BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Petition for approval of renewable Energy tariff and standard offer contract, by Florida Power and Light Company.	**DOCKET NO. 080193-EQ** **Filed: December 1, 2008**

DIRECT TESTIMONY AND EXHIBITS OF JOHN C. DALTON

ON BEHALF OF WHEELABRATOR TECHNOLOGIES, INC.

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DECEMBER 1, 2008

I. INTRODUCTION

Q. Please state your name, business address, and the nature of your business.

A. My name is John C. Dalton. I am President of Power Advisory LLC (Power Advisory). My business address is 706 West Street, Carlisle, Massachusetts. Power Advisory is a management consulting firm focusing on the electricity sector and specializing in electricity market analysis and strategy, power procurement, energy policy development, and electricity project feasibility assessment.

Power Advisory's clients include power planning and procurement agencies, regulatory agencies, generation project developers, and electric utilities.

Q. On whose behalf are you testifying in this proceeding?

A. I am appearing on behalf of Wheelabrator Technologies, Inc. (Wheelabrator).

Q. Please briefly describe Wheelabrator.

A. Wheelabrator is a wholly-owned subsidiary of Waste Management Inc. Wheelabrator operates 16 waste-to-energy plants across the U.S. and built the first commercially successful waste-to-energy plant in the United States. In Florida, Wheelabrator owns and operates 2 waste-to-energy facilities in Broward County and built and operates the City of Tampa's waste-to-energy facility. Wheelabrator also

owns and operates a waste wood/tires/landfill gas-to-energy facility in Auburndale. Renewable energy facilities operated by Wheelabrator in Florida have a generating capacity of more than 200 megawatts of renewable energy.

Q. What is your academic and professional background?

A. I am an electricity market and policy expert with over 20 years of experience in the electricity sector. I specialize in energy market analysis, electricity policy analysis and development, power procurement and contracting, generation project evaluation, and strategy development. I am experienced in the evaluation and analysis of electricity markets and the competitive position of generation technologies and projects within these markets. I have considerable experience with the review of electric utility resource plans and resource planning methods.

I have developed and overseen the development of numerous market price forecasts across North America, including forecasts for the Florida Reliability Coordinating Council (FRCC) market area where Florida Power and Light Company (FPL) is located. These price forecasts were used to support generation project development efforts, project financings, regulatory policies, and power procurement efforts.

I have reviewed numerous electric utility avoided cost estimates and advised clients on the reasonableness of these estimates and the methodologies for developing them.

I have developed detailed financial pro formas of numerous generation projects employing a wide range of technologies to assess the projects' financial feasibility and economic value. These analyses often identified strategies for enhancing project values. I have developed models to estimate the pricing of competitors and establish bidding strategies.

I have assisted clients in drafting long-term power purchase agreements with appropriate allocations of project risks and contract terms to enable project financing and development, while maintaining appropriate incentives for efficient project operation. I have led the negotiations of power purchase agreements. I have extensive experience with the development of competitive bidding processes for conventional fossil, cogeneration, and renewable technologies and the development of successful proposals in response to such processes.

I have served as a consultant to the electricity sector for over 20years with various firms and prior to this period served as an economist with the Massachusetts Energy Facilities Siting Council where I reviewed electric utility demand forecasts and supply plans and applications for the construction of new energy facilities. Prior to this, I served as an economist with the Massachusetts Department of Environmental Protection where I assisted with the costing of emission control initiatives targeted at electric utilities and major industrial facilities.

I have testified in a number of proceedings across North America on issues ranging from the need for new electric generating facilities, electric utilities' competitive procurement practices, wholesale electricity market prices, transmission pricing policy, and the likely competitiveness of wholesale power markets.

I have a BA in Economics from Brown University and an MBA from Boston University and have taken courses in resource planning methods and regional planning at the Massachusetts Institute of Technology and Boston University. A copy of my curriculum vitae is attached as Exhibit No. ___ (JCD-1).

Q. Do you have experience with the design and evaluation of SOCs?

A. Yes. I have extensive experience in the design and evaluation of SOCs. I have provided presentations at conferences on the issues associated with the design of standard offers. In 2005, I led a team that assisted the Ontario Power Authority (OPA) with the design of its Standard Offer Program. In the two years since its Standard Offer Program was rolled out, the OPA has contracted for over 1,300 MW of renewable energy. This experience demonstrates that a program with the objective of encouraging broad participation can produce significant amounts of renewable generation.

The Ontario example also illustrates that many developers are interested in providing electricity from renewable resources; in contrast, the lack of market response to the FPL SOC indicates how adverse its provisions are for renewable energy facility (REF) developers. While it is important to recognize that the

significant market response to Ontario's standard offer program is driven in part by the greater renewable resource potential in Ontario, equally important is the design of the standard offer program and contract.

In October 2007, the OPA engaged Power Advisory to review its Standard Offer Program for photovoltaics and recommend modifications to the program. In June 2008, Power Advisory was engaged to assist the OPA with refining the Standard Offer Program given the significant market uptake.

In these various assignments, I have reviewed how standard offer programs and feed-in tariffs have been implemented in other markets; evaluated the range of possible contract prerequisites and milestones; reviewed security requirements; and evaluated appropriate standard offer pricing levels.

II. SUMMARY AND RECOMMENDATIONS

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

A. Wheelabrator has asked me to comment on FPL's April 1, 2008 Standard Offer Contract (SOC) and Tariff filing with the Florida Public Service Commission (Commission). I will offer a number of recommendations regarding how FPL's SOC should be modified so that it better promotes the objectives of the Florida Legislature set out in section 366.92(1), Florida Statutes. That section provides, in part, that:

> It is the intent of the Legislature to promote the development of renewable energy in this state; protect the economic viability of Florida's existing renewable energy facilities. . . .

In addition, section 366.91(3) requires each public utility to "continuously offer a purchase contract to producers of renewable energy." Clearly, the Florida Legislature has indicated the state needs additional renewable power.

Q. What are your principal conclusions and recommendations?

A. I have reached the following conclusions regarding FPL's SOC:

- FPL's SOC is a barrier to the development of renewable energy resources in Florida and does not encourage the development of these resources in the State, contrary to the direction of the Florida Legislature.

- FPL's SOC frustrates the realization of the multi-faceted benefits renewable energy offers as the Florida Legislature outlined in section 366.92, Florida Statutes.

- By revising several provisions in the SOC to balance the risks to REF developers, a workable SOC can be crafted.

- The lopsided risk allocation in FPL's SOC is a barrier to the development of REFs that results in FPL using its own facilities to meet customers' requirements.

- Under FPL's SOC, REFs offer FPL customers lower risks than FPL-built facilities. Therefore, implementing my recommendations will not require FPL customers to bear more risks than they bear when served from FPL's own facilities.

Based on these conclusions, I recommend that the Commission direct FPL to make the following changes to its SOC:

- Because energy payments are based on avoided costs, provisions 8.4.6 and 8.4.8 should be revised to compensate REF developers when they are not permitted to deliver energy or their energy delivery is reduced by FPL.

- The Committed Capacity Test in section 3 should be revised to take into account the intermittent operating profiles of REFs. I recommend a four-hour test period for biomass facilities.

- The basis for REFs receiving capacity payments should be revised to better recognize the capacity value that they offer. I propose the capacity factor or Annual Capacity Billing Factor required to achieve full capacity payments be set at 89%, and that the minimum capacity factor to receive any capacity payment be set at 69%.

- The provisions in the SOC (e.g., right of first refusal) for Tradable Renewable Energy Certificates (TRECs) should be eliminated to avoid any adverse impact on their market value and comport with the Commission rule.

