Electronic Filing for Supplemental Comments of Investor-Owned Utilities

Matilda Sanders

From: Pam Keillor [pkeillor@radeylaw.com]	ORIGINAL
Sent: Wednesday, November 08, 2006 3:28 PM	ONIGHACE
To: Filings@psc.state.fl.us	
Subject: Electronic Filing for Supplemental Comments of Investor-Owned U	tilities
Attachments: Supplemental Comments of Investor-Owned Utilities Docket No. 06	60555-El.pdf
<>Supplemental Comments of Investor-Owned Utilities Docket No. 060555-El.pdf>	>> COM
	CTR
Electronic Filing	ECR
a. Person responsible for this electronic filing:	GCL
Susan F. Clark	OPC
Daday Thomas Von & Clark B A	RCA
Radey Thomas Yon & Clark, P.A.	SCR
01 South Bronough Street, Suite 200	
Tallahassee, Florida 32301	SEC
(850) 425-6654	OTH KIME

sclark@radeylaw.com

- b. Docket No. 060555-EI Proposed amendments to Rule 25-17.0832, F.A.C., Firm Capacity and Energy Contracts.
- c. Document being filed on behalf of Gulf Power Company, Tampa Electric Company, Progress Energy Florida, and Florida Power & Light Company.
- d. There are a total of 35 pages.
- e. The document attached for electronic filing are the Supplemental Comments of Investor-Owned Utilities.

(See attached file: Supplemental Comments of Investor-Owned Utilities Docket 060555-EI)

Thank you for your assistance in this matter.

Pam L. Keillor
Assistant to Susan F. Clark and Travis L. Miller
Radey Thomas Yon & Clark, P.A.
Post Office Box 10967 (32302)
301 South Bronough Street, Suite 200
Tallahassee, Florida 32301
(850) 425-6654 Main
(850) 425-6663 Direct
(850) 425-6694 Fax
Email: pkeillor@radeylaw.com

DOCUMENT NUMBER-CATE

10325 NOV-88

ORIGINAL

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Proposed amendments to)	Docket 1	No.: 060555-	ΕI
Rule 25-17.0832, F.A.C.,)			
Firm Capacity and Energy Contracts)	Filed: N	lovember 8, 2	2006
)			

SUPPLEMENTAL COMMENTS OF INVESTOR-OWNED UTILITIES

Florida's four investor-owned utilities ("IOUs") – Gulf Power Company ("Gulf"), Tampa Electric Company ("Tampa Electric"), Progress Energy Florida ("Progress"), and Florida Power & Light Company ("FPL") – together submit these comments in response to proposals submitted by Green Coast Energy, Inc., the City of Tampa, the Solid Waste Authority of Palm Beach County, the Florida Industrial Cogeneration Association, Covanta Energy Corporation, Montenay-Dade Limited, Lee County, and Wheelabrator Technologies, Inc. (collectively, the "renewable generators") regarding the proposed amendments to Rule 25-17.0832, Florida Administrative Code ("F.A.C."). As requested in the Order Establishing Procedures to Be Followed at Rulemaking Hearing, Order No. PSC-06-0849-PCO-EI, the IOUs initially submitted comments on October 25, 2006. These comments supplement the IOUs' previously-filed comments and respond to the issues raised by the renewable generators. The IOUs also wish to reserve the right to provide oral comments and testimony at the public hearing and to file post-hearing comments, if such post-hearing comments are permitted.

DOCUMENT NUMBER - DATE

Despite the numerous opportunities to do so during the course of the rulemaking process, the renewable generators did not file their proposed rule changes until November 3, 2006. The IOUs have had only four days (two business days) to review the extensive filings made by the renewable generators, leaving little opportunity for a thorough analysis of the proposals. Further review of the proposals may necessitate additional comments.

I. INTRODUCTION

The IOUs are committed to the goal of encouraging the development of new renewable energy generating resources in this state in a manner consistent with the best interests of our customers. Such development is part of a balanced approach to meeting customers' need for energy, which includes energy conservation, renewable energy sources, and nuclear-fueled energy sources and fossil-fueled energy sources. The proposed rule amendments are consistent with this balanced approach and with section 366.91, Florida Statutes, and the IOUs support the draft that has been published in the Florida Administrative Weekly.

The proposals of some of the Intervenors in this docket would have the Commission drastically depart from the plain directives of section 366.91 and adopt a rule that would be contrary to the statute and likely found to be an invalid exercise of delegated legislative authority, as defined in section 120.52(8), Florida Statutes.² For example, the Renewables Group (consisting of the City of Tampa, the Solid Waste Authority of Palm Beach County, the Florida Industrial Cogeneration Association, and Covanta Energy Corporation) advocate through the testimony of Frank Seidman a complete abandonment of the avoided cost standard mandated by section 366.91.

Contrary to the claim of Mr. Seidman in his testimony, the Legislature did not create a new avoided cost standard when it enacted section 366.91. Instead, the Legislature expressly adopted the definition of "full avoided costs" in section 366.051, Florida Statutes. § 366.91(3), Fla. Stat. The phrase "based on full avoided costs" in section 366.91(3) cannot mean anything different from the phrase "equal to the purchasing utility's full avoided costs"

A rule is an "invalid exercise of delegated legislative authority" if it enlarges, modifies, or contravenes the specific provisions of law implemented. § 120.52(8), Fla. Stat.

in section 366.051, Florida Statutes, given that the Legislature expressly adopted the same definition of "full avoided costs" in both statutes. Adoption of the approach to avoided costs advocated by the Renewables Group also would run afoul of federal law. The Federal Energy Regulatory Commission ("FERC") has clearly stated on several occasions that to the extent a state sets avoided costs above the costs that customers would otherwise pay, it has exceeded the authority delegated to the states and is subject to preemption by FERC.³

The Renewables Group also mischaracterizes the intent of section 366.91. In enacting the statute, the Legislature did not state that its goal is to encourage renewable energy resources "at any cost." Rather, as reiterated in the 2006 legislative session in section 366.92, the Legislature's goal is to "promote the development of renewable energy . . . and, at the same time, minimize the costs of power supply to electric utilities and their customers." The Renewables Group, through its proposed rule, asks this Commission to ignore the second half of the equation – the impact on utility customers.

The IOUs concur with the Commission Staff that amendments to rule 25-17.0832 are an appropriate means to implement section 366.91. A separate rule, as proposed by the Renewables Group and Green Coast Energy, Inc., is not needed. Contrary to the testimony of Mr. Seidman, the underlying intent of the Public Utility Regulatory Policies Act ("PURPA") and section 366.91 are the same: Both statutes are intended to promote the development of alternative energy resources.⁴ It matters not at all that the concern in 1978

E.g., Connecticut Light & Power Co., FERC Docket No. EL93-55-000, Order Granting Petition for Declaratory Order (Jan. 11, 1995). The issue is discussed further in Section II, below.

The same can be said for section 366.051, Florida Statutes, which promotes cogeneration and was enacted after PURPA. Rule 25-17.0832 was originally adopted to

was a dependence on foreign oil and that today's concern is dependence on natural gas. The goal in both statutes is to increase capacity and energy derived from alternative energy resources.

As illustrated by the varying proposals of the Intervenors in this docket, the renewable generators themselves are not in agreement as to the requirements or intent of section 366.91, Florida Statutes, and the best approach for the proposed rules. The differing needs of the different types of renewable generators illustrate that a uniform standard offer contract, as proposed by the Renewables Group, is unworkable. The IOUs support the Staff's recommendation that separate standard offer contracts be developed by each utility based on the next avoidable fossil-fueled generation unit of each technology type in that utility's Ten-Year Site Plan. Further, the Commission's long-held policy encouraging negotiation between the IOUs and the renewable generators should continue to be encouraged, as no standard contract can address every need of every type of renewable generator.

II. THE AVOIDED COST STANDARD IN SECTION 366.051, FLORIDA STATUTES, MUST BE FOLLOWED IN THE PROPOSED RULE AMENDMENTS

A. The Proposal by the Renewables Group is Contrary to Controlling Law

The proposed rule drafted by the Renewables Group requires customers to pay for capacity that is not needed and is based on a unit that would not otherwise be built. Further, it obligates customers to pay for capacity that cannot be relied on to meet their needs, and it requires this capacity to be bought at any time and in any amount the renewable generator chooses. These provisions are completely divorced from the requirements of sections 366.91

implement section 366.051. Because the underlying goals of both statutes are the same, no need exists to create separate rules.

and 366.051, Florida Statutes. Under these statutes, payments for capacity are inextricably linked to a utility's need for capacity. If the capacity is not needed, or cannot be relied on to provide needed capacity, no capacity costs are "avoided" by the renewable generator.

Section 366.051 provides in relevant part:

In fixing rates for power purchased by public utilities from cogenerators or small power producers, the commission shall authorize a rate equal to the purchasing utility's full avoided costs. A utility's "full avoided costs" are the incremental costs to the utility of the electric energy or capacity, or both, which, but for the purchase from cogenerators or small power producers, such utility would generate itself or purchase from another source.

(Emphasis supplied). Importantly, section 366.91, which the proposed rules at issue in this docket are intended to implement, adopts the definition of "full avoided costs" in section 366.051.

The proposal of the Renewables Group fails the "but for" test in the statute. Essentially, the Renewables Group's proposed rule prohibits a utility from contractually requiring a renewable generator to guarantee the timing, quality, or reliability of the generation it proposes to provide. Moreover, the proposal requires a utility to pay a renewable generator – beginning the moment the renewable generator begins operating – the amount the utility would otherwise pay for a coal unit, regardless of whether there is any need for additional generating capacity. Thus, in the case of currently unneeded capacity, costs relating to existing capacity will still be incurred, not avoided. In the case of future capacity needs, because the capacity from renewable generation could not be relied upon in

terms of the timing, quantity, or reliability,⁵ the utility would still have to build capacity to reliably meet demand. Customers would pay twice.

