Consulting's economic analysis. It describes the RSM, the ranking methodology that was employed, fundamental assumptions that were applied, and additional economic factors that affected the final cost of each portfolio of resources. Also, it presents the evaluation results and depicts the resource portfolios without disclosing proposers' identities or any specific proposal pricing information.

## Overview of Results

Given FPL's stated capacity need in 2009 and the number and size of power supply options that were available in that year, FPL's West County Energy Center Unit 1 in June, 2009 was a required component in all valid portfolios in the evaluation. In other words, without that resource, FPL could not meet its 2009 capacity need, even if it selected all of the 2009 power supply proposals. Thus, Sedway Consulting developed portfolios of power supply options that included the West County Energy Center Unit 1 as well as additional options for meeting the remaining capacity needs over the resource acquisition period. Sedway Consulting found that the least-cost portfolio was the portfolio that consisted of FPL's Next Planned Generating Units – the two West County Energy Center CC facilities with a combined summer capacity of 2,438 MW.

Sedway Consulting estimated that the next lowest cost portfolio that did not include both of these West County Energy Center units was at least \$753 million more expensive than the NPGU portfolio on a cumulative present value of revenue requirements (CPVRR) basis under base case assumptions.<sup>1</sup>

Other portfolios that included additional superfluous resources that were selected "on top of" the NPGU resources (i.e., they added capacity to the least-cost portfolio that already fulfilled FPL's capacity need) only resulted in higher cost portfolios. Thus, Sedway Consulting concluded that the two NPGU CC facilities should be selected.

## Evaluation Process

Sedway Consulting received the following economic information for each proposal:

- Capacity (winter and summer; base and duct-fired, where applicable)
- Commencement and expiration dates of contract
- Capacity pricing, including transmission interconnection costs
- Fixed operation and maintenance (O&M) and capital replacement pricing
- Firm fuel transportation assumptions
- Fuel pricing or indexing

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<sup>1</sup> All CPVRR values in the evaluation have a base year of 2005 and were discounted with an 8.37% discount rate. Also, all costs in this report are final, realistic costs in that they reflect any and all proposal revisions associated with the proposal review and clarification processes.

- Heat rate (base and duct-fired, where applicable)
- Variable O&M pricing (base and duct-fired, where applicable)
- Start-up costs and fuel requirements
- Expected forced outage and planned outage hours.

The same or analogous information was received for FPL's NPGU and Alternative Generating Unit.

The evaluation process was undertaken in two stages. An initial stage focused on evaluating the outside proposals on an individual basis. In this stage, the RSM was used to develop two rankings of proposals – one based on the expected production cost results from EGEAS and a second based on the expected results from P-MArea. The second stage entailed evaluating portfolios of resources and was based on the expected production cost results from P-MArea. Thus, the RSM results in this report may reflect calibrated results from either EGEAS or P-MArea depending on stage of the analysis. The P-MArea results were more detailed and allowed for a better determination of the production cost impacts of resources located within or outside of the transmission-constrained region of southeast Florida.

The remainder of this report section addresses the following topics:

- a description of the RSM and the ranking process that it employed,
- the use of a “filler” resource in evaluating proposed transactions that expired before the end of the study period,
- special issues concerning input assumptions, and
- the process of developing cost estimates for portfolios of resources.

### ***RSM and Net Levelized Fixed Price Ranking***

The economic information for all outside proposals and FPL's self-build options was input into Sedway Consulting's RSM – a power supply evaluation tool that was calibrated to approximate the impact of each proposal on FPL's system production costs. The RSM calculated each option's annual fixed costs and variable dispatch costs, estimated the production cost impacts of each option, accounted for capacity replacement costs for all proposed contracts that expired before the end of the study period, and developed a ranking of all options. That ranking was based on the net levelized fixed price of each option, expressed in \$/kW-month.

An option's net cost was a combination of fixed and variable cost factors. On the fixed side, the RSM calculated annual fixed costs associated with capacity payments (or revenue requirements), fixed O&M costs, incremental capital charges, firm gas transportation costs, and estimated start-up costs. These annual total fixed costs were

discounted and converted into an equivalent levelized fixed price, expressed in \$/kW-month. This was done by taking the present value of the stream of costs and dividing it by the present value of the kW-months of capacity associated with the option.

On the variable cost side, the RSM first developed a variable dispatch charge (in \$/MWh) for each option for each month. This charge was calculated by multiplying the option's heat rate by the specified monthly fuel index price and adding the variable O&M charge.

The RSM then estimated FPL's system production costs for each month and each option by interpolating between production costs estimates that were extracted from a set of EGEAS and/or P-MArea runs. These runs were performed at the start of the project and were used to calibrate the RSM by varying the monthly variable dispatch charge for a proxy proposal and recording the resulting FPL system production cost.