Finally, based on Florida's efforts to develop a Renewable Portfolio Standard, which will establish an obligation for additional renewable energy development, I recommend that the Commission consider changes to the methodology it uses to establish avoided costs for renewable energy facilities to recognize that the

appropriate avoided generation resource for these projects is another renewable energy resource, not a fossil fuel-fired generating resource.

III. U.S. AND FLORIDA RENEWABLE ENERGY OBJECTIVES

Q. In general, is renewable energy important to the energy future of Florida and the nation?

A. Very definitely. The Department of Energy's (DOE) main website notes that "Energy security and demand plays an increasingly vital role in our national security and the economic output of our nation." In elaborating on this point, the DOE says "**Ensuring the productive and optimal use of energy resources, while limiting environmental impact**. ...The Department of Energy is harnessing the power of the earth itself to meet our energy needs. Advances in wind, hydro and geothermal energy allow us to take advantage of clean, abundant energy." (Emphasis in original)

An office of the DOE, the Office of Energy Efficiency and Renewable Energy (EERE), has a closer focus on the use of renewables. On its website, the EERE describes a set of portfolio priorities, some of which are relevant to this docket:

- PRIORITY 1. Dramatically Reduce or Even End Dependence on Foreign Oil.
- PRIORITY 3: Increase the Viability and Deployment of Renewable Energy Technologies.
- PRIORITY 4: Increase the Reliability and Efficiency of Electricity Generation, Delivery and Use.

Q. Do you expect these policies to continue under President-Elect Obama?

A. Yes. In fact, I expect policies to promote the development of renewable energy resources to accelerate and to receive more focus from the Obama Administration than from the present Administration.

President-Elect Obama has stated several overall objectives in his energy policy. One of these objectives is to decrease the United States' reliance on imported energy. Another is to make the United States a world leader on climate change. In the electricity industry, President-Elect Obama promotes both increasing energy efficiency and increasing penetration of renewable energy as preferred means of achieving these overall objectives.

One particularly relevant statement in President-Elect Obama's Energy Policy is that 10% of the electricity supply in the United States must come from renewable resources by 2010, and 25% by 2025. Implementation of this policy will require a significant increase in generation from renewables in a relatively short time.

Q. On the state level, why, in your view, did the Florida Legislature direct public utilities to develop and offer standard offer contracts?

A. The Florida Legislature has recognized the importance of renewable energy in meeting Florida's energy needs. In 2005, the Florida Legislature directed public utilities to develop standard offer contracts to promote the development of renewable energy resources. The benefits of renewable energy resources were clearly outlined in this legislation, which states that "renewable energy facilities have the potential to help diversify fuel types to meet Florida's growing dependency on natural gas for electric production, minimize the volatility of fuel costs, encourage investment within

the state, improve environmental conditions, and make Florida a leader in new and innovative technologies." (Section 366.91, Florida Statutes).

Q. Is there additional documentation regarding policymakers' continued support for the development and encouragement of renewable energy in Florida?

A. Yes. In July 2007, Governor Crist issued Executive Order Number 07-127(State of Florida, Office of the Governor, *Executive Order Number 07-127, Establishing Immediate Actions to Reduce Greenhouse Gas Emissions within Florida*, July 13, 2007). In the Preamble, Governor Crist emphasized Florida's vulnerability to climate change due to its extensive coastline and population located near the coast. The Executive Order established a greenhouse gas emission reduction target and requested that the Commission take action to initiate a rulemaking that would require electric utilities to produce at least 20% of their electricity from renewable sources.

The Commission is currently in the process of promulgating a Renewable Portfolio Standard (RPS) rule.

Q. Has Governor Crist recently reaffirmed his support for renewable energy?

A. Yes. Governor Crist repeated his determination to reduce greenhouse gas emissions as recently as November 19, 2008, when he issued a letter reiterating the goal of the Executive Order cited above. In addition, the Governor praised "Entrepreneurs [who] ... make up Florida's green tech industry. Together, they will increase our use of renewable and alternative energy and strengthen our economic future, while also protecting our natural environment and reducing our dependence on foreign oil."(A Special Message from Governor Crist, November 19, 2008). A viable

SOC is an attractive option to the entrepreneurs Governor Crist references and can play a key role in delivering the identified benefits of renewable and alternative energy.

IV. THE ROLE OF THE STANDARD OFFER CONTACT IN FOSTERING THE DEVELOPMENT OF RENEWABLE ENERGY

Q. What are the basic elements of a standard offer contract?

A. A SOC is a contract between the buyer (i.e., electric utility) and seller (i.e., an REF) that specifies the price the utility will pay to acquire power from the supplier. It also specifies other terms and conditions of the agreement between the parties. SOCs have been used since the early 1980s to achieve regulatory policy objectives. Both SOCs (and their European counterpart referred to as "feed-in tariffs") typically have set terms with prices fixed for the term of the contract. The prices may be adjusted over the course of the contract but only according to a fixed formula, typically to allow full or partial escalation of the price. At the time of initiation of a SOC, the seller and buyer have good certainty regarding the price and terms over the contract life.

Q. What role can the SOC serve in pursuit of the nation's and the state's renewable energy policy objectives?

A. SOCs can promote the development of renewable energy resources by providing a procurement framework that better recognizes the development barriers REFs face. SOCs have several advantages over other methods of procuring renewables:

- They can provide greater certainty regarding pricing and the terms under which the electric utility is willing to purchase power from the REF developer, which reduces project development risks and costs. The pricing certainty they offer also facilitates financing;
- They greatly lower administrative costs to the developer by providing a much simpler process for the potential developer than a request for proposals (RFPs) or a negotiated process;
- They give the REF developer greater certainty by setting out clear prerequisites which, if met, will lead to a contract, reducing the risk of non-selection that developers face in an RFP or engagement in protracted negotiations; and
- They can therefore open the possibility of renewable development to a broader range of potential participants.

Q. How are standard offer contracts structured in other jurisdictions?

Two basic approaches are possible with respect to pricing in standard offer contracts:

- Value-based pricing, in which the purchaser determines the value of the renewable energy supply based on its resource portfolio and proposes to purchase renewable energy at a price reflecting that value; and
- Cost-based pricing, in which the purchaser desires to accelerate the contribution of renewables to the resource portfolio and establishes a price that is high enough to attract renewables. In this case, the intrinsic desirability of supply from

renewables is very important. This latter approach is taken in the context of what is called a "feed-in tariff," which is widely used in some European jurisdictions.

V. FPL'S SOC

Q. Is FPL's approach consistent with other SOCs with which you are familiar?

A. No, not in all respects. The two most significant differences are the use of the next avoidable fossil fueled generating unit as the avoided cost benchmark pursuant to Commission rules (rule 25-17.250, F.A.C.) and the fact that FPL's SOC allocates more risk to REF developers. Although the FPL approach is nominally based on value, it does not recognize the much different value that renewable generation brings to a utility as compared to the value of generation from fossil-fuel sources, like a combined cycle gas turbine (CCGT). In fact, the CCGT produces a different product from that a REF produces and is not directly comparable.

By effectively assuming the same characteristics from renewable generation as from a CCGT unit, the FPL SOC fails to recognize the different characteristics of generation from renewable energy. Furthermore, by basing the SOC energy payment options on the costs of the avoided fossil-fueled generating unit, FPL prevents its customers from realizing the benefit of minimizing the volatility of fuel cost, which is one of the renewable energy benefits the Florida Legislature cites.

Q. Is FPL's approach consistent with Florida's policy objectives regarding renewable energy?

A. No. It is the price certainty and environmental desirability of such generation that has led, in part, to the Florida Legislature's and the Governor's support for the development of renewable energy and the requirement that Florida utilities offer a standard offer contract for generation from renewables. Surprisingly, some of the energy payment options in FPL's SOC cause REFs with stable costs to price their output to mimic the volatility of the fossil fuel-fired generation that they would avoid. This appears to be directly contrary to the goal the Legislature seeks to achieve.