The renewable generators propose that the Commission use a hypothetical unit, specifically a 600 MW pulverized coal unit with an in-service date tied to the date a renewable energy provider elects to commence delivery of firm capacity. The use of this unit is in no way tied to the type of unit or timing of need for any particular utility. The Renewables Group's proposal also calls for an annual (and likely highly contentious) process for establishment of unit specifications, including cost estimates based on financial and operating assumptions, and development of a stream of payments calculation. Moreover, as noted below, the concept of a statewide coal unit has previously been used, and then rejected, by this Commission.

The proposal further deviates from the avoided costs requirements of section 366.91 by mandating a revenue stream based on revenue requirements for this hypothetical coal unit. This Commission has repeatedly rejected an avoided cost payment based on revenue requirements because the front-end loaded payments exceed the value of the capacity

The proposed rule amendments eliminate or prohibit terms necessary to provide these assurances. See, e.g., pp. 21-22 of Mr. Seidman's Exhibit FS-1.

As acknowledged by the Renewables Group witness, Mr. Bedley, the purpose of this choice is not to meet a current need for capacity but is designed to maximize fixed capacity payments to renewables. "If pricing is based on a 'portfolio' coal plant – which has a relatively high capital cost per kW – it would tend to provide a more stable, predictable revenue stream because a majority of revenues would derive from the fixed capacity payment" Testimony of Michael D. Bedley at 9. "My use of the 'proxy' reflects the fact that we are not looking to avoid utility planned capacity designed to serve load growth and/or maintain reserve margins." *Id.* at 10.

The process for estimating the cost of this hypothetical unit also provides for the use of the highest estimate for capital costs and the highest estimated heat rates, further increasing costs to customers.

delivered by the qualifying facility ("QF"). This excessive compensation is especially significant when a unit with a high capital cost - i.e., a coal unit – is used for determining these payments.

Additionally, the "subscription limit" proposed by the Renewables Group provides no limit. The proposal requires the standard offer to be available until 25% of capacity and energy, on a statewide basis, is provided by renewable energy generators. Again, this limit is entirely divorced from any need for capacity. Moreover, it is unlikely this percentage can ever be reached because other aspects of the Renewables Group's proposal preclude reliance on capacity from renewable generators in reliably meeting customer demand. The amendments to the rule require energy and capacity payments to be made even when the energy is being sold "as available." The proposed rules also contain limitations on

The obligation to buy renewable power at excessive costs will not necessarily fall equally on all utility customers. The proposal contemplates the renewable generator's native utility would be required to buy whatever a generator within its service area chooses to sell—up to 12,109 MW. This figure equals 25% of 48,437 MW (which is the summer net generation capacity for the state of Florida, according to the Commission's Statistics of the Florida Electric Utility Industry 2005, revised October 2006). The potential disproportionate impact on some utility customers can be illustrated by this example: Gulf Power could be required to purchase over four times its current generation capacity under the renewable generators' proposal, based solely on the decision of renewable generators to locate in one IOU's service area. Only FPL currently has total capacity in excess of 12,000 MW. Note that the proposal's further requirement to purchase renewables up to 25% of the state's total MWh generation would actually allow significantly more than the 12,109 MW of capacity calculated above because renewable generators' capacity factors are typically less than 100%.

The subscription limit proposal amounts to a renewable portfolio standard. The legislature has previously considered – and rejected – such a standard. See Fla. H.B. 1551 (2004).

As Mr. Seidman stated: "Another difference is that existing Rule 25-17.0825(1) does not allow capacity payments for as-available because of the lack of assurance for availability. This prohibition is deleted from the Renewables Group's proposed rule 25-17.0935(1)

performance requirements and penalties for nonperformance that make it unreasonable for the utility to rely on the quantity, timing, and reliability of the contracted-for energy.¹¹

The Renewables Group's proposal is designed with one goal in mind – to benefit renewable providers without regard to the costs or benefits to customers.¹² This is contrary to the plain language of sections 366.051, 366.91, and 366.92, Florida Statutes, and the proposal must be rejected.¹³

B. The Rule Must Be Based on Avoided Costs

Several of the changes suggested by the renewable energy interests are designed to compensate renewable energy providers for the energy they produce at rates higher than rates

because REFs [renewable energy facilities] are providing fuel diversity, not deferral of specific utility capacity." Testimony of Frank Seidman at 16.

In spite of the fact that Mr. Seidman argues throughout his testimony that the true intent of section 366.91 is to encourage fuel diversity and not to avoid capacity, he proposes that an avoided cost methodology with a statewide unit be used for setting compensation to renewable generators. Nowhere in his testimony does he address the economic value of fuel diversity, as requested by Commissioner Deason at the October 3, 2006, Agenda Conference. Nor does he attempt to base the renewable generators' compensation on this idea of fuel diversity. Instead, Mr. Seidman simply leans on the undefined and under-analyzed term "fuel diversity" to repeatedly suggest that current methods for compensating renewable generators are invalid.

For example, see Mr. Seidman's Exhibit FS-1 at 21, 23.

A further example of the Renewables Group's disregard of customer impact is Mr. Seidman's proposal regarding self-service wheeling. See Testimony of Frank Seidman at 31-32. The proposal mandates wheeling without regard to the cost to other customers. The current rule allows self-service wheeling when it will not result in "higher cost electric service to the general body of retail and wholesale customers." See Rule 25-17.0883, F.A.C.

The elements of the Renewables Group's proposal have been previously considered, and rejected, by the Legislature. As explained in the IOUs' initial Comments, in 2004, a bill (HB 1551) was introduced that would have permitted contracts with renewable generators to contain financial incentives, required that payments be based on a statewide unit, and mandated a certain percentage of the State's generation capacity come from renewable sources. That bill did not pass.

calculated on full avoided costs. The continued use of avoided costs as a mechanism for pricing renewable energy is appropriate and required under federal law and state law, and under long-standing and proven Commission policy.

In 1978, Congress passed PURPA which, among other things, required utilities to purchase power from QFs at the utility's avoided cost. PURPA required state regulatory commissions to adopt rules to implement PURPA and to establish the relations between utilities and QFs. Accordingly, the Commission adopted rules to implement PURPA with regard to cogenerators and small power producers. See In re: Adoption of Rules 25-17.80 through 25-17.89 – Utilities' obligations with regard to cogenerators and small power producers; Docket No. 780235-EU; Order No. 9970 (Apr. 22, 1981); In re: Amendment of Rules 25-17.80 through 25-17.89 relation to cogeneration; Docket No. 820406-EU; Order No. 12443 (Sept. 2, 1983) and Order No. 12634 (Oct. 27, 1983).

As part of the 1983 rulemaking, the Commission thoroughly considered the terms and conditions to be included in standard offer contracts and the appropriate means of calculating avoided costs. See In re: Amendment of Rules 25-17.80 through 25-17.89 relation to cogeneration; Docket No. 820406-EU; Order No. 12443 (Sept. 2, 1983) and Order No. 12634 (Oct. 27, 1983). Over the years, some aspects of the rules have changed, but the Commission's basic policy of balancing the development of QF generation, including renewable generation, with protecting customers from inflated prices has remained the same.

The changes requested here by the renewable generators contradict more than 20 years of well-reasoned, equitable, and successful Commission policy, and the arguments are not new. Many of them have been heard and appropriately rejected before by prior Commissions. Further, the Commission is being asked for significant changes to the existing

rule not only to benefit any potential renewable generators, but, to a large extent, increase the revenue to already existing renewable generators. The changes, in such cases, would not encourage the development of renewables, but merely redistribute wealth from customers (who will pay inflated costs for purchased power) to the established renewable generators.

C. The Value of Deferral Method Remains the Appropriate Method for Calculating Avoided Costs

Although PURPA's and FERC's implementing rules established "avoided costs" as the maximum to be paid for cogenerated power, the states were required to determine the specific means of quantifying avoided costs. The concept of "avoided costs" is that by identifying and requiring utilities to pay the cost the utility can avoid by purchasing QF power, utility customers are no worse off than if the utility had built a unit itself. Meanwhile, the QF gets the avoided costs without having to face a market for its power and without regard to the cost of generating its power. In Florida, the debate regarding the approach to use in calculating avoided costs has arisen periodically and the Commission has consistently chosen the Value of Deferral as the appropriate methodology to calculate avoided costs.

The Commission first adopted the Value of Deferral method in Docket No. 820406-EU in 1983. In its Order in that docket, the Commission explained why it chose the Value of Deferral¹⁴ approach as opposed to the Revenue Requirements method advocated by some of the Intervenors. Several passages from this order are helpful in understanding how the

The value of deferral is, in essence, a calculation of the value of deferring the revenue requirements of a new generating plant by one year. Essentially, it compares the difference in annual revenue requirements if the revenue requirements stream begins in year X as compared to beginning in year X+1.

Order 12634 at 16.

The Commission summarized the Value of Deferral method as follows:

Commission arrived at its current policy of balancing the development of cogeneration, including renewables, without overburdening electric customers with an inflated cost for purchasing such power.¹⁵ For example:

Under the standard offer, the annual price to be paid for QF capacity is geared to the value of deferring the . . . avoided unit one year. We adopt the testimony of Mr. Trapp on this point. We agree with Mr. Trapp that there must be a link between the price paid for QF capacity and the value of other supply side alternatives available to a utility to meet its service obligation. It is this linkage that ensures that cogeneration and small power production will remain a cost effective conservation method.

In re: Amendment to Rules 25-17.80 through 25-17.89 relation to cogeneration; Docket No. 820406-EU; Order 12634 (Oct. 27, 1983), at 14, 15. The Commission reiterated that payments in excess of the Value of Deferral would be inappropriate: "We will not consider supply side alternatives more costly than the Value of Deferral because it would not benefit the ratepayers to pursue them, regardless of the source." Id. at 17.