For the same capacity as the proposal under consideration, the RSM also estimated FPL's system production costs for a natural-gas-fired reference unit that had a high variable dispatch charge based on a heat rate of 25,000 Btu/kWh. Thus, for each option, the RSM yielded estimates of the annual production cost savings that FPL would be projected to experience if the utility selected the resource option, relative to acquiring the same sized transaction but at the high reference resource dispatch rate. The lower an option's variable dispatch charge, the greater the production cost savings.

The RSM then converted these annual savings into a levelized \$/kW-month value, using the same arithmetic process that was performed with the annual fixed costs. Although energy-related costs are not normally expressed this way, this conversion normalized the production cost savings (i.e., accounted for the different amounts of capacity offered by each option) and yielded a value that could be subtracted from the levelized fixed price. Because the purpose of the solicitation was to acquire firm capacity, this conversion process translated energy savings into a metric (i.e., a comparable standard of measurement) that was tied to the capacity that an option offered.

For each proposal, the RSM then subtracted the levelized production cost savings from the levelized fixed price to yield a net levelized fixed price – a value expressed in \$/kW-month that embodied both the fixed costs and variable production cost impacts of a proposed resource. The proposals and FPL resources were ranked in ascending order based on this net levelized fixed price. The top-ranked options had the lowest net levelized fixed prices, representing those options with the lowest fixed costs, or the greatest production cost savings, or a good combination of both.

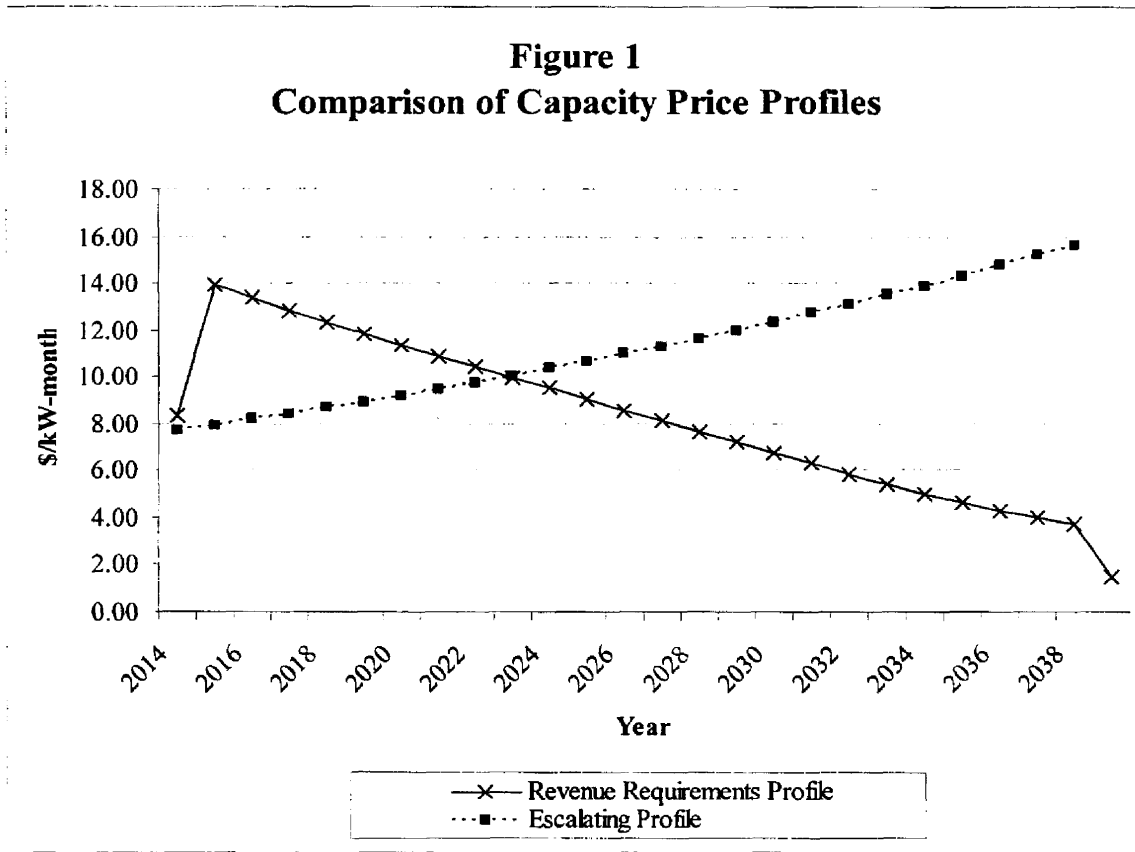
### *Filler Resource*

As was mentioned earlier, the RSM accounted for the costs of replacing capacity for all proposed contracts that expired before the end of the study period (which was 2037). This was done by "filling in" for the lost capacity at the end of each proposal's term of service. This allowed for a side-by-side comparison of the value of proposals that had varying contract durations. Also, the RSM had been calibrated with EGEAS and

P-MArea runs that assumed that a proxy proposed resource would provide its capacity for the entire duration of the study period. Thus, it was necessary to continue a proposal's capacity throughout the entire period so as to maintain consistent and sufficient reserve margins. In effect, by supplementing each short-term proposal with a filler resource for the later years, the RSM was simulating what FPL would have to do when a proposed transaction expired – acquire or develop an amount of replacement capacity equal to that expired resource.