Q. In your view, how well will the FPL SOC meet the state's renewable energy objectives?

A. Contrary to claims FPL witness' Dubin makes and contrary to the intent of the Florida Legislature, FPL's SOC does not encourage the development of renewable energy resources in the State. The best indication of this is the fact that not a single renewable energy resource developer has executed FPL's SOC since January 2006 when it was first put in place.

The net effect of FPL's SOC is to reduce the amount of renewable energy likely to be developed in Florida as well as to discourage existing facilities from providing additional renewable energy to FPL. This will frustrate the realization of the multi-faceted benefits REFs offer as listed above and as outlined in section 366.91, Florida Statutes.

Q. What are the implications for existing REFs, such as Wheelabrator?

A. REFs such as Wheelabrator, which has proven its ability to provide reliable cost-effective renewable power and has facilities in the ground in Florida, are unlikely to sign FPL's SOC. There are a number of other utilities in Florida with whom Wheelabrator could contract for the sale of the output of its existing projects and where Wheelabrator might be more likely to develop new projects. As such, the terms and conditions in FPL's SOC could prevent FPL customers from realizing the benefits of existing and new projects.

VI. SPECIFIC SOC TERMS THAT SHOULD BE REVISED

Q. Can you identify the specific terms and conditions in the FPL SOC that discourage the development of renewable energy facilities in Florida?

A. Yes. Several of the terms and conditions of FPL's SOC are commercially unreasonable and onerous for renewable energy facility developers. I will discuss four terms and conditions that are particularly problematic.

- First, the SOC provides FPL with an open-ended right to not purchase power from the REF under certain operating conditions (sections 8.4.6, 8.4.8).
- Second, the Committed Capacity Test specified in the SOC (section 6.2) is onerous for REFs given their typical operating profiles.
- Third, in order to receive capacity payments REFs have to achieve unrealistic Annual Capacity Billing Factors (i.e., greater than 80% to receive any payment and 97% to receive full payment) (section 3 and Appendix B).

- Finally, the value that REFs can realize for the tradable renewable energy certificates that they generate are likely to be adversely affected by FPL's right of first refusal and the time period specified for it to exercise this right (section 17.6.2). Though I am not an attorney, this SOC provision appears to be inconsistent with rule 25-17.280, Florida Administrative Code.

As discussed above, a fundamental design element of a SOC is to provide a reasonable measure of certainty to the seller and a number of the terms and conditions in FPL's SOC require the REF owner to bear an open-ended risk. This significantly reduces the value of a SOC to the REF developer. At a minimum, it makes the SOC more difficult and costly to finance and obviously financing is essential to project development.

Q. What are the implications of these shortcomings?

A. As I noted earlier, FPL's SOC represents a barrier to the achievement of the renewable objectives the Florida Legislature has outlined. As such, a major vehicle for the promotion of renewable energy projects is not being effectively utilized. Therefore, the state of Florida and FPL's customers are not able to realize the full benefits renewable energy resources offer. However, by revising several provisions in the SOC, as described below, a reasonable and financeable SOC can be crafted.

Q. Generally, what will the changes you recommend to FPL's SOC accomplish?

A. The changes, outlined below, will more appropriately balance the risk between the parties. For the SOC to be an effective part of policy initiatives to promote the development of renewable energy resources in the state, it needs to be a contract that developers are willing to sign.

Right to Refuse to Purchase

Q. What are your concerns with respect to the first provision you have identified?

A. As drafted, the provision regarding FPL's ability to refuse to purchase from the RAEF is very broad and could be used to significantly constrain the REF's operation. Under the SOC, FPL is not required to purchase energy from REFs "during any period in which, due to operational circumstances, acceptance or purchase of such energy would result in FPL's incurring costs greater than those which it would incur if it did not make such purchases." (Section 8.4.6).

The four options for energy payments available to REFs all ensure that REFs receive no more than the avoided energy cost. Therefore, the REF should not be curtailed as a result of the energy payment that it is receiving being higher than the cost of another resource.

The only exception to this might be if the REF elected Energy Payment Options B or D which fix these energy payment rates based on forecast energy prices. However, under these options the REF, in effect, is providing FPL customers with a "hedged" energy price. Curtailment of the REF if the actual as-available energy rate is less than these rates is not appropriate. These energy payments are a contractual commitment (i.e., the REF elected these energy payment options based on the rated identified) in the same way that fuel price hedges FPL enters into are a contractual commitment.

Q. How do you interpret the SOC curtailment provision?

A. I interpret this provision to cover periods when the REF requires changes in unit dispatch beyond the impact of the energy the REF provides. The SOC indicates

that this would cover "a period during which the load being served is such that the generating units on line are base load units operating at their minimum continuous ratings and the purchase of additional energy would require taking a base load unit off line and replacing the remaining load served by that unit with peaking-type generation." (Section 8.4.6).

This example suggests that FPL could elect not to purchase from the REF only when the purchase would result in an increase in costs as a result of a change in system dispatch beyond the direct impact of the REF on dispatch. However, I am concerned that this provision could be broadly interpreted to allow FPL to refuse to purchase energy from the REF when its sales price is higher than the variable cost of FPL's marginal unit. While this is may be unlikely to happen, under Energy Payment Options B or D this could occur. I recommend that this provision be redrafted to provide greater clarity.

Q. What language do you recommend for this provision?

A. To ensure that this provision is interpreted narrowly and not used to unduly restrict the operation of REFs, I propose the following revision to the first sentence in section 8.4.6. FPL should be directed to replace the text after "FPL shall not be required to accept or purchase energy from the QS" with the following:

> during any period in which, due to operational circumstances, acceptance or purchase of such energy would result in excessive costs to FPL, such as would occur if a baseload unit were required to be taken off line and its energy replaced partly with the energy purchased from the REF and partly with energy from FPL's peak facilities or other such generation facilities that have variable costs which are markedly higher than those of the facility whose energy was replaced.

Q. Do you have any additional concerns with this provision?

A. Yes. Even with the proposed revision, this provision represents an open-ended risk to REF owners. While protections are needed for FPL customers regarding uneconomic purchases, there appear to be no limits on the right of FPL to invoke this provision.

Q. Isn't such a provision necessary to protect FPL customers?

A. No. Basing an REF's energy payments on avoided costs reduces the pricing risks to customers and protects them from uneconomic purchases. However, section 8.4.6 of FPL's SOC is a potential barrier to financing REFs given FPL's open-ended, unqualified right to not purchase power.

Energy revenues are critical to the financial viability of REFs. Most REFs have low marginal operating costs and high fixed costs, producing margins when they run. Therefore, their capital cost recovery is based on their hours of operation. (This provides strong incentives for maximizing their energy output.) This is especially true under the FPL SOC as currently drafted because its terms may result in many REF developers receiving no capacity payments at all. The SOC provides REF developers capacity payments based on the avoided costs of a CCGT only if they can achieve a 97% capacity factor (Annual Capacity Billing Factor).

Few (if any) renewable energy facilities are likely to be able to achieve a 97% capacity factor. Many REFs will have a difficult time achieving a greater than 80% capacity factor, which is required to receive any capacity payment, because of the nature of their operations. This may explain why no REFs have signed FPL's SOC. REF developers depend largely on anticipated as-available energy revenues to

recover their project costs. Requiring REFs to recover a significant portion of their costs based on as-available energy rates, while giving FPL an unlimited right to refuse these purchases, is unreasonable. Therefore, I recommend that REFs that are constrained under this provision be compensated based on their lost energy margins (i.e., the contract energy price less variable operating costs) that they forgo. This is equitable and necessary to provide REFs with the revenue certainty required to finance their projects.