The following passage from Order No. 12634 shows that the Value of Deferral versus Revenue Requirements debate was raised and resolved more than 20 years ago and it articulates why the Value of Deferral method was and remains the superior approach:

IMC, et al, urged us to adopt a capacity payment rule that would set a maximum cap on the level of permissible payments equal to the revenue requirements of a generic base load coal unit. We believe the value-of-deferral methodology is superior to a revenue requirements methodology for a couple of reasons. First, revenue requirements are based on a thirty-year depreciation life for a power plant. The payments are relatively high in the early years and relatively low in the later years; if ratepayers receive service from the plant for thirty years, the disadvantage of high payments in the early years is offset by the benefit of low payments in the later years. That

The Commission has articulated that its policy is to "encourage cogeneration and small power production to the extent that it does not result in higher cost electric service to the ratepayers and citizens of the State of Florida." See In re: Proposed revisions to Rules 25-17.082, 25-17.0825, 25-17.083, 25-17.0831, 25-17.088, 25-17.0882, 25-17.091, and creation of Rules 25-17.0832, 25-17.0833, 25-17.0834, and 25-17.089, F.A.C., Cogeneration Rules, Docket No. 891049-EU; Order No. 23623 (Oct. 16, 1990).

symmetry is missing if a QF makes only a ten-year commitment; a QF would receive the high end of the deferred revenue requirements stream without a concomitant obligation to provide service in exchange for relatively low deferred revenue requirements in later years. Second, capacity payments based on deferred revenue requirement would overpay the QF in early years, thus getting into the thorny problem of securing all capacity payments for a number of years, not just those made pursuant to the early payment option.

The value-of-deferral methodology overcomes these problems. First, the deferral method pays the QF only what it earns in any given year, the value of an annual deferral, thus eliminating the security question in ordinary circumstances. Second, the value-of-deferral method will, over the thirty-year depreciation life of the avoided unit, pay a QF the same amount it would have received if its capacity payments had been based on deferred revenue requirements. That is, at the end of thirty years, a QF would have received the same total amount on a present value basis, under either methodology; the difference between the two methods lies in the level of payment in any given year in that thirty year period. Levelizing capacity payments based on avoided revenue requirements mitigates but does not cure the problem; using the value of annual deferral as the benchmark, levelized capacity payments based on deferred revenue requirements still overpay a QF in the early years.

Order No. 12634 at 19.

The Value of Deferral approach was again reviewed and reaffirmed in 2003 in connection with the revisions to Rule 25-17.0832, F.A.C., which reduced the minimum contract term to five years. During the proceedings, the renewable generators suggested that the Commission should change the method of calculating avoided costs from the Value of Deferral to the Revenue Requirements method, in part to satisfy the requirements of section 377.709, Florida Statutes. ¹⁶ No change to the Value of Deferral method was made as a result of these proceedings. ¹⁷ The question of the appropriate method to calculate avoided costs

Section 377.709, entitled "Funding by electric utilities of local governmental solid waste facilities that generate electricity," requires the Commission to have a cost-effective funding program in place for solid waste facilities.

The final 2003 rule amendments to Rule 25-17.0832, F.A.C., consisting of "cleanup changes" to update the division names and to fix grammatical errors, and a change to the minimum term of the standard offer contract from ten years to five years, were reached via a

has been looked at multiple times by the Commission and each time the Commission has chosen to retain the proven Value of Deferral approach. This renewed attempt by the renewable generators to change the way avoided costs are calculated provides no new basis to change, would increase costs to customers, and should be rejected. 18

The Value of Deferral methodology provides a payment to the renewable generator that complies with the statutory definition of "full avoided cost" for any contract term from one year up to the life of the avoided unit. For example, ¹⁹ if a contract is for one year, the effect of the capacity provided by the renewable generator is to defer the need for the avoided unit by one year and the Value of Deferral method appropriately calculates this amount. Likewise, with contracts of any particular term, the generator receives the value of what it provides to the utility, namely the value of deferring the avoided unit for the agreed-to term. Importantly, if the contract term coincides with the life of the avoided unit, the payments under the Value of Deferral method equal the net present value of payments under the Revenue Requirements method.²⁰

stipulation between the parties and did <u>not</u> include a modification to the Value of Deferral approach. See Transcript of Rule Hearing, Docket No. 001574-EQ (Mar. 19, 2003), at 4-6.

Indeed, the Commission's long-standing policy of carefully balancing these two interests was further justified by the Legislature's recent enactment of section 366.92(1), which recognizes the Legislature's goal to promote renewable resources while "at the same time, minimize the costs of power supply to electric utilities and their customers." § 366.92(1), Fla. Stat. (2006).

Unless a purchase from a renewable generator is for the same term and same amount as the unit the utility would build, the utility does not avoid construction of the utility unit, it just defers it. The Value of Deferral method quantifies the value of such deferral on a year-by-year basis.

See Attachment A, consisting of the Comparison of Payment Streams graph, which illustrates the payment streams for total revenue requirement, levelized revenue requirement, and value of deferral, and the Revenue Requirements vs. Value of Deferral Methodologies table, which demonstrates that the net present value of the payments of the two methods are

The Revenue Requirements method has two significant problems. First, it over-compensates renewable generators for the value delivered to customers, and if the front-end loaded Revenue Requirements stream is paid to the renewable generators, once they have earned a sufficient sum to pay off their debt, they will have an incentive to walk away from the contract. Revenue requirements are high in the early years and low in later years; if customers receive service from the plant for the life of the unit, the disadvantage of the high payments in the early years is offset by the benefit of low payments in the later years. That symmetry is missing when the contract with the renewable generator is for less than the life of the avoided unit. Customers will pay high capacity payments to renewable generators and forego the balancing lower capacity payments in the later years of the life of the avoided unit.

Importantly, the current rule does allow a renewable generator to choose early capacity payments, levelized capacity payments, and early levelized capacity payments. The early capacity payment option allows payments for capacity to start as early as when siting and construction activities would have begun for the avoided unit. For example, FPL filed a proposed standard offer contract based upon a coal unit proposed to be placed in service in 2012 and the siting and construction work will start in 2006. Capacity payments under this standard offer are available for a renewable generator against this avoided unit starting in 2006 and extending at least until 2022 (the in-service date of 2012 plus the ten years minimum contract term). Further, during the early capacity period (2006 through 2012 in the example), the renewable generator would receive an energy payment that is typically higher

equal over the life of the avoided unit. The numbers shown on the table are on a dollars per MW basis.

than it would receive during the life of the avoided unit.²¹ The option for levelized capacity payments provides equal monthly capacity payments throughout the entire term of the contract.²²

D. Adopting an Avoided Cost Standard Just For Renewable Energy Facilities is Improper Under Controlling Statutes

Green Coast Energy, Inc. ("Green Coast") and the Renewables Group suggest the Commission must create an avoided cost standard specifically for renewable energy facilities. See Comments of Green Coast at 7; Testimony of Frank Seidman at 5. There is no such requirement or authority for a separate avoided cost standard for renewable generators and such a separate standard would violate state and federal law. Section 366.91 references "full avoided costs as defined in s. 366.051." The Legislature consciously chose to adopt the definition in section 366.051 for purposes of renewable energy facilities, and it is the definition the Commission must use in its rules. To the extent the renewable generators are suggesting that the Commission should exceed its delegated legislative authority and create some new definition in its rule, then they are inappropriately urging the Commission to violate the Administrative Procedure Act, by exceeding its grant of rulemaking authority

During the early capacity period, there is not an avoided unit; therefore, energy payments are based upon the system energy cost that is avoided due to the availability of energy from the renewable generator, rather than energy payments based on the avoided coal unit.

The best evidence that the current rule, with these capacity payment options, results in financeable projects is that there are a number of renewable generators operating in the state that have been financed under the current rule. For example, in Progress' service territory, the Ridge Generating Station was financed with levelized payments, while Timber Energy was financed with early capacity payments. In TECO's service territory, the Hillsborough County contract had early capacity payments.

In FPL's service territory, the following projects were successfully financed using the Value of Deferral method: Broward North Solid Waste facility, Broward South Solid Waste facility, Palm Beach Solid Waste facility, and Bio Energy.

and by enlarging, modifying, or contravening the statutory provision to be implemented. See § 120.52(8), Fla. Stat.

The promotion of cogeneration and renewable energy are plainly grounded in Florida law by virtue of sections 366.051 and 366.91, Florida Statutes. Moreover, the Florida Legislature enacted these statutes for similar reasons. *Compare* § 366.051, Fla. Stat. ("Electricity produced by cogeneration and small power production is of benefit to the public when included as part of the total energy supply") with § 366.91, Fla. Stat. ("Renewable energy resources have the potential to help diversify fuel types "). The legislative intent in enacting both statutes – as well as congressional intent in enacting PURPA – was to promote the development of alternative energy resources without causing customers to pay more for electricity than they would have to pay if the utility generated the power itself or bought it from another source. No reason exists to create a separate rule for renewable resources.

Moreover, as referenced in the Introduction, a separate avoided cost standard, as proposed by the Renewables Group, would run afoul of federal law.²³ FERC has clearly stated on several occasions that to the extent a state sets avoided costs above the costs that customers would otherwise pay, it has exceeded the authority delegated to the states and is subject to preemption by FERC. For example, FERC found that a Connecticut statute that set rates for the sale of power by a renewable generator at above avoided cost was preempted. See Connecticut Light & Power Co., FERC Docket No. EL93-55-000, Order Granting Petition for Declaratory Order (Jan. 11, 1995), appeal dismissed, Niagara Mohawk

FERC has jurisdiction over the transmission of electric energy in interstate commerce and the sale of electric energy at wholesale, which encompasses sales by QFs, including renewable generators. See 16 U.S.C. § 824 (2006).

Power Corp. v. F.E.R.C., 117 F.3d 1485 (D.C. Cir. 1997). FERC explained its ruling as follows:

Moreover, for states to mandate rates above avoided cost for a particular class of power suppliers (i.e., QFs) also runs counter to Congress' and the Commission's [FERC's] current policies which strongly favor competition among all bulk power suppliers.

In sum, therefore, insofar as the Municipal Rate Statute would require rates for sales by the Preston Facility [the renewable generator] to CL&P [the utility] that exceed avoided cost, the statute is to that extent pre-empted... if parties are required by state law or policy to sign contracts that reflect rates for QF sales at wholesale that are in excess of avoided cost, those contracts will be considered to be void ab initio.