As the basis for cost assumptions for the filler resource, Sedway Consulting used the same future combined-cycle resource as FPL used in the EGEAS optimization and P-MArea runs. The same \$/kW fixed cost assumptions (e.g., construction cost, fixed O&M costs, capital replacement charges) and variable cost assumptions (e.g., heat rates, variable O&M costs, fuel supply issues) were used in the RSM as in EGEAS and P-MArea. The only difference involved a methodological variation, whereby the RSM scaled the replacement capacity to exactly equal the size of the expiring proposal resource. Thus, all proposals enjoyed the benefit of being replaced at the end of their terms with a resource that exhibited the operating efficiencies and economy-of-scale benefits of a 553 MW combined-cycle plant. In other words, if a 200 MW proposal ended in 2021, the RSM assumed that a 200 MW combined-cycle facility replaced it in 2022; however, the construction costs for the replacement facility were not those that would typically be associated with a 200 MW combined-cycle plant, but rather, they were a prorated portion (i.e., 200/553) of the construction costs of a larger combined-cycle facility.

Depending on the “in-service date” for the filler resource, the filler's capital costs were escalated from a 2009 base-year value by 3.0% per annum. This escalation assumption represented FPL's estimate of how construction costs were likely to increase for its generation alternatives. Sedway Consulting decided to use this escalation value to trend the filler's annual capacity charges over time. Thus, instead of using FPL's declining revenue requirements profile for the recovery of capacity costs, Sedway Consulting used an escalating pattern that yielded the same long-term present value of revenue requirements. A traditional revenue requirements profile – as was used for calculating the annual revenue requirements for FPL's NPGU – results in the highest capital charges in a project's first year. Thereafter, the capital-related charges decline. This is the opposite from what is usually seen in most power purchase proposals in power supply solicitations. Most power purchase proposals tend to have flat or escalating capacity charges, presumably reflecting expectations that general inflation will increase the costs of constructing new facilities in the future. Sedway Consulting therefore restructured the filler's profile of capacity costs to match what is generally seen in the marketplace. This meant that the filler's first year's capacity costs were the lowest, with each year thereafter escalating at 3.0%. Figure 1 displays the escalating capacity price profile used by Sedway Consulting as well as the traditional declining revenue requirements profile. Both profiles have the same present value.