Q. Are there other provisions that allow FPL to reduce the output of REFs?

A. Yes. Under section 8.4.8 of the SOC, FPL has the right to cause the REF to reduce output to a level below the Committed Capacity but not lower than the Facility's Minimum Load. This right is limited to 18 times per year with the duration of each request not to exceed four hours. This provision allows FPL to balance its system in times of low demand by cutting back the REFs, rather than by ramping down its own generation. Recall that the REFs energy payments are based on avoided costs. FPL's right to do this is subject to no economic test; it simply has the arbitrary power to curtail the REFs on 18 occasions.

This arbitrary power should, at a minimum, be subject to an economic test. However, I recommend that FPL be required to provide compensation to the REFs so affected based on the lost energy margins (i.e., the contract energy price less variable operating costs) that they forgo.

Committed Capacity Test

Q. You have said that elements of the Committed Capacity Test in the SOC are unreasonable. What aspects of the Committed Capacity Test are unreasonable?

A. The Committed Capacity Test (section 6.2) is "based on a test period of twenty-four (24) consecutive hours (the "Committed Capacity Test Period") at the highest sustained net kW rating at which the Facility can operate without exceeding the design operating conditions..." While a twenty-four consecutive hour test, where the capacity amount is established based on the highest sustained net kW rating, may be appropriate for a natural gas-fired facility, it is not appropriate for a renewable energy facility where the output is inherently variable.

Given this variability, the capacity amount or value should be based on a narrower averaging period with the capacity amount or value based on an average that recognizes that, through a diversity of resources, the variability in output can be lessened.

Therefore, I recommend that the Committed Capacity Test be based on a shorter-duration test period and that the test procedures recognize the intermittent nature of REFs, such that rated capacity levels are sustained for shorter periods. Based on input from Wheelabrator regarding the operating characteristics of its facilities, a four-hour test is appropriate for biomass facilities.

Q. Will implementation of this change result in FPL customers paying for capacity that they do not receive?

A. No. This is addressed by the changes that I propose to the Annual Capacity Billing Factor thresholds and general methodology discussed below.

Eligibility for Capacity Payments

Q. Please describe the changes you recommend to the Annual Capacity Billing Factor Thresholds.

A. The SOC requires that REFs have an Annual Capacity Billing Factor (ACBF) of 97% or more to receive the full Base Capacity Payment and greater than 80% to receive any capacity payment. (Appendix B to FPL's SOC). This standard is unreasonable for REFs because it fails to recognize that REFs can provide some capacity value even at lower capacity factors than the SOC requires for capacity payments. The fact that generating resources with lower capacity factors or availability factors (for dispatchable units) can provide capacity value is recognized by many system operators in the United States. For example, capacity credits are often provided for wind projects even though they are intermittent and have capacity factors that are typically half or less of that FPL requires for an REF to receive any capacity credit. To the degree an intermittent wind project with a relatively low capacity factor is viewed as offering capacity value in some markets suggests that biomass projects, such as Wheelabrator offers, clearly have capacity value even though FPL would not recognize such value if these projects have an ACBF of 80% or less.

Q. How do FPL's capacity factor requirements compare to those of other utilities?

A. They are higher. For example, Progress Energy Florida (PEF), who is subject to the same SOC rules as FPL, does not set as high a requirement for an REF to receive capacity payments. PEF allows full capacity payments at an on-peak capacity factor of 89%, and provides capacity payments to a minimum capacity factor of 69%. (Progress Energy Florida, Standard Offer Contract, Section 4, pg. 9.415). PEF's avoided unit employs a similar CCGT technology as FPL.

Q. Is there any difference between PEF and FPL in terms of success in signing contracts with REFs?

A. Yes. PEF has signed contracts with three renewable projects that are currently under development. (Progress Energy Florida, Progress Energy Florida's Request for Renewable Capacity and Energy, Section VI FAQs.) The Florida Biomass Group is developing a 130 MW project which will use an energy crop called E-grass. Horizon Energy plans a municipal solid waste gasification plant to produce 60 MW of energy. Vision/FL, LLC is proposing to gasify a sweet sorghum bagasse and to generate 40 MW of capacity and associated energy.

Q. What about other contracts that FPL has?

A. Interestingly, Wheelabrator's own current contracts with FPL contain capacity factor targets which range from 70 to 87% to receive full capacity payment and from 50 to 70% to qualify for any capacity payment. Clearly, these capacity factor targets are much less stringent than specified in FPL's SOC and are more appropriate for biomass facilities.

Q. Do FPL's own facilities perform up to the level it seeks to impose on REFs in the SOC?

A. Based on the information that I have reviewed, it does not appear so. Recent experience indicates that the performance risks of FPL's own generating units are significant. FPL's 2007 Form 10–K indicates that "Since June 2006, FPL has experienced different types of compressor blade failures in three combustion turbine compressors (CTCs) at two of its fossil generating plants, resulting in significant damage to the combustion turbines." The Form 10-K also notes that FPL "has 32 of this type of CTCs in its generating fleet, which were all made by the same manufacturer." (p. 10).

Additionally, Exhibit No. ____(JCD-2) presents the equivalent availability factors (EAFs) for FPL's CCGTs that are covered by the Generating Performance Incentive Factor (GPIF), as reported in its April 2008 filing. EAFs are a commonly used measure of generating unit availability that considers partial unit deratings as well as planned and forced outages. This exhibit, which relies on information presented by FPL, indicates that the reported EAFs of FPL's CCGTs, which range from 89.5% (forecast) to 90.9% (actual), are well below what FPL requires REFs to satisfy to receive full capacity payments. Thus, FPL seeks to hold other facilities to standards its own fleet does not meet.

Q. Have other jurisdictions implemented frameworks that better recognize the capacity value REFs offer?

A. Yes. The New York market, which is run by the New York Independent System Operator (NYISO), uses the concept of UCAP, or unforced capacity. For most generation types, the amount of Dependable Maximum Net Capacity (DMNC) they are credited with is equal to their average actual generation during the months of

the capacity periods, summer and winter. Their UCAP is then the DMNC times (1 - their demand-rated forced outage rate).

Q. Are you recommending that FPL pay for value that it does not receive?

A. Absolutely not. I recognize that section 366.91, Florida Statutes, provides that "capacity payments are not required, if due to the operational characteristics of the renewable energy generator or the anticipated peak and off-peak availability and capacity factor of the utility's avoided unit, the producer is unlikely to provide **any** capacity value to the utility or the electric grid during the contract term" (emphasis added). The point is that capacity factors below that which FPL seeks to require do provide capacity benefits.

Q. Has FPL satisfied the legislative provision cited above by establishing performance requirements that conform to the resource that is the basis of the avoided cost estimate?

A. No. FPL has established performance requirements that are appropriate for the avoided resource, i.e., a CCGT. These performance requirements are not appropriate for REFs, and more importantly, fail to recognize that a generating resource can provide some capacity value at a capacity factor that is below the Annual Capacity Billing Factor threshold of 80% for capacity payments currently in the SOC. (Appendix B to the SOC).

For example, a renewable energy facility that operates during all on-peak hours and as such has a capacity factor of less than 50% still has significant capacity value. While it might not have the same capacity value as a CCGT, given that a portion of its capacity value is really the value of the energy that it produces, it still

provides capacity value to FPL. Specifically, the avoided capacity value of a CCGT has two components. The first is the pure capacity value which reflects the cost of a simple cycle gas turbine (SCGT). The second is the value of the capitalized energy savings produced by the CCGT. This is essentially the CCGT's incremental capital costs relative to a SCGT that utilities incur to realize the technology's greater efficiency and lower operating costs.

Furthermore, even resources that only operate intermittently can offer capacity value. Through the diversity offered by a portfolio of resources, intermittent resources can provide a measure of capacity value.