Id. Also, similar to the facts of this proceeding, FERC considered a situation in which the Iowa legislature had passed legislation to encourage the development of renewable resources. See Midwest Power Systems, Inc., FERC Docket No. EL95-51-000, Order on Complaint and Petition for Declaratory Order and on Petition for Enforcement (Jan. 29, 1997). To implement the statute, the Iowa Utilities Board issued orders requiring electric utilities to enter into long-term contracts for the purchase of renewable energy at a price in excess of avoided cost. Id. The Board argued that the statute and its actions were not preempted by federal law and were justified, "as a matter of state energy and public policy, to encourage as appropriate the development of alternative, environmentally benign electric generation resources." Id. FERC rejected the Board's argument, finding that "the orders of the Iowa Board are preempted to the extent that they require rates to QFs in excess of the purchasing utilities' avoided cost, and to the extent that they set rates for the wholesale sales of electric energy by public utilities." Id.²⁴

FERC has acknowledged that there are legitimate ways for states to encourage renewable resources, including by tax structure and direct subsidies. See Midwest Power

The Renewables Group, in its proposed rule, advocates one type of payment for renewable generators and another type of payment for all other QFs. Many of the renewable generators fall within the jurisdiction of FERC, and any payment in excess of avoided cost would be prohibited.

E. A Statewide Avoided Unit Has Been Tried and Rejected

The Renewables Group argues that a utility's "avoided costs" should be based on a statewide unit, specifically a 600 MW pulverized coal unit. These providers neglect to note that the statewide unit approach²⁵ was tested by the Commission in the 1980s, soon after the first cogeneration rules were adopted. See Order No. 12634. The statewide unit approach was soon abandoned as inequitable and unworkable when the rules were amended in 1990. See In re: Proposed revisions to Rules 25-17.082, 25-17.0825, 25-17.083, 25-17.0831, 25-17.088, 25-17.0882, 25-17.091, and creation of Rules 25-17.0832, 25-17.0833, 25-17.0834, and 25-17.089, F.A.C., Cogeneration Rules, Docket No. 891049-EU; Order No. 23623 (Oct. 16, 1990), at 3. The Commission recently explained this experiment:

In the 1980s, this Commission experimented with setting avoided costs based on a statewide coal unit. Since there is no statewide rate base or rates, this system was found to be inequitable because it was impossible to allocate cost responsibility to the individual utilities. The Commission modified its rules in the early 1990s to define avoided cost based on each individual utility's avoided costs. This approach is more ratepayer neutral because it provides a more accurate estimate of a utility's avoided cost.

Systems, Inc., FERC Docket No. EL95-51-000, Order on Complaint and Petition for Declaratory Order and on Petition for Enforcement (Jan. 29, 1997). The Florida Legislature has recently enacted laws regarding tax credits and grants for renewable generators. See Laws of Fla., Ch. 2006-230.

It is important to note that even when the Commission adopted a statewide unit in the past, it was carefully linked to the need, timing, and pricing of the next planned uncertified unit in the state. See Order No. 12634 at 14-15, 17-18. It was not a fictitious unit.

Order Approving Standard Offer Contracts for Renewable Energy Resources and Requiring the Filing of Additional Standard Offer Contracts, Docket No. 060555-EI, Order No. PSC-06-0486-TRF-EQ (June 6, 2006), at 4.²⁶ Mr. Seidman, testifying that the Commission had previously used a statewide unit, neglects to note that the approach was later abandoned. *See* Testimony of Frank Seidman, at 7, lines 7-14.

The IOUs agree with the Staff's recommendation in this rulemaking docket that "a statewide unit approach would introduce unnecessary ratepayer risk that contracts would be priced above a utility's true avoided cost if the utility did not have a coal generating unit in its TYSP." In re: Proposed amendments to Rule 25-17.0832, Firm Capacity and Energy Contracts, Docket No. 060555-EI, Memorandum (Sept. 21, 2006), at 6. Contracts priced above a utility's true avoided cost would violate section 366.91(3), which provides that payment provisions must be "based upon the utility's full avoided costs, as defined in s. 366.051." The Staff also correctly noted that a Unit Type Portfolio approach is "more reality based" than a statewide unit approach and reflects the true economics of each utility's integrated resource plan. Id. Additionally, a statewide avoided unit approach would be difficult to administer. Id.²⁷

Section 366.051, which was adopted in 1989, states that "[t]he Commission may use a statewide avoided unit when setting full avoided capacity costs." (Emphasis added). In fact, the Commission had been using a statewide unit in its cogeneration rules for six years when that statute was enacted and determined that it was inequitable. The Commission's determination rejecting the statewide unit came after the enactment of section 366.051, Florida Statutes.

In 2004, the Legislature considered a bill that explicitly specified that the Commission base contract payments on a statewide adopted unit. That bill did not pass. See Fla. H.B. 1551 (2004).

G. Contracts Will Be Continuously Offered

Contrary to the arguments of Green Coast, "lapses" would not occur in the offering of purchasing contracts under the approach in the Staff's proposed rule. The utilities' avoided units generally will be much larger than the renewable projects, so it will take a number of renewable projects to fully subscribe the capacity of an avoided unit. Additionally, if an avoided unit is fully subscribed, the other avoided units in the portfolio will still be available to the renewable supplier. The likelihood of renewable suppliers fully subscribing all of a utility's avoided units is extremely slim. Finally, Staff's recommended change to the draft rule requiring utilities to file a new contract with the Commission before closing a contract will provide even more certainty that the contracts will be continuously offered.

As Staff noted in its recommendation, the proposed rule amendments vastly expand the size of contracts available to renewable generators. Under the Commission's recent Order No. PSC-06-0486-TRF-EQ, renewable generators would now enjoy standard offer contracts with a total capacity limit of 4,935 MW from the state's four major IOUs alone. As noted in the IOUs' initial comments, this figure far exceeds recent estimates by the Commission and the Florida Department of Environmental Protection of the new renewable capacity that could be developed in Florida (651 MW) and of the total existing renewable capacity in Florida (1,028 MW). Given the increased opportunity for renewable energy providers in the proposed rule amendments, the argument that the proposed subscription limits will chill the development of renewable generation is unfounded.

H. Long-term Fixed Energy Payments are Not Appropriate in Standard Offer Contracts

Green Coast argues that "the inclusion of an option for a fixed energy payment will increase the financeability" of the standard offer contracts and "provide a secure, price-stable

source of electricity for the ratepayers." See Green Coast's Comments at 5. Other renewable generators have supported this position, but with the modification that this be an option for a specified percentage of standard offer contracts. See Post-Workshop Comments of Montenay-Dade Limited and Lee County at 7. Essentially, the renewable generators want part of their energy payment to be guaranteed.

Section 366.91, Florida Statutes, requires "payment provisions for energy and capacity" to be based upon the utilities' full avoided costs. A long-term fixed energy payment would not reflect the then-current utility cost of producing energy, and therefore should not be part of a standard offer contract.

Additionally, fixed energy payments are not workable in standard offer contracts. It is far too risky to predict energy prices over the long-term, particularly if the term can be as long as the life of the avoided unit, as has been proposed by the Renewables Group. Fixed energy payments increase the price risk by several magnitudes, given the volatility of energy costs over time and the difficulty in predicting energy price trends over longer periods. 28 The Commission has consistently required that energy payments be based on actual avoided energy costs. In 1982, the Commission considered and then rejected the idea of a guaranteed firm energy payment stream based on a forecast and a proposed one-way true up giving cogenerators more money if actual costs exceeded the forecast, finding that the result was a "subsidization of cogeneration by other ratepayers." See In re: Adoption of Tariffs filed

The renewable generators propose to swap a floating fuel cost for a fixed fuel cost. This raises a host of problems for both the utility and the renewable generators. First, security requirements become critical. At all times, the utility customers need to have adequate security to guarantee that the renewable generator will comply with its contract. This means security high enough so that it does not become in the renewable generator's economic interest to default under the contract, or, if the generator does default, the customers still receive the benefit of the contract through adequate compensation.

pursuant to Rules 25-17.80 through 25-17.89 regarding cogenerators and small power producers; Docket No. 810296-EU; Order No. 10943 (June 28, 1982), at 3. Instead, the Commission established payments based on actual energy costs. See id. The Commission has also established its method for calculating avoided energy costs under standard offer contracts. See Order 12634. The Commission decided that the renewable generators would be paid the lesser of system incremental energy costs and the energy costs that would have been incurred if the energy had been generated by the avoided unit. Id. Under the Commission's approach, the avoided energy payments can only be calculated retrospectively, once it can be determined how the avoided unit would have been dispatched.

Finally, fixed energy payments are an option that can and should be negotiated between the parties and not mandated by rule.²⁹ Negotiation allows each party, the generator and the utility, to evaluate the risk they are assuming and whether the price offered is worth the assumption of that risk. At least one of the renewable generators declined to advocate that fixed energy payments be available for all standard offer contracts, which suggests the question is one that should be negotiated between the parties. *See* Post-Workshop Comments of Montenay-Dade Limited and Lee County Regarding Rules Applicable to Standard Offer Contracts for Renewable Energy (Sept. 13, 2006), at 7.

I. Inclusion of a Carbon Emission Tax Is Premature

Montenay-Dade and Lee County suggest the rule address the "carbon-emission regulation system," which they claim will likely be implemented in the United States sometime in the not-too-distant future. See Comments of Montenay-Dade and Lee County at

This term has been negotiated in Progress' negotiated purchased power contracts with two of its nine renewable generators.

6-7. The IOUs agree with Staff that it would be premature to address in the proposed rule amendments any compensation to renewable energy producers for avoided future carbon taxes or carbon allowances based on speculation about possible future federal legislation. Federal law does not currently require carbon taxes or allowances. If federal law changes, the issue of whether the taxes or allowances should be reflected in a utility's avoided cost can initially be addressed on a case-by-case basis when individual contracts are submitted for approval, and the rule can be amended as appropriate.³⁰ There is no need to seek a solution to a problem, if any, that does not yet exist.