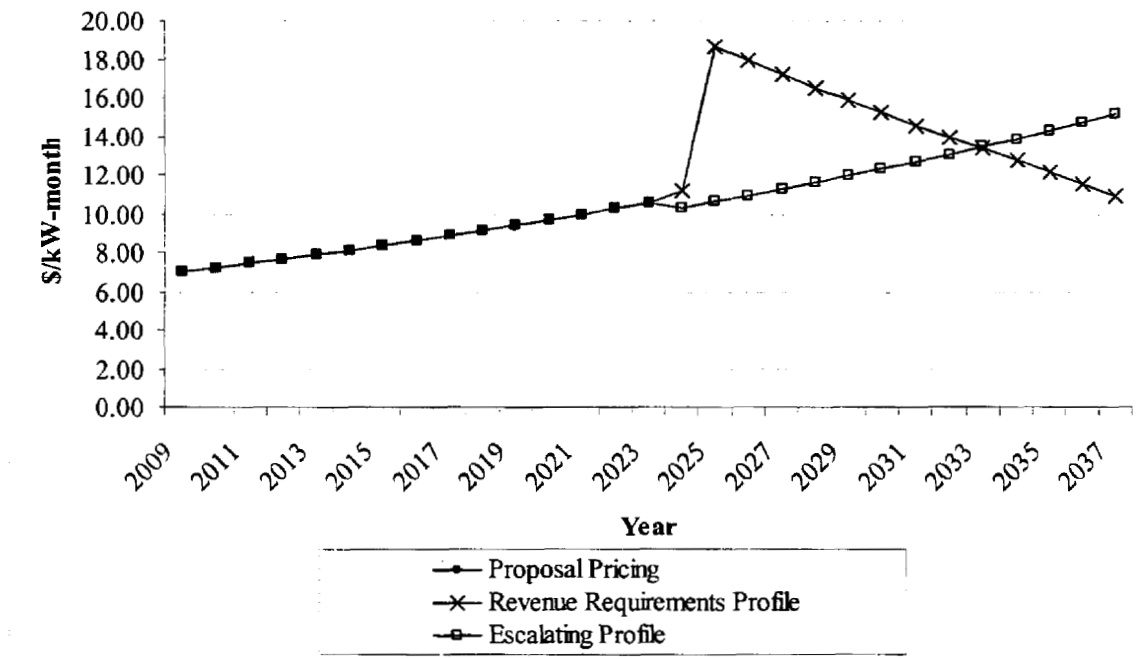


Over the full 25 years, the restructuring of the filler’s capacity costs made no difference to the present value of the facility’s revenue requirements. However, in the evaluation of outside proposals that were less than 25 years in duration, it provided the most favorable basis for such proposals’ evaluation. In effect, it assumed that, following the expiration of an outside proposal’s term, FPL would procure replacement power supplies at a prevailing market price. In reality, if an FPL self-build resource was determined to be most cost-effective at this future decision point, the declining revenue requirements profile would present the actual annual costs that FPL’s customers would likely pay.

Figure 2 depicts a comparison of the two approaches for replacing a hypothetical 15-year proposed power supply contract. The proposed contract is assumed to have a capacity charge that begins at \$7/kW-month and escalates at 3.0% per annum.

Relative to the declining revenue requirements methodology, the escalating filler capacity price methodology favors the 15-year proposed power supply because it defers the most expensive years of capacity costs until beyond the end of the study period. Thus, the present value of total study-period capacity costs (i.e., power supply proposal plus filler resource) is lower under the escalating filler methodology than under the declining revenue requirements methodology. Ultimately, the use of different filler methodologies by Sedway Consulting and FPL provided added value in looking at the evaluation results from two different perspectives and ensuring that the conclusions were supported from either perspective.

**Figure 2**  
**Comparison of Filler Capacity Price Methodologies**



***Input Assumptions***

Most of the input assumptions for the proposals and FPL's Next Planned Generating Units and Alternative Generating Unit were directly input into the RSM in a straightforward fashion. This section addresses some unique considerations relating to the treatment of:

- Capacities
- Capacity payments
- On-going ownership costs
- Heat rates
- Energy charges
- Firm gas transportation costs
- Start-up costs.

As described below, some of these parameters were adjusted to represent more appropriate or realistic values from those that were originally included in the submitted proposal materials. Unless noted otherwise, all of the results in this report are based on the "Realistic" scenario inputs, as these were the best values that emerged from the proposal clarification process.

**Capacities:** Resource capacities were requested from the proposers and FPL's Production Generation Division (PGD) under summer and winter operating conditions (95° F and 35° F, respectively). Summer capacities were assumed to be the prevailing norm during the seven months of April through October each year. Winter capacities were assumed to be the prevailing norm for November through March.

**Capacity payments:** Proposed capacity prices were multiplied by each resource's summer capacity to develop estimates of monthly capacity payments (and further multiplied by 12 to develop annual capacity payments). This was consistent with the statements included in the RFP pricing forms.

**On-going ownership costs:** One of the proposals, P2, entailed the proposed sale of an existing facility to FPL. FPL's PGD provided estimates of the likely annual fixed O&M, capital replacement, and variable O&M costs that would be required to operate the facility over its economic life. Sedway Consulting slightly modified the PGD estimates for post-2009 fixed and variable O&M costs to escalate these costs using the same escalator as was employed in escalating these costs for the NPGU and other proposals. The modified PGD values resulted in greater economic value for P2 than was the case with the proposer's original provided estimates.

**Heat rates:** Operating heat rates were requested from the proposers and PGD for summer and annual average operating conditions (95° F and 75° F, respectively). The annual average heat rate was used for all operating modes for each resource. Arguably, peaking operating modes would be more likely to be dispatched during hot summer conditions than during mild average conditions. However, for consistency sake, it was decided to keep all resources and operating modes consistently modeled with average annual 75° F heat rates.

One of the proposals, P1, included "new and clean" heat rates for a tolling facility in the originally submitted materials. The RFP instructions had required proposer's of tolling contracts to provide guaranteed heat rates that represented average conditions (i.e., including expected degradation) over the term of the contract. In response to clarification questions, the proposer acknowledged that the new and clean heat rate was a first-year value only and provided heat rate degradation information. Neither the new and clean first-year value nor the degradation information was guaranteed. Nonetheless, the degradation information was found to reflect greater degradation than FPL thought was likely; thus, the evaluation team applied an average degradation factor of 1.52% to the P1 new and clean heat rate. This degradation factor was the same one that had been used by FPL in developing the long-term heat rate estimates for the West County facilities (which were the same technology and duration as the P1 facility). The adjusted heat rate was used in the "Realistic" analysis for the P1 results; the original new and clean value was used in the "As Bid" analysis.

