

**BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION**

December 6, 2007 Staff Workshop On )  
Renewable Energy Portfolio Standards )  
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UNDOCKETED

Submitted: December 21, 2007

**Joint Post-Workshop Comments of  
City of Tampa, Florida  
Florida Industrial Cogeneration Association  
Solid Waste Authority of Palm Beach County, Florida  
(Renewable QFs)**

The following comments, submitted in response to issues identified and questions raised during the December 6, 2007 Staff workshop in the referenced matter, are “preliminary” in nature. As such, the responses/positions of Renewable QFs are subject to modification and supplementation as further information is gathered, discussed and analyzed. Beginning at page 3, these comments are, to the extent applicable, presented in the order and under general headings as they appeared in Judy Harlow’s Power Point presentation at the workshop.

**Opening Remarks**

The development of a renewable portfolio standard (RPS) or renewable energy goals by the Commission **must first and foremost** comply with and advance the legislative directives of Chapter 366.92, F.S. – absent which the Commission would find itself lacking the requisite authority to implement an RPS or renewable energy goals. In that regard, Chapter 366.92, F.S. provides as follows:

***366.92 Florida renewable energy policy.--***

*(1) It is the intent of the Legislature to promote the development of renewable energy; protect the economic viability of Florida's existing renewable energy facilities; diversify the types of fuel used to generate electricity in Florida; lessen Florida's dependence on natural gas and fuel oil for the production of electricity; minimize the volatility of fuel costs; encourage investment within the state; improve environmental conditions; and, at the same time, minimize the costs of power supply to electric utilities and their customers.*

*(2) For the purposes of this section, "Florida renewable energy resources" shall mean renewable energy, as defined in s. 377.803, that is produced in Florida.*

*(3) The commission may adopt appropriate goals for increasing the use of existing, expanded, and new Florida renewable energy resources. The commission may change the goals. The commission may review and reestablish the goals at least once every 5 years.*

*(4) The commission may adopt rules to administer and implement the provisions of this section.*

**Secondarily**, the Commission may consider the aspirational goals expressed by the Governor in Executive Order 07-127, subject to the limitation that the Commission first implement the legislative mandates specifically articulated in Chapter 366.92, F.S., and may only implement the aspirational aspects of the Executive Order to the extent consistent and not in conflict with the explicit directives of the Legislature as set forth in the statute.

Importantly, and as may be addressed more fully in comments below, Chapter 366.92, F.S. provides the Commission with clear guidance and instructions that:

the RPS or renewable energy goals must include existing as well as new renewable energy facilities;

the renewable energy subject to the RPS or renewable energy goals must be produced in Florida;

the term renewable energy is to include only those technologies specifically listed in Chapters 366.91 and 377.803, F.S., thereby eliminating conservation and nuclear energy from the discussions; and,

the purposes of promoting renewable energy through an RPS or renewable energy goals are limited to: diversify the types of fuel used to generate electricity in Florida; lessen Florida's dependence on natural gas and fuel oil for the production of electricity; minimize the volatility of fuel costs; encourage investment within the state; improve environmental conditions; and, at the same time, minimize the costs of power supply to electric utilities and their customers.

The Florida Legislature has unambiguously defined renewable energy to mean only: ***electrical, mechanical, or thermal energy produced from a method that uses one or more of the following fuels or energy sources: hydrogen, biomass (including municipal solid waste), solar energy, geothermal energy, wind energy, ocean energy, waste heat, or hydroelectric power***

These legislative mandates, which clearly and unambiguously address a number of the issues identified and questions posed during the December 6<sup>th</sup> Staff workshop, provide the Commission with a framework and directions by which to reach the articulated goals.

During the workshop, there appeared to be some question as to whether the Commission could or should impose penalties on a utility that fails to achieve a specified RPS. The Commission has long had the authority to impose penalties on a utility for failure to comply with applicable law and should exercise that authority in the case of failure to comply with an RPS.

**ISSUE 1: What, if any, policies are needed to encourage specific types of renewables?**

*Q.1a Which resources should be eligible?*

- *specific renewables, such as solar and wind*
- *distributed generation*
- *specific vintages, such as new facilities*

**A.1a** All renewable energy resources as defined by applicable Florida Statutes - whether new or existing and regardless of age or technology - should be eligible on an equal basis. Because the applicable statutory language does not defer to the Commission or provide the Commission with any discretion to define renewable energy – i.e. include or exclude anything on or from the specifically defined resources list - the Commission may not lawfully exercise discretion in a manner that would discriminate by excluding, limiting or expanding the technologies specified in the clear legislative definition. In fact, to do so would be to unlawfully discriminate against producers of renewable energy. In addition, as far as the legislature is concerned, only renewable energy of the types as defined by statute, and that is produced in Florida is renewable energy.