J. Contract Terms

The renewable generators argue that certain current standard offer contract provisions are a barrier for renewables entering the market. See Testimony of Sami Kabbani at 6-19; Testimony of Marc C. Bruner, Ph.D., at 4-7; Testimony of Michael D. Bedley at 11-12. The IOUs agree that contract terms and conditions should encourage the development of renewable generators, but the terms must also protect customers. The benefits of renewable generation are not produced through the construction of a renewable facility, but through the displacement of fossil capacity and fuel through the long-term performance of a renewable facility. Thus, contract terms must encourage renewable development, while retaining protections to ensure that the IOUs' customers obtain the benefits for which they are paying.

Indeed, as Montenay-Dade and Lee County note, there may be no need to amend the rule if the regulation system takes the form of a tax on the carbon content of fuel. Such a cost would be reflected in the incremental fuel costs that form the basis for the energy payments to renewable generators. Likewise, a tax on emissions also would be included in the variable operating and maintenance costs that are a part of the calculation of energy payments to renewable generators.

The IOUs agree with Mr. Kabbani that this rulemaking proceeding is not the place to consider the extensive changes to the terms of standard offer contracts he is suggesting; nor should rulemaking be delayed to consider these proposals. See Testimony of Sami Kabbani at 6. The changes suggested are extensive and one-sided, having the ultimate effect of requiring customers to pay for capacity that cannot be relied on. The proposed revisions provide little or no recourse if the renewable generators fail to provide the contracted-for capacity, which requires the utility to build redundant capacity. The specific changes proposed by Mr. Kabbani were not raised in Staff's workshop on August 23, 2006, in postworkshop comments, or at the October 3, 2006, Agenda Conference at which the Commission proposed these rule amendments.

The specific provisions in the standard offer contracts that Mr. Kabbani indicates are "not workable" for renewable generators are conditions precedent, committed capacity and capacity testing, performance factors, default and termination, and completion and performance security. See Testimony of Sami Kabbani at 7. These contract provisions are necessary to protect electric customers and to ensure the enforceability of contracts with respect to quantity, time, and reliability of delivery.

Utility performance requirements are established as part of the avoided unit and ensure that utility customers receive the benefits of the energy produced from renewable sources. Accordingly, capacity payments to renewable suppliers must be on a "pay for performance" basis, with performance requirements similar to those of the avoided unit in order to receive the capacity payments based on the avoided unit. Changing these requirements results in changing values for the customer, and may result in modified avoided cost calculations. For example, FPL's coal unit standard offer capacity payment is based

upon a 92% availability. If the renewable unit's availability is projected to be 60%, then the capacity payment should be reduced accordingly.

Additionally, completion and performance guarantees are essential if reliability is to be insured and ratepayer interests are to be protected.³¹ FERC rules highlight the importance of reliability, requiring that consideration be given to "the expected or demonstrated reliability of the QF." See In re: Amendment to Rules 25-17.80 through 25-17.89 relation to cogeneration; Docket No. 820406-EU; Order 12634 (Oct. 27, 1983), at 7. In revising the standard offer contract rules in 1983, the Commission decided to allow a security deposit provision "because the risk of default when a QF is a net purchaser of electricity is the same as any other industrial or commercial purchaser and a QF should be subject to the same security deposit requirements." Id. at 23. Recognizing that this decision departed from an earlier decision, the Commission noted that permitting the security deposit provision was the "wiser course" and that the QF would have all the various security deposit options available to other customers. Id.

K. Length of Contract

Montenay-Dade and Lee County advocate allowing the renewable generator to establish the length of the contract up to life of the chosen avoided unit. See Comments of Montenay-Dade Limited and Lee County at 2-3. The IOUs believe the contract length should be set by the utility in the standard offer contract. As the Commission Staff noted in its recommendation, allowing the renewable generator to set the contract term will expose

Interestingly, the renewable generators disagree among themselves regarding some of these provisions. While Mr. Kabbani recognizes a legitimate place for completion security, see Testimony of Mr. Kabbani at 14-15, Mr. Seidman (testifying on behalf of the Renewables Group, of which Covanta is a part), advocates changes "that eliminate all but the provision for performance security as being not applicable." See Testimony of Frank Seidman at 24.

ratepayers to the risk associated with long-term contracts. A renewable generator has the option of walking away from a facility that is failing economically, while an IOU, which has the obligation to provide service, cannot do so. The IOU must rely on contract terms and enforcement provisions to ensure capacity and energy when it is needed.

Furthermore, technological advancements or economic factors could change over time, resulting in opportunities for utilities to generate or purchase capacity at reduced costs, and lowering the costs to customers. Permitting the renewable generator to establish the term of the contract limits this needed flexibility.

III. AN EQUITY ADJUSTMENT SHOULD BE PERMITTED IN STANDARD OFFER CONTRACTS FOR PURPOSES OF SETTING CAPACITY PAYMENTS

Montenay-Dade Limited and Lee County take the position that no offset for "imputed debt" or "equity penalty" should be allowed in computing payments under renewable energy standard offer contracts, arguing that such offsets result in the renewable generators being paid less than the utility's full avoided cost. *See* Comments of Montenay-Dade Limited and Lee County at 4-6. This argument is incorrect. Like other economic assumptions used to develop avoided costs, the impact that purchased power contracts have on a utility's capital structure (and the resultant impact on customers' rates) must be taken into account.

Montenay-Dade and Lee County correctly note that equity adjustments (imputed debt or equity penalty) are routinely part of the cost calculation when comparing a purchased power option to a self-build option in the Request for Proposal ("RFP") process under the "Bid Rule." See Comments of Montenay-Dade Limited and Lee County at 4. This

In addition, Rule 25-22.081(7), F.A.C., outlining the contents of a Petition for Need Determination, requires the utility to include a discussion of financial impact if the proposed generation addition is the result of a purchased power agreement.

Commission has consistently recognized that purchased power contracts impact a utility's cost of capital and that impact must be considered. In re: Petition to determine need for Turkey Point Unit 5 electrical power plant, by FPL; Docket No. 040206-EI; Order No. PSC-04-0609-FOF-EI (June 18, 2004). "Because rating agencies treat a portion of a purchasing utility's firm capacity payment as an off-balance sheet obligation, the equity adjustment represents a real cost associated with purchasing power that must be recognized in assessing purchased power options." Id. at 4. The Commission has concluded that the application of an equity adjustment "should be evaluated on a case-by-case basis." In re: Petition for determination of need for West County Units 1 and 2 electrical power plants in Palm Beach County, by FPL; Docket No. 060225-EI; Order No. PSC-06-0555-FOF-EI (June 28, 2006) at 5. Therefore, providing a blanket prohibition on the use of an equity adjustment in the amendments to this rule is inappropriate.³³

In the last revision of the "Bid Rule" a similar prohibition against an equity adjustment was proposed, but ultimately rejected by the Commission in adopted revisions to the rule. See Staff Recommendation, In re: Proposed revisions to Rule 25-22.082, F.A.C., Selection of Generating Capacity; Docket No. 020398-EI (Sept. 19, 2002), which included the prohibition in the recommended rule amendments; Docket No. 020398-EI; Order No.

The Commission has specifically approved the inclusion of an equity adjustment in standard offer contracts. See In re: Petition for approval of revised standard offer contract and revised COG-2 rate schedule by FPL; Docket 031093-EQ; Order No. PSC-04-0249-FRF-EQ (Mar. 5, 2004); In re: Petition by FPL for approval of a standard offer contract and revised COG-2 tariff; Docket 990249-EG; Order No. PSC-99-1713-TRF-EG (Sept. 2, 1999).

PSC-02-1420A-NOR-EQ (Oct. 17, 2002), proposing rule amendments without the prohibition.³⁴

IV. INCLUDING T-RECS IN THE RULE IS PREMATURE

Green Coast has suggested that a "methodology for dealing with the T-RECs [Tradable Renewable Energy Credits]" should be addressed in the rule amendments. *See* Green Coast's Comments at 8. The IOUs believe it is premature to include any specific language regarding T-RECs in the rule at this time, given – as Green Coast acknowledged – the uncertain and developing nature of the T-REC market. *See id*.

The IOUs generally agree with the current treatment of T-RECs, including the ownership of the T-RECs by the renewable generators with a right of first refusal for the utilities. The renewable generators' ownership of the T-RECs is in and of itself a strong economic incentive to encourage the development of renewables in Florida. The economic incentive to encourage renewables has further been enhanced by the recently passed tax incentives. The existence of these incentives provides further support for concluding that the remaining "generic power" purchased by the utilities should be purchased just as non-

A further consideration with regard to FPL's standard offer contract is consistency with the terms of the rate settlement agreement currently in effect. The existing agreement continues the terms of the 1999 and 2002 Rate Stipulation and Settlements that this Commission has previously found compelled the inclusion of an equity adjustment in the calculation of capacity payments under the standard offer contract. In re: Petition for approval of revised standard offer contract and revised COG-2 rate schedule by FPL; Docket 031093-EQ; Order No. PSC-04-0249-FRF-EQ (Mar. 5, 2004). Neither of the two Intervenors (City of Tampa/Solid Waste Authority of Palm Beach and the Florida Industrial Cogeneration Association) in Docket No. 013093-EQ objected to the use of the equity adjustment in their filings in the case.

renewable energy is purchased, at avoided cost, as defined by section 366.051, Florida Statutes.³⁵

Green Coast also has suggested that under FPL's standard offer contract provision regarding the sale of T-RECs, "it would appear that if the renewable energy producer sells T-RECs for several years to the IOU, but the market dips the next year and the REP [renewable energy producer] has to sell to someone else at a lower price, the REP would have to retroactively refund the IOU for all the other years that the T-RECs commanded a higher price." Green Coast's Comments at 8. Green Coast's interpretation of that provision is not FPL's intent regarding the provision. The provision was not intended to require the renewable generator to make FPL whole for fluctuations in the market price. Instead, FPL intended for the provision to ensure that a renewable generator would offer FPL the right of first refusal to buy the renewable generator's available T-RECs at market price. When the renewable generator fails to offer the utility the right of first refusal at market price, the renewable generator should refund the difference.