**Energy charges:** One of the proposals, P4, entailed a system sale that would have an energy charge equal to the selling utility system's average energy charge. In response to

a clarification question from FPL, the proposer provided detailed annual estimates of this energy charge, predicated on a particular gas price forecast. This gas price forecast was slightly higher than FPL's forecast. Therefore, Sedway Consulting (and FPL) modified the proposer's energy charge estimates by incorporating FPL's lower gas price forecast into the estimates, thereby ensuring consistency in the evaluation process. This resulted in a slight reduction of the energy charges and made the proposal more economically attractive relative to the results associated with the proposer's estimates. The modified energy charges were used in the "Realistic" analysis for the P4 results; the original detailed annual estimates from the proposer were used in the "As Bid" analysis.

**Gas supply and firm gas transportation costs:** All gas-fired proposals and FPL resources were modeled with firm gas transportation costs as described in Table E.1-1 in FPL's RFP. One proposal, P1, had indicated that the facility's gas supply would be with Florida Gas Transmission (FGT); FPL determined that the facility could be connected with the Gulfstream pipeline if an additional 4 miles of pipeline were constructed. This would provide reliability, flexibility, and savings benefits in commodity and transportation costs. FPL estimated that the additional pipeline costs would be approximately \$16 million (in nominal 2010\$). The additional pipeline costs were used in the "Realistic" analysis for the P1 results; they were not included in the "As Bid" analysis.

**Start-up costs:** The annual costs for starting up facilities (either outside proposers' or FPL options) were premised on FPL's assumption of six starts/year for intermediate/baseload proposals. For peaking resources, FPL assumed 100 starts/year. The start-up costs (along with start-up fuel requirements) were incorporated into the RSM as annual fixed costs.

### *Portfolio Development and Cost Computation*

#### **Individual Proposal Analysis**

In the first stage of the evaluation, the RSM was used to analyze individual resources. This analysis was based on the RSM calibration results that were embedded from EGEAS – the model that FPL used for its individual proposal analysis. The results of this analysis yielded a ranking of all outside proposals and the second of FPL's Next Planned Generating Units (i.e., Unit 2 in 2010), based on net levelized costs (in \$/kW-month). In addition, the RSM provided the net costs in total present value dollars for each resource. However, in order to conduct a total net cost comparison for each of the resources, it was necessary to recognize the different sizes of the resources and equalize the analysis by developing individual bid "portfolios." Each of these portfolios included one specific power supply option – with the rest of the 2009-2011 FPL capacity need met with the generic filler resource. These individual bid portfolios could then be compared on an apples-to-apples basis in the first stage of the evaluation. In addition to the individual bid total costs from the RSM, there were two additional cost elements that



were included or highlighted in these individual portfolios: the cost of filler capacity and, if applicable, a net equity adjustment.

**Cost of filler capacity:** If an individual bid did not provide sufficient capacity to meet FPL's needs in any of the years 2009-2011, filler capacity was "inserted" to meet the deficit. The cost of this filler capacity was developed from the 553 MW combined cycle filler resource used by FPL in its EGEAS modeling. The present value of the cost of filler capacity for a portfolio was added to the portfolio's preliminary total cost.

**Net equity adjustment:** Rating agencies view some portion of a utility's capacity payment obligations to a power provider as the equivalent of debt on the utility's balance sheet. If a utility does not rebalance its capital structure by issuing stock, this debt equivalent can negatively impact a utility's financial ratios and cause rating agencies to downgrade their opinion of the utility's creditworthiness. This can increase the utility's cost of borrowing.

Sedway Consulting corroborated FPL's estimate for each proposal of the costs for FPL to rebalance its capital structure if it were to enter into a PPA with a proposer. This estimate was referred to as an "equity adjustment" because it reflected the present value of the incremental cost of the additional equity that FPL would need to raise to preserve the integrity of its balance sheet. FPL indicated in its RFP that the completion security and performance security aspects of potential PPAs may mitigate and reduce a purchase's equity adjustment. Sedway Consulting corroborated the calculation of those two mitigating reductions to the equity adjustment for each purchase and included those costs, where applicable, in the individual bid portfolios.

### **Portfolio Analysis**

In the second stage of the analysis, portfolios of resources were developed that would meet FPL's capacity needs without any supplemental generic filler units or capacity in 2009-2011. Thus, all 2009-2011 resources were real options with specific power delivery locations, making it possible for FPL's transmission group and independent transmission evaluator to calculate transmission-related impacts on FPL's system. Such costs included:

- Transmission integration
- Capacity-related transmission loss impacts
- Energy-related transmission loss impacts.

**Transmission integration:** With a large addition of new generation to a utility system, several portions of the transmission grid may need to be reinforced. This can entail the construction of new circuits or the reconductoring and upgrading of existing transmission lines. Under the direction of an independent transmission planning consultant, FPL determined that none of the main portfolios were likely to require transmission integration investments. Note that Sedway Consulting's analysis included portfolios with P2 and P3, two offers that FPL set aside after the individual proposal analysis because

they did not appear to be economically beneficial and provided no fuel diversity or system efficiency benefits. In the Sedway Consulting portfolios that included P2 and P3, the transmission integration costs were assumed to be zero, thereby giving these offers the benefit of the doubt.