Importantly, conservation, efficiency, nuclear power, and other such vehicles have not been identified as renewable energy by the Legislature and can not be considered by the Commission to be renewable energy.

*Q.1b What approach - multipliers or tiered goals? Issues under a multiplier approach:*

- *How should a multiplier be set?*
- *Will using a multiplier conflict with reaching the goal?*

**A.1b** The multiplier approach (as well as the tiered approach) is inappropriate and represents poor public policy that will, among other things, conflict with reaching any RPS goals and artificially inhibit the development of renewable resources. Multipliers create “virtual” rather than “real” RPS”. For example, assume that a 20% RPS is in effect and a 5 times multiplier has been adopted for the hypothetical policy-preferred “hamster power”. The basis of this technology is that hamsters consume biomass and convert it to electric energy by running on a tread wheel that turns a very small generator. (Hamster power is policy preferred because hamsters are so darn cute and anyone who ever had one knows they love to run on their exercise wheels in the middle of the night.) A utility could thereby “virtually” comply with the 20% RPS by “really” providing only 4% of Hamster power or any other such preferred technology with the same multiplier.

A more insidious problem with multipliers is that their proponents would like to have the Commission apply them backwards. Based on comments and information provided by the solar industry and the utilities, for example, the multiplier for solar should necessarily be a negative – as opposed to positive number – because it seeks to “equalize” the preferred technology with the more common technologies. Using the Hamster power example, because hamsters are nocturnal, Hamster power generally

produces electricity during the middle of the night – typically between the hours of midnight and 4:00 AM – yielding a capacity factor of about 16%. Comparing that to other technologies (such as municipal solid waste to energy or waste heat) that can operate at capacity factors of 80%, Hamster power – a policy preferred technology - is only 1/5<sup>th</sup> (one-fifth) as productive in terms of kWh production per kW. (Moreover, the Hamster power generally produces electricity during periods of low electric demands.) Ignoring policy preferences, logic would dictate that it is more appropriate to apply a positive multiplier to the 80% capacity factor other technology or, alternatively, apply a negative multiplier to Hamster power – which more accurately reflects the differences in the performance characteristics of the two technologies.

Now, going one step further, if Hamster power (due to its natural operational limitations) is only 1/5<sup>th</sup> as effective as other competing technologies in producing kWhs from installed kW, if we simply place them on equal footing with other technologies, we are in essence, assigning Hamster power a 5 times multiplier – when in fact it should receive a 5 times discount or negative multiplier. If then, in addition to this naturally occurring multiplier, an additional artificial 5 times multiplier is added by the Commission, Hamster power or other “policy preferred” technology will actually be given a 25 times multiplier relative to other technologies and most importantly relative to the perspective of the consumers who will ultimately pay the price.

Importantly, this multiplier “disconnect” applies regardless of whether an RPS or renewable energy goals are based on energy production in kWh or installed capacity in kW. This is true because, using the Hamster power example, 5 times as many Hamster power kW must be installed to produce the same number of kWhs that could be produced by each kW of municipal solid waste to energy or waste heat technologies. The cost of that economic inefficiency and waste of a capital will ultimately be borne by the utility consumers. At this point in time, the Commission should strive to allow all technologies to compete unimpeded on the basis of their inherent characteristics and without attempting to promote any one technology above another.

- Q.1c What approach - multipliers or tiered goals? Issues under a tiered/set asides approach:*
- How should the tiers be determined?
  - Can excess compliance in “policy preferred” tier be used to meet goals in other tiers?

- A.1c** For many of the same basic reasons stated above in A.2, tiers are inappropriate and represent a poor public policy that will, among other things, conflict with reaching RPS goals and will tend to artificially inhibit the development of renewable resources. Though not quite as insidious as their multiplier counterpart, tiers or set-asides distort the economics of renewable energy by indirectly influencing the flow of financial and intellectual resources among what might otherwise be competing technologies. This should be especially of concern in the initial, or seminal phases of developing renewable energy standards and/or goals. Attempting to pre-judge what technologies should be preferred at this early juncture – especially in light of the nearly complete lack of data regarding potential renewable energy technologies development in the State – and then

reflecting that pre-judgment in the form of tiers or set-asides will likely be counter productive.

Based on the last few workshops, it seems unanimous – or nearly so – that the Commission should review the issue of renewable energy RPS or goals on a regular basis, perhaps every three years. If that is the case, it would seem logical, prudent and reasonable to simply adopt a single, no-tier, no-multiplier RPS or renewable energy goal open to all those technologies defined by the Legislature to constitute renewable energy. So long as the RPS or goal are sufficiently challenging, and the cost of failure to the utilities significant, the Commission could expect to learn a great deal from the market and market response that could then be revisited, refined, or restated at the first review. To adopt a tiered approach without in-depth knowledge of the Florida renewable energy potential, market response, technology development, etc. would be counter productive and premature.