However, given the Renewables Group's proposal for payment to renewable generators in excess of avoided cost, retention of T-RECs by renewable generators would be inappropriate. The retention of ownership of the T-RECs, or any other attribute having monetary value, by the renewable generators would be a double premium if they also received higher-than-avoided cost for their generation since they were otherwise compensated for the renewable nature of the power.

For example, suppose a renewable generator has 100,000 T-RECs for sale and the IOU agrees to purchase 50,000 at \$5.00. The renewable generator then immediately sells the remaining 50,000 to another purchaser at the market price of \$3.00. In this case, the renewable generator would not have met its obligation to offer the IOU the right of first refusal for the T-RECs at market price because the IOU would have paid more than market price. The renewable generator should refund the \$2.00 difference. If the second sale at \$3.00 had been made the following year, however, then the renewable generator would not be required to refund the difference.

V. INCLUDING GOALS FOR RENEWABLE ENERGY IS PREMATURE

Green Coast recommends that the Commission create Renewable Portfolio Standards or goals for renewable energy. See Green Coast's Comments at 8. The IOUs agree with Commission Staff that it is premature to include this topic in this proceeding. As Staff said, "The recommended rule amendments, along with relatively high avoided cost, recently passed tax incentives for renewable generators, and the developing T-REC market provide significant encouragement for renewable generators." In re: Proposed amendments to Rule 25-17.0832, F.A.C., Firm Capacity and Energy Contracts; Docket No. 060555-EI; Memorandum (Sept. 21, 2006), at 9. Before a "command and control" approach is considered, the results of the market-based approach of the portfolio approach should be reviewed and analyzed.³⁷

VI. RENEWABLES CAN SELL POWER AS AVAILABLE, SO "START DATE" FLEXIBILITY IS UNNECESSARY

Green Coast has suggested that the rule allow the renewables the ability to begin delivering energy and firm capacity as soon as it is ready. See Green Coast's Comments at 6. Similarly, other renewable generators have stated that renewables should not have to wait until the next available unit to put renewable energy on the grid. The current rule already allows renewables to "put energy on the grid" in advance of the in-service date of the avoided unit. Under Rule 25-17.0825, F.A.C., generators may sell energy on the grid as "as available energy." Regarding capacity payments, utility customers should not pay for unneeded capacity; however, renewable generators have the option of choosing early

In addition, 2004 legislation that would have required IOUs to produce or purchase a specified percentage of their annual net energy for load from new Florida renewable energy sources was rejected. See Fla. H.B. 1551 (2004).

capacity payments that would start when the utility begins site preparation and construction activities for the avoided unit.

VII. THE COMMISSION SHOULD REJECT THE RENEWABLES' ARGUMENTS AND ADOPT THE AMENDMENTS AS PROPOSED AT THE OCTOBER 3 AGENDA CONFERENCE

For the reasons expressed, the arguments raised by the renewable generators should be rejected. The proposed rule amendments, which make appropriate changes to the existing rule and provide ample encouragement for the development of renewable energy, should be adopted as proposed at the October 3 Agenda Conference.

Respectfully submitted,

s/ Susan F. Clark

Susan F. Clark
Fla. Bar No. 179580
Radey Thomas Yon & Clark
301 S. Bronough Street, Suite 200
Tallahassee, Florida 32301
(850) 425-6654 telephone
(850) 425-6694 facsimile

Attorney for the Investor-Owned Utilities

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true and correct copy of the foregoing Supplemental

Comments of Investor-Owned Utilities has been furnished by U.S. Mail this 8th day of

November 2006, to the following:

Richard Zambo, Esquire 2336 S. East Ocean Blvd., Number 309 Stuart, Florida 34996-3310

Robert Scheffel Wright, Esquire Young van Assenderp, P.A. 225 S. Adams Street, Suite 200 Tallahassee, Florida 32301

Kathryn G.W. Cowdery, Esquire Ruden McClosky 215 S. Monroe Street, #815 Tallahassee, Florida 32301

Vicki Gordon Kaufman, Esquire The Perkins House 118 N. Gadsden Street Tallahassee, Florida 32301

Robert Hunter Green Coast Energy, Inc. 2521 Traveler's Palm Drive Edgewater, Florida 32141

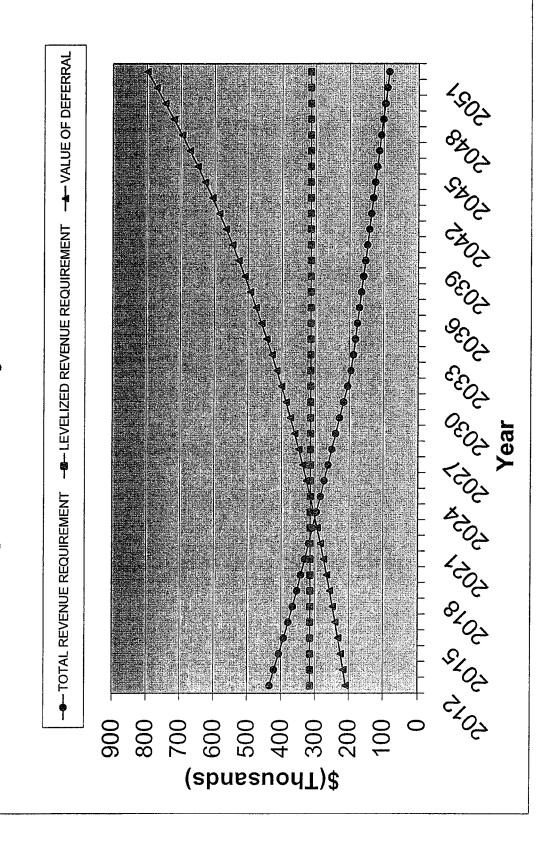
Jeff Cooper Lake County, Florida P.O. Box 7800 Tavares, Florida 32778

Larry D. Harris, Esquire Office of the General Counsel Florida Public Service Commission 2540 Shumard Oak Boulevard Tallahassee, Florida 32399-0862

s/ Susan F. Clark
Susan F. Clark

ATTACHMENT A

Comparison of Payment Streams



Revenue Requirements vs Value of Deferral Methodologies

(Thousands of Dollars)