**Capacity-related transmission loss impacts:** The independent transmission consultant and FPL developed estimates for FPL's peak-hour system transmission losses for each portfolio of resources. FPL's RFP described how these losses would be used to develop cost estimates for replacement capacity that would be added to each portfolio's costs. This process ensured that all portfolios would be compared consistently by having differences in capacity-related transmission losses appropriately addressed. Sedway Consulting checked the calculation of those costs for each portfolio.

**Energy-related transmission loss impacts:** For each portfolio of resources, the independent transmission consultant and FPL developed estimates not only for FPL's peak-hour system transmission losses but average-hour losses as well. These two annual values for each portfolio were used to calculate the energy-related transmission losses that would have to be made up in each hour in order to bring each portfolio's total system generation back up to a level that would be comparable with FPL's reference portfolio. FPL's RFP described how these energy losses would be used to develop cost estimates for replacement energy that would be added to each portfolio's costs. Sedway Consulting checked the calculation of those costs for each portfolio.

As noted above, Sedway Consulting's analysis included portfolios with P2 and P3, two resources that were not reviewed for transmission-related impacts. Therefore, in Sedway Consulting's analysis, the portfolios that included those resources were assumed to have the same capacity-related and energy-related transmission loss costs as the original portfolios to which those resources were added. Thus, the P2 and P3 resources were not assumed to contribute any incremental losses, thereby again giving the benefit of the doubt to those portfolios.

The total portfolio costs included the sum of the present value P-MArea-based net costs of each of the resources that made up a portfolio, the transmission costs described above, the net equity adjustment (also described above) for each appropriate resource in the portfolio, and a value of surplus capacity calculation. The value of surplus capacity calculation was analogous to the cost of filler capacity process in the individual bid analysis, except that the surplus capacity value was meant to capture differences on the margin in the size of portfolios. Specifically, if a portfolio provided more than FPL's capacity need in 2009, 2010, or 2011, then the portfolio was deemed to have surplus capacity. This capacity had value because it could potentially be sold as a single-year capacity sale in any of the years in which it occurred and, in the case of 2011 surplus capacity, would reduce FPL's capacity needs in 2012 and beyond. Thus, in subsequent solicitations, FPL would not have to request as much capacity as it otherwise would if it only acquired or developed exactly 2,371 MW of capacity in the current solicitation. The value of surplus capacity is dependent on the market price for capacity in 2009 and beyond. Based on information from the P-MArea-calibrated RSM production cost results

and the fixed cost spreadsheet of FPL's Integrated Model, Sedway Consulting derived a 2009 value of \$2.86/kW-month, escalating thereafter at 3.0% per year. This stream represented trended values for the net cost of the 553 MW combined-cycle filler unit that was used in the evaluation. As a net cost, it included the projected energy savings from the filler's CC operations and therefore essentially reflected a peaking type of capacity cost.

The inclusion of a surplus capacity benefit in the RSM portfolio results placed those results on a more comparable footing with the FPL P-MArea/Integrated Model portfolio results. While no explicit surplus capacity benefit was calculated to supplement the P-MArea/Integrated Model results, this benefit was captured in the long-range expansion plans that were developed for each portfolio.

## **Review of FPL Model Results and Additional Cost Elements**

In addition to the parallel evaluation process involving the RSM, Sedway Consulting assisted FPL in a review of the EGEAS and P-MArea/Integrated Model results and additional cost elements. This involved four activities:

- Comparing rankings for all evaluated portfolios
- Verifying that the EGEAS and P-MArea/Integrated Model output results reflected the correct input assumptions
- Examining the impacts of future generation expansion plans
- Confirming the transmission-loss-related and net equity adjustment calculations.

Sedway Consulting and FPL independently developed rankings of the evaluated portfolios. In comparing these rankings, Sedway Consulting and FPL were able to confirm that the proposals were being interpreted correctly and that all of the latest assumptions and information from proposer clarification communications were incorporated into the EGEAS, P-MArea/Integrated Model, and RSM models. Generally speaking, the rankings lined up fairly well.

The EGEAS generation expansion plans were studied by Sedway Consulting; these same plans were modeled directly in P-MArea/Integrated Model. These plans represented EGEAS's efforts to maintain the necessary 20% reserve margin for the FPL system over time. Given FPL's annual load growth, the retirement of existing resources, and expiration of the new power supply contracts under consideration, EGEAS had to add future generic resources in various years after 2013 to satisfy FPL's reserve margin requirements. This was a more comprehensive process than what was achieved with the RSM. The RSM simply examined single proposals, one at a time, and assumed that they would be replaced with a filler resource of exactly the same size upon the expiration of the proposed PPA. EGEAS had a broader focus. However, given numerous factors that influenced the timing of the addition of new generic resources throughout the study period, the "lumpiness" of EGEAS' long-range generation expansion plans could distort the present value of a portfolio's long-term costs. This "lumpiness" comes from the fact

that EGEAS adds new resources in any year in which FPL's reserve margin drops below 20% – even if the shortfall is only 1 MW. If the new resource options are large facilities, this can lead to varying levels of surplus capacity in each year. However, FPL chose to use a relatively small future generic resource alternative (i.e., its 553 MW filler unit) so that the long-term expansion plans exhibited a “smoother” pattern.