**ISSUE 2: What policies are needed to encourage compliance?**

*Q.2a What financial compliance mechanisms are needed?*

- *ratepayer protection mechanisms – alternative compliance payments (ACPs), rate caps, REC price caps*
- *penalties - utilities and/or renewable generators*

**A.2a** With respect to financial compliance mechanisms, it is absolutely essential that they provide adequate and sufficient price signals to the utility. Absent appropriate penalties, utilities would be free to disregard, or be less than diligent, in promoting renewable energy in Florida. Both the renewable energy producer and the purchasing utility should be jointly responsible to assure that the renewable energy is available when committed and is being sold and purchased legitimately (qualifying as “renewable” and not previously or subsequently encumbered during the applicable period of time involved). Additionally, the utility should be protected/exempt from the penalty associated with a failure or default by a renewable energy producer. However, renewable energy producers should not be subject to penalty unless they attempt to “game” the system, act in less than good faith, or intentionally engage in fraudulent conduct.

There could be many forms of compliance mechanisms including, for example, reductions in the utility’s allowed rate of return. The utility must face the prospect of its stockholders bearing the cost of its failure to comply, in order for there to be meaningful incentives or price signals that will actually encourage the promotion and development of renewable energy in Florida. Failure to impose significant penalties to be borne by the utility stockholders would remove any incentive for the utility to comply with the RPS. Only if the utility owners/stockholders are required to finance the alternative payment and penalties will the proper signals and incentives be given the IOU industry.

Clearly, the responsibility of promoting and purchasing renewable energy in Florida must not be taken lightly, and the penalty for a utility that fails in its responsibility must be

substantial in order to act as a deterrent. Any compliance mechanism, other than an outright penalty, would only be applicable after the failing utility has demonstrated, by a preponderance of the evidence in an adjudicatory proceeding, that in spite of its best efforts it is unable to meet the applicable RPS or goal. Absent such demonstration, the

cost of any penalty or compliance payment should be borne by the utility stock holders and not passed through its customers. Additionally and importantly, there should be imposed a rebuttable presumption that a utility's failure to meet an RPS is due to the utility's failure to use its best efforts to encourage/acquire/develop the necessary amounts of renewable energy or RECs to meet the RPS.

***Q.2b How should financial compliance mechanisms be set?***

*- multiple of REC price, \$/mWh, or absolute value?*

**A.2b** This issue presents a chicken and egg dilemma because the level or magnitude of the RPS will in reality determine the value of renewable energy and indirectly the value of the REC associated with the renewable energy. For that reason, it would be prudent for the Commission to address such issues "serially" – first establishing the total REC, then determining how that level may affect pricing and REC value.

Having said that however, if it is necessary to address the issue now, then we suggest an absolute value in \$/mWh be used that is based on the projected cost of utility generation plus the value of the non-energy attributes associated with renewable energy, including but not limited to reduced reliance on natural gas, encouragement of renewable energy in Florida, reduction in volatility of natural gas prices, environmental benefits, etc.

***Q.2c Cost recovery for IOUs:***

*- How should compliance costs for RECs or renewables be recovered?*

*- Should ACPs or penalties be recovered?*

*- How should funds be used?*

**A.2c** Under normal circumstances, compliance costs should be recovered from the utility stockholders – not from the ratepayer/customers. This would be in conjunction with a rebuttable presumption that a utility's failure to meet an RPS is due to the utility's failure to use its best efforts to encourage/acquire/develop the necessary amounts of renewable energy or RECs to meet the RPS. To allow recovery by the utility would remove any incentive for the utility to comply with the RPS. Only if the utility owners/stockholders are required to finance the alternative payment and penalties will the proper signals and incentives be given the IOU industry. However, if a utility is able to demonstrate, by a preponderance of the evidence in an adjudicatory proceeding, that in spite of its best efforts it is unable to meet the applicable RPS, then the cost could be recovered from the ratepayer/customers.