Q. Would a lower capacity value in the SOC require FPL's customers to pay for additional capacity required to supplement what the renewable energy facilities offer?

A. No, not if the analysis of the capacity value of these renewable energy facilities is performed properly and appropriately reflected in FPL's contracts. I am simply proposing that FPL pay for the value that it receives.

Q. What changes do you propose to the provisions in FPL's SOC which pertain to the eligibility to receive capacity payments?

A. I propose that the capacity factor or ACBF required to achieve full capacity payments be modified so that it conforms to that which PEF requires, i.e., 89%, and that the minimum capacity factor to receive any capacity payment be 69%. These are availability factors in the PEF SOC and are generally consistent with EAF targets for CCGT that FPL uses in its GPIF filings, but for a renewable energy facility availability factors and capacity factors are typically similar.

Right of First Refusal

Q. Finally, you take issue with the requirement of a right of first refusal for an REF's TRECs contained in the FPL SOC. Please describe your concerns.

A. The avoided cost benchmark FPL uses is a fossil fuel unit. REFs offer a number of benefits relative to the avoided cost units that they displace. The primary avenue of compensation to REFs for these renewable attributes is the sale of TRECs. As such, care must be taken to ensure that there are no contractual constraints that prevent REFs from realizing the full market value of these TRECs.

The Commission recognizes this in its rules regarding TRECs. Rule 25-17.280, Florida Administrative Code, states:

> Tradable renewable energy credits and tax credits shall remain the exclusive property of the renewable generating facility. A utility shall not reduce its payment of full avoided costs *or place any other conditions* upon such government incentives in a negotiated or standard offer contract, unless agreed to by the renewable generating facility. (emphasis added)

This rule appears to prohibit the provision in the SOC which provides FPL with a right of first refusal as to the purchase of the TRECs REFs generate.

Q. Hasn't the Commission found that FPL's right of first refusal for TRECs is appropriate?

A. While it is true that in Order No. PSC-07-0492-TRF-EQ at p. 5, the Commission noted that "such a condition will insure that Florida's ratepayers enjoy all of the attributes associated with renewable generation without imposing a financial penalty to the owner of the renewable generation facility," this provision has never be

tested in an evidentiary hearing and appears to be inconsistent with the Commission's rule.

Q. Do you agree that a 30-day period for FPL to exercise a right of first refusal to purchase REFs' TRECs will not impose a financial penalty on the REF?

A. No. I believe that a right of first refusal will adversely affect the value of TRECs. First, a right of first refusal is likely to make it more difficult for an REF to receive full market value for its TRECs. RFP processes where TRECs are often purchased and sold typically do not provide for a seller to withdraw its offer if another party exercises its right to purchase the commodity.

In addition, many RFP processes do not provide sufficient time for a 30-day right of first refusal, such as FPL's SOC contains. As such, a popular approach for the sale and purchase of TRECs is not likely to be available to REFs if there is such a right of first refusal. Furthermore, as the market in Florida for TRECs develops under the forthcoming RPS, it is likely that the term for parties to conclude the purchase and sale of TRECs will be compressed as is common in competitive markets. Therefore, the right of first refusal will reduce the market for the TRECs the REFs generate. Finally, under a bilateral sale, a purchaser is less likely to be interested in pursuing a TREC purchase if a third party is able to match its offer and purchase the TRECs.

Q. What do you recommend with respect to FPL's right of first refusal?

A. I recommend that FPL be required to remove this provision from its SOC given it is likely to have an adverse impact on the value of the TRECs REFs generate.

Q. Finally, Wheelabrator's Protest states that "FPL's proposed SOC will not encourage the development of renewable resources in the state as required by Section 366.91, Florida Statutes." Would you comment on this statement?

A. FPL's SOC understates the value of renewable resources. Section 366.91 indicates that "payment provisions for energy and capacity" should be "based upon the utility's full avoided costs." The Commission has interpreted this requirement narrowly and in its Standard Offer Contract rules (F.A.C.25-17.250) specifies that the avoided unit "shall be based on the next avoidable fossil fueled generating unit of each technology type identified in the utility's Ten-Year Site Plan."

However, as discussed earlier, the Florida Legislature has clearly recognized the multi-faceted benefits of renewable energy resources. Many of the benefits the Legislature has identified, including increasing fuel diversity, minimizing volatility of fuel costs, and improving environmental conditions, indicate that renewable energy resources offer value greater than the fossil fuel resources that they would avoid.

This suggests that the avoided costs of a CCGT are not an appropriate value benchmark for REFs. Furthermore, the fact that Florida's Governor Charlie Crist issued an Executive Order requesting the Commission to develop a Renewable Portfolio Standard (RPS) which will impose an obligation on electric utilities to purchase or develop renewable energy facilities indicates that the appropriate avoided cost benchmark is no longer a fossil generating unit. With such a renewable purchase or development obligation, the appropriate avoided cost benchmarks for the SOC become renewable energy facilities.

VII. IMPACTS OF PROPOSED SOC CHANGES ON FPL CUSTOMERS

Q. Do the changes you recommend to FPL's SOC mean that FPL customers will bear more risk?

A. No. FPL customers will not have to bear more risks. FPL would likely prefer that all risks be allocated to REF owners. However, if REF owners are allocated too much risk, as is currently the case, then these facilities will not be built and ratepayers will be left bearing the risks of FPL building and operating generation assets. Therefore, the appropriate risk comparison is between the risks that FPL customers bear if FPL contracts with REFs versus the risks that customers bear if FPL builds generation facilities to serve customer requirements.

Q. Under the FPL SOC, as currently drafted, are the risks FPL customers assume for REF and FPL-owned facilities comparable?

A. No. Under FPL's SOC as currently drafted, the REFs offer FPL customers lower risks than FPL facilities.

Q. What are the major risks regarding generating facilities?

A. The major risks of each type of generating facility can be categorized into development, construction, market, and operating risks.

Q. How do the development risks FPL customers bear compare for REFs and FPL facilities?

A. FPL facilities require customers to bear more development risks than do REFs. For example, REF owners, not FPL customers, bear virtually all project development costs and risks. If a proposed REF project's costs are higher than

anticipated at the time of contracting then the REF developer must absorb these costs and cannot pass them on to ratepayers. In contrast to an REF, if an electric utility cancels a proposed generation project, but can demonstrate that it was prudent in its project development activities, then it may be able to recover these costs from customers.

Q. Is FPL seeking to recover development costs for a project it never built?

A. Yes. FPL has requested recovery, through the creation of a "regulatory asset," of the preconstruction costs, including various project development costs, of its Glades Power Park Units 1 and 2 in Docket No.070432-EI. FPL seeks recovery of $34.5 million in development costs, which have no apparent benefit to ratepayers. The Commission has not yet acted on FPL's request; however, an REF would have no recourse to the Commission in a similar situation.

Q. Who bears the risks if REFs that execute contracts with utilities are not developed?

A. These risks are typically borne by utility customers. However, the SOC has a number of provisions which protect customers by limiting this risk in the event that REFs are not developed. Specifically, FPL's SOC requires that REF developers post $30/kW of Committed Capacity of Completion/Performance Security. FPL customer risks are also mitigated by the size of FPL's generation portfolio relative to the size of the REF. Most REFs are relatively small compared to FPL generating facilities.

Q. How do the construction risks FPL customers bear compare for REFs and FPL facilities?

A. Similarly, FPL customers bear more construction risks from FPL facilities than from REFs. REF developers, not FPL customers, are at risk for construction cost overruns. If commodity or other project costs escalate and result in higher construction costs, the price paid to REF developers does not increase. The developer must manage these construction cost risks and has no ability to come to the Commission and recover its actual costs, as does FPL.