As mentioned above, Sedway Consulting also reviewed and corroborated the calculations of many of the additional costs that were added to the core economic results that were produced by the EGEAS, P-MArea/Integrated Model, and RSM modeling. Specifically, Sedway Consulting confirmed the calculations of capacity-related costs associated with peak-hour transmission losses, energy-related costs associated with annual transmission losses, and the net equity adjustment values.

## RSM Evaluation Results

### *Individual Proposal Analysis*

Table 3 provides a ranking of the outside proposals from the Individual Proposal Analysis. For each proposal, the table shows the capacity, length of contract, the RSM's \$/kW-month net levelized fixed price (as described above), and the CPVRR differential of each portfolio relative to the lowest cost bid portfolio (i.e., that which included P1). The RSM results reflect the EGEAS-based production cost process under the Realistic scenario; the P-MArea-based ranking was the same. The RSM values reflect the core costs and operating characteristics of the proposed projects plus filler costs and the net equity adjustment; however, they do not include any transmission-related costs.

<p align="center"><b>Table 3</b>  <b>Ranking of Outside Proposals</b>  <b>Individual Bid Analysis</b></p>				
<b>Proposal</b>	<b>Summer Capacity (MW)</b>	<b>Term (years)</b>	<b>Net Levelized Fixed Price (\$/kW-month)</b>	<b>CPVRR Difference from Lowest Cost Bid (\$M)</b>
P1	1050	25	(\$5.77)	\$0
P4	50	5	(\$3.47)	\$141
P2	298	29	(\$0.35)	\$251
P3	298	15	\$1.26	\$297

The 2010 West County Energy Center Unit 2 had a net cost of -\$11.50/kW-mo.

### ***Portfolio Analysis***

Table 4 depicts the full portfolio analysis results for the eight portfolios evaluated by Sedway Consulting. For each element of the portfolios, the table presents the resource's capacity, in-service year, term (i.e., duration), and present value net cost (in millions of dollars). The net cost is developed in the RSM and was described above. Also included in the table are additional costs or credits (as described above) for each portfolio pertaining to surplus capacity benefits, capacity-related transmission loss impacts, energy-related transmission loss impacts, and net equity adjustments. The values in the far right column show the difference in costs (CPVRR, in millions of dollars) between the evaluated portfolios and the least-cost NPGU portfolio. Note that the differences are accurate but may not match a direct subtraction of the displayed portfolio costs because of rounding.

The NPGU portfolio was found to be \$753 million less expensive than the next cheapest evaluated portfolio that did not include both NPGU. Of those portfolios that did include both NPGU along with outside proposals, all such portfolios were found to have increased costs relative to the NPGU portfolio. Therefore, acquiring the additional capacity associated with the outside proposals was not cost effective.

<b>Table 4</b>						
<b>Comparison of Evaluated Portfolios -Realistic Scenario</b>						
		Net	In-Service	Term	Net Cost	Difference from
		Capacity	Year	(years)	(\$M)	All-FPL Portfolio
		(MW)				(\$M)
<b>Portfolio #1</b>						
FPL	WCEC 1	1219	2009	28	N/A	
FPL	WCEC 2	1219	2010	27	(\$377)	
P4	Progress System Sale	50	2009	5	\$25	
	Total:	2488			(\$352)	
	Surplus Capacity:	117			(\$64)	
				Subtotal:	(\$416)	
	Transmission Integration:				\$0	
	Capacity Losses:				\$1	
	Energy Losses:				\$6	
	Net Equity Adjustment:				\$2	
				Net Total Cost:	(\$407)	\$15
<b>Portfolio #2</b>						
FPL	WCEC 1	1219	2009	28	N/A	
FPL	WCEC 2	1219	2010	27	(\$377)	
	Total:	2438			(\$377)	
	Surplus Capacity:	67			(\$45)	
				Subtotal:	(\$421)	
	Transmission Integration:				\$0	
	Capacity Losses:				\$0	
	Energy Losses:				\$0	
	Net Equity Adjustment:				\$0	
				Net Total Cost:	(\$421)	\$0
<b>Portfolio #4</b>						
FPL	WCEC 1	1219	2009	28	N/A	
P1	SPC CC	1050	2010	25	\$125	
P4	Progress System Sale	50	2009	5	\$25	
	Total:	2319			\$150	
	Surplus Capacity:	-52			(\$3)	
				Subtotal:	\$147	
	Transmission Integration:				\$0	
	Capacity Losses:				\$13	
	Energy Losses:				\$67	
	Net Equity Adjustment:				\$119	
				Net Total Cost:	\$345	\$767
<b>Portfolio #5</b>						
FPL	WCEC 1	1219	2009	28	N/A	
P1	SPC CC	1050	2010	25	\$125	
	Total:	2269			\$125	
	Surplus Capacity:	-102			\$16	
				Subtotal:	\$141	
	Transmission Integration:				\$0	
	Capacity Losses:				\$12	
	Energy Losses:				\$62	
	Net Equity Adjustment:				\$117	
				Net Total Cost:	\$332	\$753