***Q.2d Are financial incentives beyond ACP/penalties needed?***

**A.2d** No position at this time.

**ISSUE 3: How should compliance be tracked and verified?**

**Q.3a** *REC tracking and verification issues:*

- *How are eligible facilities certified and audited?*
- *Who administers the REC system?*
- *How is double counting prevented?*
- *How should multi-fuel facilities be treated?*
- *Should line losses be considered?*

**A.3a** There should be coordination to prevent double counting. Both the Florida REC supplier and the purchasing utility should be jointly responsible to assure that the REC's are sold and purchased legitimately and not previously or subsequently encumbered during the applicable period of time involved. As to other aspects of this issue - no position at this time

**Q.3b** *Self-service generation issues:*

- *Is metering required?*
- *How can small systems be included?*
- *Should total energy generated be counted, or excess to grid?*

**A.3b** Self-generation must be counted toward the RPS or renewable energy goals as a matter of law. Chapter 366.92, F.S., the source of the Commission's jurisdiction and authority with respect to the adoption of renewable energy goals or an RPS, specifically defines what is meant by renewable energy. More specifically, the Legislature refers to those existing and new facilities that produce renewable energy "in Florida" and "in the state" as defined in Chapters 366.91, 366.92, and 377.803 F.S., and which are limited to the following:

electrical, mechanical, or thermal energy produced from a method that uses one or more of the following fuels or energy sources: hydrogen, biomass, solar energy, geothermal energy, wind energy, ocean energy, waste heat, or hydroelectric power.

There is absolutely no implication in the statutes that the "use" or "disposition" of the renewable energy would in any way affect its status as "renewable", nor is there any other such distinction made with respect to whether the renewable energy is consumed by the producer or is delivered to the grid. Renewable energy is renewable energy without distinction between the technologies identified.

Because the statutory language does not defer to the Commission or provide the Commission with discretion to define renewable energy – i.e. include or exclude anything on or from the specifically defined resource - the Commission may not lawfully exercise discretion in a manner that would discriminate by excluding, limiting or expanding the clear legislative definition. In fact, to do so would be to unlawfully discriminate against producers of renewable energy. The “bottom line” is that as far as the legislature is concerned, any renewable energy that is produced in Florida is renewable energy for all intents and purposes – whether used for self-service or whether delivered to the grid.

**ISSUE 4: Compliance Verification and Tracking**

***Q.4a Energy efficiency issues:***

- *Should energy efficiency count towards goals?*
- *If so, how should savings be estimated?*
- *Should existing programs be included?*

**A.4a** Energy efficiency, like conservation, is one of many policy tools available to the Legislature to address energy issues and concerns. In fact the legislature has recognized the value of this tool in the Florida Energy Efficiency and Conservation Act (FEECA) adopted in 1980 that addresses efficiency and conservation in great detail. Similarly, the Legislature has implemented appliance efficiency standards, building efficiency standards, and the like. Simply put, while these are all useful tools, they do not belong in nor should they be considered part of any RPS or renewable energy goals. Importantly, the definition of renewable energy, as contained in the statute that authorizes the Commission to adopt renewable energy goals, does not include energy efficiency. Moreover, even if it were included in the definition, the verification, monitoring and crediting of such would be extremely difficult and cumbersome – if not impossible.

Note also that nuclear power is clearly not defined as a renewable energy resource and likewise must be excluded from any RPS or renewable energy goals adopted by the Commission. Electric generation via nuclear power is certainly a generation option available to the utility industry just as coal, natural gas and oil are options. Adding nuclear power plants is a matter of utility management prerogative and Commission regulation, relative to appropriate fuel mix, base-load vs. intermediate generation types, fixed vs. variable costs, and other such factors totally separate and apart from any manufactured notion of nuclear power being equated to “renewable energy”.

As noted previously in these comments, one aspect of “efficiency” that the Commission should definitely consider in this proceeding is the financial/economic/resource efficiency impacts of relative kWh production per kW of installed capacity as a characteristic of competing renewable energy technologies. The most-bang-for-the-buck, as well as the most immediate benefits, will be derived from those renewable energy technologies that tend to be of the “energy-dense”, base-load, higher capacity factor type. Low capacity factor, intermittent type resources by definition will require much greater kW installed capacity to produce the same kWh benefits. While there is certainly a place



for all types of technologies to meet Florida's renewable energy objectives, starting with the more energy-dense, high capacity factor technologies is good public policy.

**Q.4b** *What is the role of the PSC in ensuring compliance?*

*Possible roles:*

- *implementing policy regulations*
- *certifying eligible generators*
- *managing a REC system*
- *verifying utility compliance*
- *administering financial incentives/penalties*
- *ratemaking – cost recovery*

**A.4b** Other than the “certifying of eligible generators”, the Commission could serve in all the other roles.

With respect to the question of certification may better be left to experts/professionals in the field who understand the technologies and can make the necessary assessment as to compliance with certification requirements. The Commission would certainly be in the position to establish uniform certification criteria that could be administered by third-parties.

These post-workshop comments of the Renewable QFs are hereby submitted electronically on the 21<sup>st</sup> day of December, 2007.

s/ *Richard A. Zambo*

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