On the other hand, if FPL can demonstrate that it prudently managed the construction project and that the cost increases were beyond its reasonable control, typically it can pass these higher costs through to customers.

Q. How do the market risks FPL customers bear compare for REFs and FPL facilities?

A. I define market risk to include whether there is a "market" for the power as well as the uncertainty regarding the price received for such power. FPL customers bear a large portion of the "market" risks for REFs but virtually all the market risks for FPL. The market risks that REF owners bear under FPL's SOC include the variability of natural gas and oil prices and the impact on FPL's as-available energy costs that they are paid unless they elect Option C for energy payments.

Specifically, prior to commercial operation of the avoided unit, the as-available energy price that REFs are paid is based on actual energy costs (Option A) or the year- by-year projection of as-available energy costs. Therefore, the revenues REFs earn vary with fuel prices. This is a significant risk, to which FPL is not exposed, because it can pass through to its customers any changes in fuel prices

through the annual fuel price adjustment mechanism and its capital cost recovery does not depend on fuel prices.

Similarly, FPL's customers bear virtually all of the market risks of its generating units. For example, if FPL elects to build a CCGT, anticipating that the lower heat rate of such a large facility will offset its higher capital costs and reduce overall costs, but market conditions then change, it will still recover for the unit. This will be the case even though the unit operates for fewer hours then a simple cycle gas turbine, with a lower capital cost but higher heat rate that might have been a more cost-effective capacity addition.

In that case, FPL customers will still pay the full cost of the CCGT facility as long as it was deemed to be prudently built; in effect, the customers bear this risk. Unlike the REF's cost recovery, FPL's capital cost recovery is not at risk based on the CCGT capacity factor. If FPL were to significantly overestimate the unit capacity factor, the facility's costs likely would still be embedded in its rate base at the time of its next rate case and FPL would earn a return on that asset. Under the SOC's Energy Payment Option C, where energy payments are based on the lesser of the variable cost of the avoided unit or as-available energy costs, the REF developer is completely at risk for the operating profile of the deemed avoided unit.

Q. How do the operating risks FPL customers bear compare between REFs and FPL facilities?

A. REFs also require FPL customers to bear less risk associated with the operations of the REF than they bear with FPL facilities. Changes in the operating costs (e.g., heat rate degradation) or availabilities of REFs do not affect FPL's cost

recovery, unless there is a catastrophic failure at a generating unit and FPL has been deemed to be imprudent.

As mentioned above, recent experience indicates that the performance risks of FPL's own generating units are significant. The cost impacts of the compressor blade failures to customers are not readily apparent. However, FPL noted that the compressor blade failures reduced the availability of the three units that had such failures by an average of about 5%. (FPL Response to Wheelabrator's Third Set of Interrogatories, No. 16). Given the high capacity factor of these units, it is likely that this reduction in unit availabilities caused the units operate less than they otherwise would have. Therefore, higher cost units would have been needed to provide replacement energy. Unless the Commission takes action, these higher costs are likely to be passed on to customers. The fact that this compressor blade failure was disclosed in FPL's Form 10-K suggests that it may have a material impact on FPL.

Q. What conclusions do you draw from your discussion of relative risks?

A. In sum, REFs offer FPL customers lower risks than FPL facilities with respect to all four risk categories discussed above. In capital markets, the more risky the investment, the greater the expected return that investors will demand before they are willing to invest. The net effect of the current risk allocation is that REF owners bear too much risk, at least at the rates offered in the SOC, and as a consequence there has been no meaningful REF development in FPL's service territory. Therefore, revising several terms of the SOC so that it represents a more balanced allocation of risk that allows REFs to be financed, does not require that FPL customers bear more risk than they would have if FPL provided similar supplies.

Q. Are the risks that FPL bears related to its regulatory compact and reflected in the rates of return that it is allowed?

A. Most definitely. I am not suggesting that FPL should be required to bear more risks or required to follow the REF model. My point is that FPL's SOC requires REF owners to bear too much risk given the rates and terms offered.

Q. Are there other issues related to risk allocation?

A. Yes. There is one additional issue that flows from the differences in these risk allocations. The pricing in FPL's SOC is based on its avoided costs and, more specifically, on avoided capacity costs that reflect FPL's cost of capital. Given that FPL's cost of capital reflects its business risk and not the risks REFs bear, the avoided cost payments to REFs understate the value of REFs and enhance the attractiveness of REFs to FPL customers (they get the same price, with less risk). Specifically, these avoided costs are appropriate for a party that has the same risks as FPL. However, as I have shown, FPL bears less risk than REF owners and as such the avoided costs do not reflect this risk allocation.

Q. Has the Commission commented on the risk allocation to REFs and the implications for risks utility customers bear under utility contracts?

A. Yes. While contract terms may differ among the Florida utilities, the overall risk allocation is generally similar. The Commission has recognized that the risks REFs bear generally protect customers:

> . . .Full capacity payments are contingent upon the Florida Biomass generator maintaining a specific 12-month rolling average capacity factor. Below a specified minimum capacity factor, there is no capacity payment and energy will be purchased at "as available" rates.

> The agreement between PEF and Florida Biomass means that the utility and its body of ratepayers will not be subject to the high costs and risks that are associated with the research and design aspects of this project. Payments to Florida Biomass are entirely contingent upon the unit's demonstrated capacity and energy production. In contrast to savings in the cost for energy actually provided by Florida Biomass, possible future benefits cannot be quantified at present. At a minimum, benefits include fuel diversity, use of a renewable energy source, and fuel price stability.
>
> . . .
>
> [T]he contract contains provisions that protect PEF and the utility's ratepayers if the renewable generation project does not work as well as it is anticipated. Performance provisions of the contract require that the 12-month rolling average of the monthly capacity factor will be above a specified minimum in order for Florida Biomass to receive full capacity payment.

Order No. PSC-06-0743-PAA-EQ at 2-3, Docket No. 060387-EQ.

VIII. COMMENTS ON FPL WITNESS DUBIN'S DIRECT TESTIMONY

Q. FPL witness Dubin asserts that the terms in "the SOC are necessary to protect the customer, without these provisions the customers would have higher costs and less reliable service." (Dubin, Direct Testimony, p. 3) Do you agree?

A. No, and witness Dubin provides no support for this broad generality. As I have demonstrated, the terms in FPL's SOC create a barrier to REF development in Florida while ignoring the fact that there is a desire for renewable energy to serve as an important component of FPL's and the state's energy portfolio.

Under the FPL SOC terms, there has been no visible SOC-driven REF development and no SOCs executed with FPL. With no SOC-driven generation development and limited generation development from RFPs, FPL is left to develop

generation facilities. Therefore, under these conditions, the appropriate comparison is not whether changes to the SOC would result in an increase in costs and risks relative to the existing contract, but whether under the changes that are needed to the SOC for it to be able to support generation development, the SOC requires FPL customers to bear greater risks than under FPL developed facilities.

Q. FPL witness Dubin asserts that "FPL is supportive of development of new renewable generation in Florida and is happy to purchase for the benefit of its customers capacity and energy from both new and existing renewable generating facilities" (p. 4). Do you agree?

A. No. I have identified four major deficiencies in FPL's SOC. If FPL is truly supportive of the development of renewable generation in Florida and is "happy" to purchase for the benefit of its customers capacity and energy then it must make its SOC more balanced.

Q. What are your principal conclusions and recommendations?

A. I have reached the following conclusions as to FPL's SOC:

- FPL's SOC is a barrier to the development of renewable energy resources in Florida and does not encourage the development of these resources in the State contrary to the intent of the Florida Legislature.

- FPL's SOC frustrates the realization of the multi-faceted benefits renewable energy offers as the Florida Legislature outlined in section 366.91-.92, Florida Statutes.

- By revising several provisions in the SOC to balance the risks to renewable energy facility (REF) developers, a workable SOC can be crafted.