YEAR REQUIREMENT REQUIREMENT DEFERRATION 1 2012 433.32 313.73 208. 3 2014 405.99 313.73 223. 4 2015 392.07 313.73 230. 5 2016 378.74 313.73 239. 7 2018 353.67 313.73 247. 7 2018 353.67 313.73 265. 8 2019 341.90 313.73 265. 9 2020 330.41 313.73 283. 11 20221 318.98 313.73 283. 12 2023 296.13 313.73 304. 13 2024 224.73 313.73 304. 14 2025 273.34 313.73 325. 15 2026 261.95 313.73 337. 16 2027 250.55 313.73 349. 17 2028 239.17 31						
1 2012 433.32 313.73 208. 2 2013 420.66 313.73 215. 3 2014 405.99 313.73 223. 4 2016 382.07 313.73 230. 5 2016 378.74 313.73 239. 6 2017 365.96 313.73 247. 7 2018 353.67 313.73 256. 8 2019 341.90 313.73 265. 9 2020 330.41 313.73 283. 11 2022 307.56 313.73 293. 12 2023 296.13 313.73 304. 13 2024 224.73 313.73 325. 15 2026 261.95 313.73 325. 15 2026 261.95 313.73 349. 17 2028 239.17 313.73 349. 17 2028 239.17 3				REVEN	UE	VALUE OF
2 2013 420.56 313.73 215. 3 2014 405.99 313.73 223. 4 2015 392.07 313.73 230. 5 2016 378.74 313.73 239. 6 2017 365.96 313.73 256. 8 2019 341.90 313.73 265. 9 2020 330.41 313.73 265. 9 2020 330.41 313.73 274. 10 2021 318.98 313.73 283. 11 2022 307.56 313.73 293. 12 2023 296.13 313.73 293. 13 2024 284.73 313.73 314. 14 2025 273.34 313.73 349. 15 2026 261.95 313.73 349. 17 2028 239.17 313.73 349. 17 2028 239.17		YEAR				
2 2013 420.56 313.73 215. 3 2014 405.99 313.73 223. 4 2015 392.07 313.73 230. 5 2016 378.74 313.73 239. 6 2017 365.96 313.73 256. 8 2019 341.90 313.73 265. 9 2020 330.41 313.73 265. 9 2020 330.41 313.73 283. 11 2022 307.56 313.73 293. 12 2023 296.13 313.73 304. 13 2024 284.73 313.73 314. 14 2025 273.34 313.73 325. 15 2026 261.95 313.73 349. 17 2028 239.17 313.73 349. 17 2028 239.17 313.73 361. 18 2029 227.80	1	2012	433.32	31	13.73	208.33
3 2014 405.99 313.73 223. 4 2016 392.07 313.73 230. 5 2016 378.74 313.73 239. 6 2017 365.96 313.73 247. 7 2018 353.67 313.73 265. 8 2019 341.90 313.73 265. 9 2020 330.41 313.73 265. 10 2021 318.98 313.73 283. 11 2022 307.56 313.73 293. 12 2023 296.13 313.73 304. 13 2024 284.73 313.73 325. 15 2026 261.95 313.73 325. 15 2026 261.95 313.73 349. 17 2028 239.17 313.73 349. 17 2028 239.17 313.73 361. 18 2029 227.80 <td< td=""><td></td><td></td><td>420.56</td><td>31</td><td>13.73</td><td>215.62</td></td<>			420.56	31	13.73	215.62
4 2016 392.07 313.73 230. 5 2016 378.74 313.73 239. 6 2017 365.96 313.73 247. 7 2018 353.67 313.73 256. 8 2019 341.90 313.73 265. 9 2020 330.41 313.73 283. 10 2021 318.98 313.73 283. 11 2022 307.56 313.73 293. 12 2023 296.13 313.73 304. 13 2024 284.73 313.73 314. 14 2025 273.34 313.73 325. 15 2026 261.95 313.73 337. 16 2027 250.55 313.73 349. 17 2028 239.17 313.73 361. 18 2029 227.80 313.73 361. 20 2031 205.06 <t< td=""><td></td><td></td><td></td><td></td><td>i</td><td>223.16</td></t<>					i	223.16
5 2016 378.74 313.73 239. 6 2017 365.96 313.73 247. 7 2018 353.67 313.73 256. 8 2019 341.90 313.73 265. 9 2020 330.41 313.73 283. 10 2021 318.98 313.73 293. 11 2022 307.56 313.73 304. 12 2023 296.13 313.73 304. 13 2024 284.73 313.73 304. 14 2025 273.34 313.73 325. 15 2026 261.95 313.73 337. 16 2027 250.55 313.73 361. 17 2028 239.17 313.73 361. 18 2029 227.80 313.73 361. 20 2031 205.06 313.73 400. 21 2032 195.08 <	1 1		i i		1	
6 2017 365.96 313.73 247. 7 2018 353.67 313.73 256. 8 2019 341.90 313.73 265. 9 2020 330.41 313.73 274. 10 2021 318.98 313.73 293. 11 2022 307.56 313.73 393. 12 2023 296.13 313.73 304. 13 2024 284.73 313.73 314. 14 2025 273.34 313.73 325. 15 2026 261.95 313.73 349. 16 2027 250.55 313.73 349. 17 2028 239.17 313.73 349. 18 2029 227.80 313.73 361. 18 2029 227.80 313.73 366. 20 2031 205.06 313.73 400. 21 2032 195.08					I .	
7 2018 353.67 313.73 256. 8 2019 341.90 313.73 265. 9 2020 330.41 313.73 274. 10 2021 318.98 313.73 283. 11 2022 307.56 313.73 293. 12 2023 296.13 313.73 304. 13 2024 284.73 313.73 314. 14 2025 273.34 313.73 325. 15 2026 261.95 313.73 349. 17 2028 239.17 313.73 361. 18 2029 227.80 313.73 361. 19 2030 216.43 313.73 361. 20 2031 205.06 313.73 361. 21 2032 195.08 313.73 400. 21 2032 195.08 313.73 429. 23 2034 182.04					I .	
8 2019 341.90 313.73 265. 9 2020 330.41 313.73 274. 10 2021 318.98 313.73 283. 11 2022 307.56 313.73 293. 12 2023 296.13 313.73 304. 13 2024 284.73 313.73 314. 14 2025 273.34 313.73 325. 15 2026 261.95 313.73 337. 16 2027 250.55 313.73 349. 17 2028 239.17 313.73 361. 18 2029 227.80 313.73 361. 19 2030 216.43 313.73 366. 20 2031 205.06 313.73 400. 21 2032 195.08 313.73 429. 23 2034 182.04 313.73 429. 24 2035 176.21						1
9 2020 330.41 313.73 274. 10 2021 318.98 313.73 283. 11 2022 307.56 313.73 293. 12 2023 296.13 313.73 304. 13 2024 284.73 313.73 314. 14 2025 273.34 313.73 325. 15 2026 261.95 313.73 337. 16 2027 250.55 313.73 349. 17 2028 239.17 313.73 361. 18 2029 227.80 313.73 361. 19 2030 216.43 313.73 386. 20 2031 205.06 313.73 400. 21 2032 195.08 313.73 414. 22 2033 187.87 313.73 429. 23 2034 182.04 313.73 429. 24 2035 176.21				1	1	256.09
10 2021 318.98 313.73 283. 11 2022 307.56 313.73 293. 12 2023 296.13 313.73 304. 13 2024 284.73 313.73 314. 14 2025 273.34 313.73 325. 15 2026 261.95 313.73 337. 16 2027 250.55 313.73 349. 17 2028 239.17 313.73 361. 18 2029 227.80 313.73 361. 19 2030 216.43 313.73 360. 20 2031 205.06 313.73 361. 21 2032 195.08 313.73 400. 21 2032 195.08 313.73 400. 22 2033 187.87 313.73 429. 23 2034 182.04 313.73 459. 25 2036 170.39	8			i i	I .	265.05
11 2022 307.56 313.73 293. 12 2023 296.13 313.73 304. 13 2024 284.73 313.73 314. 14 2025 273.34 313.73 325. 15 2026 261.95 313.73 337. 16 2027 250.55 313.73 349. 17 2028 239.17 313.73 361. 18 2029 227.80 313.73 361. 19 2030 216.43 313.73 366. 20 2031 205.06 313.73 400. 21 2032 195.08 313.73 414. 22 2033 187.87 313.73 429. 23 2034 182.04 313.73 429. 24 2035 176.21 313.73 492. 25 2036 170.39 313.73 492. 27 2038 158.77	9	2020		31	13.73	274.33
12 2023 296.13 313.73 304. 13 2024 284.73 313.73 314. 14 2025 273.34 313.73 325. 15 2026 261.95 313.73 337. 16 2027 250.55 313.73 349. 17 2028 239.17 313.73 361. 18 2029 227.80 313.73 361. 19 2030 216.43 313.73 373. 19 2030 216.43 313.73 400. 21 2032 195.08 313.73 400. 21 2032 195.08 313.73 429. 23 2034 182.04 313.73 429. 23 2034 182.04 313.73 445. 24 2035 176.21 313.73 475. 25 2036 170.39 313.73 492. 27 2038 158.77	10	2021	318.98	31	13.73	283.93
13 2024 284.73 313.73 314. 14 2025 273.34 313.73 325. 15 2026 261.95 313.73 337. 16 2027 250.55 313.73 349. 17 2028 239.17 313.73 361. 18 2029 227.80 313.73 361. 19 2030 216.43 313.73 366. 20 2031 205.06 313.73 400. 21 2032 195.08 313.73 400. 21 2032 195.08 313.73 429. 23 2034 182.04 313.73 429. 23 2034 182.04 313.73 475. 25 2036 170.39 313.73 475. 26 2037 164.58 313.73 492. 27 2038 158.77 313.73 509. 28 2039 152.97	11	2022	307.56	31	13.73	293.86
14 2025 273.34 313.73 325. 15 2026 261.95 313.73 337. 16 2027 250.55 313.73 349. 17 2028 239.17 313.73 361. 18 2029 227.80 313.73 373. 19 2030 216.43 313.73 366. 20 2031 205.06 313.73 400. 21 2032 195.08 313.73 414. 22 2033 187.87 313.73 429. 23 2034 182.04 313.73 459. 24 2035 176.21 313.73 475. 26 2037 164.58 313.73 492. 27 2038 158.77 313.73 592. 28 2039 152.97 313.73 594. 31 2042 135.59 313.73 564. 32 2040 147.17	12	2023	296.13	31	13.73	304.15
14 2025 273.34 313.73 325. 15 2026 261.95 313.73 337. 16 2027 250.55 313.73 349. 17 2028 239.17 313.73 361. 18 2029 227.80 313.73 361. 19 2030 216.43 313.73 366. 20 2031 205.06 313.73 400. 21 2032 195.08 313.73 414. 22 2033 187.87 313.73 429. 23 2034 182.04 313.73 459. 24 2035 176.21 313.73 475. 25 2036 170.39 313.73 475. 26 2037 164.58 313.73 592. 27 2038 158.77 313.73 592. 28 2039 152.97 313.73 545. 30 2041 141.37	13	2024	284.73	31	13.73	314.79
15 2026 261.95 313.73 337. 16 2027 250.55 313.73 349. 17 2028 239.17 313.73 361. 18 2029 227.80 313.73 373. 19 2030 216.43 313.73 400. 21 2032 195.08 313.73 414. 22 2033 187.87 313.73 429. 23 2034 182.04 313.73 459. 24 2035 176.21 313.73 459. 25 2036 170.39 313.73 475. 26 2037 164.58 313.73 492. 27 2038 158.77 313.73 509. 28 2039 152.97 313.73 545. 30 2041 141.37 313.73 545. 31 2042 135.59 313.73 605. 32 2043 129.80		2025	273.34	31	13.73	325.81