<b>Table 4 - Continued</b>						
<b>Comparison of Evaluated Portfolios -Realistic Scenario</b>						
		Net Capacity (MW)	In-Service Year	Term (years)	Net Cost (\$M)	Difference from All-FPL Portfolio (\$M)
<b>Portfolio #9</b>						
FPL	WCEC 1	1219	2009	28	N/A	
P1	SPC CC	1050	2010	25	\$125	
P2	PEV Sale	298	2009	28	\$154	
Total:		2567			\$278	
Surplus Capacity:		196			(\$99)	
					Subtotal:	\$179
Transmission Integration:						\$0
Capacity Losses:						\$12
Energy Losses:						\$62
Net Equity Adjustment:						\$117
Net Total Cost:					\$370	\$792
<b>Portfolio #10</b>						
FPL	WCEC 1	1219	2009	28	N/A	
P1	SPC CC	1050	2010	25	\$125	
P3	PEV 15-yr PPA	298	2009	15	\$175	
Total:		2567			\$300	
Surplus Capacity:		196			(\$99)	
					Subtotal:	\$201
Transmission Integration:						\$0
Capacity Losses:						\$12
Energy Losses:						\$62
Net Equity Adjustment:						\$129
Net Total Cost:					\$403	\$825
<b>Portfolio #11</b>						
FPL	WCEC 1	1219	2009	28	N/A	
FPL	WCEC 2	1219	2010	27	(\$377)	
P2	PEV Sale	298	2009	28	\$154	
Total:		2736			(\$223)	
Surplus Capacity:		365			(\$160)	
					Subtotal:	(\$383)
Transmission Integration:						\$0
Capacity Losses:						\$0
Energy Losses:						\$0
Net Equity Adjustment:						(\$0)
Net Total Cost:					(\$383)	\$38
<b>Portfolio #12</b>						
FPL	WCEC 1	1219	2009	28	N/A	
FPL	WCEC 2	1219	2010	27	(\$377)	
P3	PEV 15-yr PPA	298	2009	15	\$175	
Total:		2736			(\$202)	
Surplus Capacity:		365			(\$160)	
					Subtotal:	(\$362)
Transmission Integration:						\$0
Capacity Losses:						\$0
Energy Losses:						\$0
Net Equity Adjustment:						\$12
Net Total Cost:					(\$350)	\$71

Table 5 provides a portfolio ranking and compares the Realistic scenario results and As-Bid scenario results on a total cost differential basis (relative to the least-cost NPGU Portfolio #2). The table shows that the variations in input assumptions did not have a significant impact on the portfolio cost differences and had no impact on the ranking of the portfolios or the general conclusions of the analysis.

<b>Table 5</b> <b>Comparison of Realistic and As-Bid Results</b> <b>Total Portfolio Cost Differentials</b> <b>(\$M, 2005 CPVRR)</b>			
<b>Portfolio</b>	<b>Resources</b>	<b>Realistic Total Portfolio Costs</b>	<b>As-Bid Total Portfolio Costs</b>
2	WCEC1, WCEC2	\$0	\$0
1	WCEC1, WCEC2, P4	\$15	\$17
11	WCEC1, WCEC2, P2	\$38	\$38
12	WCEC1, WCEC2, P3	\$71	\$71
5	WCEC1, P1	\$753	\$696
4	WCEC1, P1, P4	\$767	\$712
9	WCEC1, P1, P2	\$792	\$734
10	WCEC1, P1, P3	\$825	\$767

## Conclusions

Sedway Consulting performed an independent and parallel evaluation of the responses to FPL's 2005 resource RFP and concluded that the West County Energy Center Units 1 and 2 (the Next Planned Generating Units) represented the lowest-cost portfolio of options for meeting FPL's 2009-2011 resource needs. Under the Realistic scenario, this portfolio was found to be \$753 million (CPVRR) less expensive than the next cheapest portfolio that did not include both West County units. Additional proposed resources could be added to the NPGU portfolio but would only result in higher costs of at least \$15 million. Thus, the selection of such additional resources was not found to be cost-effective.