- The lopsided risk allocation in FPL's SOC is a barrier to the development of REFs that results in FPL using its own facilities to meet customers' requirements.

- Under FPL's SOC, REFs offer FPL customers lower risks than FPL facilities. Therefore, making changes to the SOC will not require FPL customers to bear more risks than they bear when served from FPL's own facilities.

Based on these conclusions, I recommend that the Commission direct FPL to make the following changes to its SOC:

- Given that energy payments are based on avoided costs, provisions 8.4.6 and 8.4.8 be revised to compensate REF developers' when they are constrained off or down by FPL.

- The Committed Capacity Test in section 3 should be revised to better consider the intermittent operating profiles of REFs. I recommend a four-hour test period for biomass facilities.

- The basis for REFs receiving capacity payments should be revised to better recognize the capacity value that they offer. I propose that the capacity factor or Annual Capacity Billing Factor required to achieve full capacity payments be set at 89% and that the minimum capacity factor to receive any capacity payment be set at 69%.

- The provisions in the SOC (e.g., right of first refusal) for Tradable Renewable Energy Certificates (TRECs) should be eliminated to avoid any adverse impact on their market value and comport with the Commission rule.

Finally, I recommend that the Commission consider changes to the methodology it employs to establish avoided costs for renewable energy facilities to recognize that the appropriate avoided generation resource for these projects is another renewable energy resource, not a fossil fuel-fired generating resource.

Q. Does this conclude your testimony?

A. Yes.

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Professional History

- Navigant Consulting
- Reed Consulting Group
- R.J. Rudden Associates Inc., 1987-1988
- Massachusetts Energy Facilities Siting Council, 1984-1987
- Massachusetts Department of Environmental Protection, 1981-1984

Education

- Boston University, MBA, 1987
- Brown University, AB, Economics, 1980

A senior electricity market analyst and electricity policy consultant with over twenty-years of experience in energy market analysis, power procurement, project valuation, and strategy development. Experienced in the evaluation and analysis of electricity markets and the competitive position of generation technologies and projects within these markets including the assessment of the competitiveness of the underlying market, the development of power market price forecasts, the implementation of power procurement processes, and the development and evaluation of renewable energy policies. Frequent speaker on these subjects at energy industry conferences.

Professional Experience

Market Assessment

» Developed and supported numerous market price forecasts for wholesale power markets across North America. Price forecasts were used to support generation project development efforts, project financings and acquisitions, regulatory policy development, and power procurement efforts.

» Demonstrated the need for electric generation projects in filings submitted to various state and provincial regulatory agencies. Evaluated the cost of a wide range of different generation technologies for a number of clients. Defended analyses in prepared and oral testimony before these state agencies.

» Conducted wholesale power market analyses across North America for a wide range of market participants. Analysis included identifying likely competitors and pricing, security provisions, and general terms and conditions of various power supply options. Evaluated pricing required to compete in the market.

» Advised the Ontario Electricity Financial Corporation with the management of its non-utility generation contracts. Advice included addressing the policy issues associated with balancing concerns with the sanctity of existing contracts and the desire to minimize stranded debt as well as to use the contracts as a source of competitive discipline for the incumbent provincial electric utility.

» Advised numerous generation project developers across North America on opportunities offered by participating in the relevant wholesale power market and various power supply procurement RFPs. Evaluated market risks and outlined strategies for managing these risks most efficiently.

» Analyzed and critiqued the supply planning methodologies of electric and gas utilities, focusing on the appropriateness of the supply planning models and methods. Provided recommendations for improving supply planning methods which were designed to assist the utilities in addressing the uncertainties associated with long-range planning. Prepared recommendations for the refinement of demand forecasting methods for electric and natural gas utilities. Analyzed and evaluated the statistical and quantitative projection methods used, including end-use and econometric forecasting techniques.

» Evaluated electric generating technologies on the basis of the capital and operating costs, technological risk, and environmental impact, identifying a preferred alternative in light of these considerations. Defended the selection process before a regulatory agency.

» Prepared strategic plan for a number of electric and natural gas market participants which evaluated the state/provincial and federal regulatory climate for cogeneration and generation projects, market prices and risks and recommended a competitive strategy.

Market Structure Development and Evaluation

» Advised the governments of Ontario, New Brunswick, Nova Scotia, Western Australia, and Manitoba regarding the restructuring of their wholesale power markets and possible market structures to achieve a workably competitive wholesale market.

» Responsible officer for market design project for the Province of New Brunswick. Navigant Consulting assisted the Market Design Committee and its subcommittees in providing the Minister of Natural Resources and Energy with recommendations on the implementation of electricity restructuring. Issues addressed included developing a market design that addresses concerns with the potential for the exercise of market power and enables New Brunswick to integrate with its interconnected markets. The Market Design Committee addressed development of the electricity market including its design, structure and rules. Navigant Consulting provided advice on the issues to be addressed, prepared issue papers and presentations, created strawmen for resolution of issues, and developed guidelines and direction for the creation of market design rules and protocols.

» Project manager for an assignment with the Province of New Brunswick to assist with the development of its ten-year energy policy. The cornerstone of this energy policy was the framework for restructuring its wholesale and retail electric markets. Advised regarding developments in other wholesale and retail markets and the prospects for meaningful competition in New Brunswick's wholesale and retail markets. Navigant Consulting advised regarding benefits offered by wholesale and retail competition; strategies for protecting New Brunswick consumers from market dislocations and higher prices; appropriate regulatory frameworks for the wires businesses and the prospects for achieving a workably competitive wholesale market in New Brunswick and the resulting market design requirements; and policies for addressing stranded costs raised by market restructuring.

» Markets and economics expert for a project with Western Power, the state-owned fully integrated utility that serves the vast majority of Western Australia. Advised regarding potential changes to the wholesale and retail electric power markets to enhance the competitiveness of these markets. Alternative market structures were evaluated and assessed in an effort to determine the market structure that offers the greatest societal net benefits. Offered proposed market structure changes that would accommodate government policy objectives of allowing greater levels of retail contestability and new entrants to satisfy the market's need for additional capacity. Evaluated restructuring reforms that had been implemented in a range of different markets that were of a similar size as Western Australia.

» Advised the Energy Strategy Working Group regarding the development of an electricity restructuring policy for the Province of Nova Scotia. Reviewed the experience with respect to the wholesale and retail market restructuring in California, New England, PJM, and Alberta and based on this experience outlined lessons learned and potential implications for electric restructuring Nova Scotia. Outlined the arguments for considering the restructuring of Nova Scotia's electricity market, reviewed contrasting market models, and discussed the critical constraints on wholesale and retail market restructuring in Nova Scotia.

» .Provided numerous presentations regarding the experiences with the restructuring of wholesale power markets and the lessons learned. Markets evaluated have included California, Alberta, New York, New England, PJM, Victoria, and England and Wales.

Power Procurement Support

» Advised on the development of over 20 RFPs for power supplies and demand-side resources for electric utilities across North America, serving as project manager for well over half of these RFPs. Support covered the full range of RFP support services including advising regarding the appropriate form of the RFP and evaluation process to secure resources that best satisfy the client's objectives, drafting the RFP, developing the evaluation framework, marketing the RFP process to prospective bidders and negotiating with bidders.

» Advised on commercial issues for power purchase agreements.

» Offered testimony before the Massachusetts Department of Public Utilities on a utility RFP process. Authored reports on the evaluation of proposals.

» Managed numerous competitive solicitations for renewable energy resources and energy efficiency projects. Projects involved the development of frameworks for evaluating these energy alternatives and for comparing them on a consistent basis with conventional electricity supplies. Analyses considered the relative environmental impacts, reliability benefits, and cost-effectiveness of alternatives.