16 2027 250.55 313.73 349. 17 2028 239.17 313.73 361. 18 2029 227.80 313.73 373. 19 2030 216.43 313.73 386. 20 2031 205.06 313.73 400. 21 2032 195.08 313.73 414. 22 2033 187.87 313.73 429. 23 2034 182.04 313.73 459. 24 2035 176.21 313.73 475. 25 2036 170.39 313.73 492. 27 2038 158.77 313.73 509. 28 2039 152.97 313.73 509. 29 2040 147.17 313.73 545. 30 2041 141.37 313.73 545. 31 2042 135.59 313.73 605. 32 2043 129.80			261.95	31	13.73	337.22
17 2028 239.17 313.73 361. 18 2029 227.80 313.73 373. 19 2030 216.43 313.73 386. 20 2031 205.06 313.73 400. 21 2032 195.08 313.73 414. 22 2033 187.87 313.73 429. 23 2034 182.04 313.73 459. 24 2035 176.21 313.73 475. 25 2036 170.39 313.73 475. 26 2037 164.58 313.73 492. 27 2038 158.77 313.73 509. 28 2039 152.97 313.73 527. 29 2040 147.17 313.73 545. 30 2041 141.37 313.73 564. 31 2042 135.59 313.73 584. 32 2043 129.80						349.02
18 2029 227.80 313.73 373. 19 2030 216.43 313.73 386. 20 2031 205.06 313.73 400. 21 2032 195.08 313.73 414. 22 2033 187.87 313.73 429. 23 2034 182.04 313.73 459. 24 2035 176.21 313.73 475. 25 2036 170.39 313.73 492. 27 2038 158.77 313.73 509. 28 2039 152.97 313.73 527. 29 2040 147.17 313.73 545. 30 2041 141.37 313.73 584. 31 2042 135.59 313.73 605. 33 2044 124.03 313.73 626. 34 2045 118.26 313.73 648. 35 2046 112.49						361.23
19 2030 216.43 313.73 386. 20 2031 205.06 313.73 400. 21 2032 195.08 313.73 414. 22 2033 187.87 313.73 429. 23 2034 182.04 313.73 459. 24 2035 176.21 313.73 475. 25 2036 170.39 313.73 492. 27 2038 158.77 313.73 509. 28 2039 152.97 313.73 527. 29 2040 147.17 313.73 545. 30 2041 141.37 313.73 564. 31 2042 135.59 313.73 605. 33 2044 124.03 313.73 626. 34 2045 118.26 313.73 626. 34 2045 118.26 313.73 694. 35 2046 112.49						373.88
20 2031 205.06 313.73 400. 21 2032 195.08 313.73 414. 22 2033 187.87 313.73 429. 23 2034 182.04 313.73 444. 24 2035 176.21 313.73 459. 25 2036 170.39 313.73 475. 26 2037 164.58 313.73 509. 28 2039 152.97 313.73 527. 29 2040 147.17 313.73 545. 30 2041 141.37 313.73 564. 31 2042 135.59 313.73 584. 32 2043 129.80 313.73 605. 33 2044 124.03 313.73 626. 34 2045 118.26 313.73 648. 35 2046 112.49 313.73 694. 36 2047 106.73			I I		3	386.96
21 2032 195.08 313.73 414. 22 2033 187.87 313.73 429. 23 2034 182.04 313.73 444. 24 2035 176.21 313.73 459. 25 2036 170.39 313.73 475. 26 2037 164.58 313.73 492. 27 2038 158.77 313.73 509. 28 2039 152.97 313.73 527. 29 2040 147.17 313.73 545. 30 2041 141.37 313.73 564. 31 2042 135.59 313.73 564. 32 2043 129.80 313.73 605. 33 2044 124.03 313.73 626. 34 2045 118.26 313.73 626. 34 2045 112.49 313.73 694. 37 2048 100.98			I I			400.51
22 2033 187.87 313.73 429. 23 2034 182.04 313.73 444. 24 2035 176.21 313.73 459. 25 2036 170.39 313.73 475. 26 2037 164.58 313.73 492. 27 2038 158.77 313.73 509. 28 2039 152.97 313.73 527. 29 2040 147.17 313.73 545. 30 2041 141.37 313.73 564. 31 2042 135.59 313.73 584. 32 2043 129.80 313.73 605. 33 2044 124.03 313.73 626. 34 2045 118.26 313.73 626. 34 2045 112.49 313.73 670. 36 2047 106.73 313.73 718. 37 2048 100.98 313.73 743. 39 2050 89.49 313.73 <t< td=""><td></td><td></td><td></td><td>1</td><td></td><td>414.52</td></t<>				1		414.52
23 2034 182.04 313.73 444. 24 2035 176.21 313.73 459. 25 2036 170.39 313.73 475. 26 2037 164.58 313.73 492. 27 2038 158.77 313.73 509. 28 2039 152.97 313.73 527. 29 2040 147.17 313.73 545. 30 2041 141.37 313.73 564. 31 2042 135.59 313.73 584. 32 2043 129.80 313.73 605. 33 2044 124.03 313.73 626. 34 2045 118.26 313.73 648. 35 2046 112.49 313.73 670. 36 2047 106.73 313.73 743. 39 2049 95.23 313.73 743. 39 2050 89.49						
24 2035 176.21 313.73 459. 25 2036 170.39 313.73 475. 26 2037 164.58 313.73 492. 27 2038 158.77 313.73 509. 28 2039 152.97 313.73 527. 29 2040 147.17 313.73 545. 30 2041 141.37 313.73 564. 31 2042 135.59 313.73 584. 32 2043 129.80 313.73 605. 33 2044 124.03 313.73 626. 34 2045 118.26 313.73 626. 34 2045 112.49 313.73 670. 36 2047 106.73 313.73 718. 37 2048 100.98 313.73 743. 39 2050 89.49 313.73 796. 40 2051 83.76			í I			
25 2036 170.39 313.73 475. 26 2037 164.58 313.73 492. 27 2038 158.77 313.73 509. 28 2039 152.97 313.73 527. 29 2040 147.17 313.73 545. 30 2041 141.37 313.73 564. 31 2042 135.59 313.73 584. 32 2043 129.80 313.73 605. 33 2044 124.03 313.73 626. 34 2045 118.26 313.73 648. 35 2046 112.49 313.73 670. 36 2047 106.73 313.73 694. 37 2048 100.98 313.73 743. 39 2050 89.49 313.73 769. 40 2051 83.76 313.73 796.			I I			459.59
26 2037 164.58 313.73 492. 27 2038 158.77 313.73 509. 28 2039 152.97 313.73 527. 29 2040 147.17 313.73 545. 30 2041 141.37 313.73 564. 31 2042 135.59 313.73 584. 32 2043 129.80 313.73 605. 33 2044 124.03 313.73 626. 34 2045 118.26 313.73 648. 35 2046 112.49 313.73 670. 36 2047 106.73 313.73 694. 37 2048 100.98 313.73 743. 39 2050 89.49 313.73 769. 40 2051 83.76 313.73 796. 41 2052 313.73 796.		ł				
27 2038 158.77 313.73 509. 28 2039 152.97 313.73 527. 29 2040 147.17 313.73 545. 30 2041 141.37 313.73 564. 31 2042 135.59 313.73 584. 32 2043 129.80 313.73 605. 33 2044 124.03 313.73 626. 34 2045 118.26 313.73 648. 35 2046 112.49 313.73 670. 36 2047 106.73 313.73 694. 37 2048 100.98 313.73 718. 38 2049 95.23 313.73 743. 39 2050 89.49 313.73 796. 40 2051 83.76 313.73 796.						
28 2039 152.97 313.73 527. 29 2040 147.17 313.73 545. 30 2041 141.37 313.73 564. 31 2042 135.59 313.73 584. 32 2043 129.80 313.73 605. 33 2044 124.03 313.73 626. 34 2045 118.26 313.73 648. 35 2046 112.49 313.73 670. 36 2047 106.73 313.73 694. 37 2048 100.98 313.73 718. 38 2049 95.23 313.73 743. 39 2050 89.49 313.73 796. 40 2051 83.76 313.73 796.						
29 2040 147.17 313.73 545. 30 2041 141.37 313.73 564. 31 2042 135.59 313.73 584. 32 2043 129.80 313.73 605. 33 2044 124.03 313.73 626. 34 2045 118.26 313.73 648. 35 2046 112.49 313.73 670. 36 2047 106.73 313.73 694. 37 2048 100.98 313.73 718. 38 2049 95.23 313.73 743. 39 2050 89.49 313.73 769. 40 2051 83.76 313.73 796. 41 2052 313.73 796.						
30 2041 141.37 313.73 564. 31 2042 135.59 313.73 584. 32 2043 129.80 313.73 605. 33 2044 124.03 313.73 626. 34 2045 118.26 313.73 648. 35 2046 112.49 313.73 670. 36 2047 106.73 313.73 694. 37 2048 100.98 313.73 718. 38 2049 95.23 313.73 743. 39 2050 89.49 313.73 769. 40 2051 83.76 313.73 796. 41 2052 313.73 796.				1	I .	
31 2042 135.59 313.73 584. 32 2043 129.80 313.73 605. 33 2044 124.03 313.73 626. 34 2045 118.26 313.73 648. 35 2046 112.49 313.73 670. 36 2047 106.73 313.73 694. 37 2048 100.98 313.73 718. 38 2049 95.23 313.73 743. 39 2050 89.49 313.73 769. 40 2051 83.76 313.73 796. 41 2052 313.73 796.						
32 2043 129.80 313.73 605. 33 2044 124.03 313.73 626. 34 2045 118.26 313.73 648. 35 2046 112.49 313.73 670. 36 2047 106.73 313.73 694. 37 2048 100.98 313.73 718. 38 2049 95.23 313.73 743. 39 2050 89.49 313.73 769. 40 2051 83.76 313.73 796. 41 2052 313.73 796.						
33 2044 124.03 313.73 626. 34 2045 118.26 313.73 648. 35 2046 112.49 313.73 670. 36 2047 106.73 313.73 694. 37 2048 100.98 313.73 718. 38 2049 95.23 313.73 743. 39 2050 89.49 313.73 769. 40 2051 83.76 313.73 796. 41 2052 313.73 796.						1
34 2045 118.26 313.73 648. 35 2046 112.49 313.73 670. 36 2047 106.73 313.73 694. 37 2048 100.98 313.73 718. 38 2049 95.23 313.73 743. 39 2050 89.49 313.73 769. 40 2051 83.76 313.73 796. 41 2052						
35 2046 112.49 313.73 670. 36 2047 106.73 313.73 694. 37 2048 100.98 313.73 718. 38 2049 95.23 313.73 743. 39 2050 89.49 313.73 769. 40 2051 83.76 313.73 796. 41 2052 796. 796.				1		
36 2047 106.73 313.73 694. 37 2048 100.98 313.73 718. 38 2049 95.23 313.73 743. 39 2050 89.49 313.73 769. 40 2051 83.76 313.73 796. 41 2052						648.30
37 2048 100.98 313.73 718. 38 2049 95.23 313.73 743. 39 2050 89.49 313.73 769. 40 2051 83.76 313.73 796. 41 2052				L		670.99
38 2049 95.23 313.73 743. 39 2050 89.49 313.73 769. 40 2051 83.76 313.73 796. 41 2052				E .	- 1	694.47
39 2050 89.49 313.73 769. 40 2051 83.76 313.73 796. 41 2052						718.78
40 . 2051 83.76 313.73 796. 41 2052						743.94
41 2052				1		769.97
			83.76	31	3.73	796.92
	41	2052				

NPV @ 8.37% \$2012 3,899

3,899

3,899