» Acted as Project Manager for several assignments to serve as the independent evaluator of conventional generation, renewable resource and demand-side RFPs. Responsible for determining whether proposals satisfy the threshold requirements in the RFP and for scoring all proposals. Also responsible for identifying the short-list of proposals, conducting bid clarification meetings with shortlisted bidders, and recommending to the selection of winning bidders.

Transmission Facility Review and Pricing Proceeding Support

» Advised the staff of the Ontario Energy Board on the evaluation of the proposal for a 1,250 MW HVDC line between Quebec and Ontario and served as a participating staff member for the Massachusetts Energy Facilities Siting Board's evaluation of the 2,000 MW HVDC interconnection between Massachusetts and Quebec.

» Advised OEB staff on the review of evidence presented by Hydro One in its application for two 240 kV transmission lines to alleviate the Queenston Flow West constraint.

» Advised clients in Saskatchewan, Newfoundland and Labrador, and Alberta on transmission pricing issues. Testified in the Alberta Transmission Congestion Pricing Principles proceeding.

» Led a consulting team that assisted with the preparation of the East-West Electrical Transmission Grid Study. Authored subsequent updates to this study for Natural Resources Canada.

» Advised a client regarding the elements of a comprehensive electricity export policy framework. Advice focussed on economic and social issues arising from the development of export oriented transmission infrastructure to support the development generation for export.

» Provided testimony on Northeast power markets and transmission issues and consequential damages in a civil case in New York. Evaluated the implications of the loss of a transmission facilities on the power system adequacy.

» Advised a number of clients on the issues associated with the development of merchant transmission facilities. Projects included reviewing the status of merchant project development efforts, merchant project structures, key success factors for merchant plant development and a review of merchant plant development opportunities worldwide.

Renewable Energy Policy Development and Evaluation

» Advised governments of Ontario, New Brunswick, Nova Scotia, and Manitoba on policies for the promotion of renewable energy technologies.

» Advised the Ontario Select Committee on Alternative Fuels on the most promising renewable technologies, identified barriers to their development and adoption and proposed policies for overcoming these barriers.

» Directed a project for a group of municipalities in Manitoba that evaluated the economic opportunity offered by wind projects in Manitoba and identified policies to promote the development of Manitoba's wind resources.

» Advised the Ontario Power Authority on the development of a standard offer for renewable energy technologies.

» Delivered a presentation on Canadian policies to promote the development of wind energy projects. Presentation reviewed federal and all relevant provincial programs and policies to promote the development of wind energy projects.

» Developed recommendations for the Manitoba Sustainable Energy Association on policies to promote the adoption of renewable energy technologies in Manitoba. Reviewed the relative advantages and disadvantages of standard offers versus RFPs and made recommendations regarding the appropriate applications of each.

» Advised numerous electricity generation development companies on the implications and opportunities presented by renewable energy policies. Developed strategic plans for a wide range of renewable energy technologies including large scale wind, landfill gas, biomass, anaerobic digestion, and small hydro.

» Evaluated electricity wholesale market and REC prices that would apply to landfill gas projects and reviewed US federal policies that benefited these projects including the production tax credit.

» Reviewed the general market for the development of renewable energy projects in Canada and contrasted market conditions with those in other countries.

» Led the development of a multi-client study that evaluated the opportunities for wind project development in Ontario under existing federal and provincial programs.

» Contrasted state RPS programs by identifying eligible technologies, eligibility requirements for projects in different jurisdictions, strategies for assessing compliance, RPS targets, and penalty provisions for failure to achieve the target.

Financial Studies

» Performed detailed analyses of numerous generation projects' financial feasibility. Analyses considered alternative financing schemes and identified strategies for enhancing project values.

» Served as Project Manager for assignments requiring the development of valuation estimates for numerous energy projects. Projects typically entailed modeling revenues and costs to predict cash flows and calculate the cumulative present worth of after-tax cash flows. The overall viability of projects were assessed by reviewing the status of project permitting efforts and financial commitments, the major provisions of power purchase agreements and steam purchase agreements.

» Evaluated the economic and financial feasibility of a number of different generation projects for project developers, project hosts, and a gas utility. Assisted in the development of a cogeneration feasibility assessment model.

Speaking Engagements

» "Strategies for Enhancing the Value of Your Asset", IBC Conference, (November, 1999)

» "Electricity Restructuring Lessons Learned: Implications for Ontario", Ontario Energy Marketers Association (April, 2001)

» "Electricity Power Prices in the Deregulated Ontario Market, 2001 CERI Conference, (October, 2001)

» "Electricity Restructuring in the US and Eastern Canada", World Bank/CREG/CERI Conference, (November, 2001)

» "Prices and Price Volatility in the Ontario Wholesale Power Market" PowerFair 2002, (May, 2002)

» "Pricing Fundamentals in the Ontario Wholesale Power Market" PowerFair 2003, (August, 2003)

» "The Economics of Power Generation in Atlantic Canada", 2003 Atlantic Power Summit (October, 2003)

» "Future Opportunities in the Maritimes", 2003 Ontario Energy Contracts Conference, (November, 2003)

» "A Perspective on Ontario's Evolving Wholesale and Retail Power Market Structures", PowerFair 2004, (May, 2004)

» "Canadian Policies to Promote Wind Project Development" EUCI's 4th Wind Energy and Power Markets Conference (September, 2004)

» "Effectively Navigating Ontario's RFP Processes" Power ON Conference, (October, 2004)

» "Enhancing the Performance of the Maritimes Market", 2004 Atlantic Power Summit, (November, 2004)

» "What Will the Ontario Landscape Look Like?", 2005 Ontario Energy Contracts Conference, (January, 2005)

» "Policies to Promote the Adoption of Renewable Energy Technologies in Manitoba", Manitoba Sustainable Energy Association, (April, 2005)

» "Outlook for Ontario Electricity Supply & Pricing", PowerFair 2005, (May, 2005)

» "Key Risks Affecting Ontario Electricity Consumers", AMPCO General Member Seminar (November, 2005)

» "What Kind of Market Structure Would Spark New Investment?" Canadian Institute's Generation Adequacy in Ontario Conference (April 19, 2006)

» "Where are Electricity Pricing Going" Insight Information, Ontario Power Forum (June 15, 2006)

» "Transmission Planning and Policy Development: An Update", APPrO Conference (November 15, 2006)

» "Recent Developments in Transmission Access and Pricing" Insight Information's Grid Reliability and Competition in the Power Sector (December 12, 2006)

» "Renewables in Ontario" Insight Info Conference (June 14, 2007)

» "Report Card on Ontario's Electricity Market" Ontario Energy Association Annual Conference (September 6, 2007)

Plant	Unit No.	Equivalent Availability Factors FPL CCGT Units Year 2007* Target EAF (%)	Year 2007* Adjusted Actual EAF (%)	Year 2009** Estimated EAF (%)
Lauderdale	4	82.6	83.6	93.5
Lauderdale	5	92.2	94.6	
Martin	4	94	92.8	92
Martin	8			83.2
Sanford	4	90.2	91.8	90.2
Sanford	5	91.3	91.5	88.4
Average		90.1	90.9	89.5

* Source: Docket No. 080001-EI, Generating Performance Incentive Factor Performance Results for January 2007 - December 2007, Testimony and Exhibits of: F. Irizarry pg. 5, Original Sheet No. 6.203.005 (April 3, 2008)

** Source: Docket No. 080001-EI, Generating Performance Incentive Factor January 2009 - December 2009, Testimony and Exhibits of: F. Irizarry pg. 10, Original Sheet No. 7.201.010 (Sept. 2, 2008)

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true and correct copy of the foregoing Testimony and Exhibits of John C. Dalton has been furnished by U.S. mail this 1st day of December, 2008, to the following:

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