Control Number: 31852

Item Number: 57

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Questions and update of program as it relates to project number 31852.
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Rulemaking Relating to Renewable Energy Amendments – Public Utility Commission of Texas

Amendments to Section 25.173 and New Section 25.174

Comments(more like questions) by section outlined in Strawman Rule

Page 1 (1) **Proposed Section 25.173 implements the 500 MW target for renewable capacity other than wind power**.....Comments are 1) differentiation is needed for the specific type of non wind renewable capacity, the costs of the different non wind renewable projects have different pay periods and the ability of different non wind renewable capacity has economic factors associated with the location of the non wind renewable capacity.

Page 2 (2) **Should Section25.174 specify a maximum size or minimum size for a CREZ?** The PUCT should specify a minimum standard for a CREZ. This would support industry growth based on the most beneficial and commercially viable form of renewable capacity. The total market for non wind renewable would be set and this would allow for an easy expansion of the non-wind market beyond the limits set by PUCT of 500 MW market. **If so, what should those requirements be?** The value of CREZ should be held at some arbitrary credit level, such as (1.25 MW *.25 =) 312.5 KW of installed renewable capacity, in setting a benchmark level at an appropriate level low enough. renewable REC's may be able to support growth in the levels of technology applied by different groups. The sharing of such premium renewable energy credits might be possible for multiple and community based renewable energy systems that would cross local HOA or community boundaries. Using a collaborative approach might even allow for such systems to be installed on the local grid and receive premium RECs and non-attainment premium REC's after being metered properly. The location of the installed renewable capacity should likely stay within the nodal market boundary set by the PUCT or its designated representative. This will allow for collaborative approaches to be developed in the private sector that includes creating distributed renewable energy non-wind systems.

Page (3) Section 25.174 requires information on land use and wildlife habitat as part of the information provided about CREZ's. What level of detail should be required, and how should ERCOT and non-ERCOT electric utility obtain it? .....The study area should only include the nodal market zone affected by the non-wind distributed energy system and non-wind

renewable generation assets. The study areas should take into account all applicable laws and habitat issues that reflect the CREZ's. The scope of project work could be related to other similar programs that use Multi-layer ecosystem approaches to reduce costs and support a better protection mechanism for the CREZ and the purposes of the state, regional and local communities. The cost of initial studies could be part of the permitting fees. However, in the case of extraneous issues such as migratory species or other impacts to wildlife or environment such detractions should be pursued that support a broader approach that has boundaries beyond the CREZ. The approach should garnish sufficient ecosystem protections that support the establishment of protective measures already supported in the State of Texas under current ecosystems approaches for project development and comply with standards set by the state wide systems approach and even memorandum of agreements between states to support a greater good. Such multi-layer ecosystems approaches also have direct tie ins with wind generation assets and developing a framework to support a common purpose that cross-ties issues and leads to advancement of State of Texas goals, wishes and desires on a variety of fronts while cost sharing and reducing the potential impact of state projects.

Page 3 (a) (2) to provide for a renewable energy credits trading program.....may be achieved in the most efficient and economical manner. Question comes to mind, is it to be achieved for just he purpose of Section 39.904 to be limited in scope to meet just the goal of 500 MW or allow for this goal to be surpassed if non-wind renewable resources demonstrate the capacity to be of benefit both environmentally and economically in the short term. I may have overlooked this, but, on the subject of environmental definitions, the use of non-attainment has different meanings in different programs, is the use to pertain to air as well as water issues in the creation of CREZ's and the provisions for garnishing premium REC's, if air and water definitions apply then the impetus for a stronger non-wind program based on different environmental factors is created and a simultaneous solution to more than one problem can be created by a single CREZ.

(look over again and rewrite)

Page 8 (1) The creation of a non-wind premium REC's for electric generation, opens the door to possibilities of methane gas storage and implications for "green tags" markets based on the storage of non-wind renewable energy. Many successful programs use "green tags" to support programs and use of renewable energy sources as well as transfer them to other markets where economic value is more favorable. Is it the intent of PUCT to control only the non-wind REC's for internal use only or allow for development of non-wind resources of value and sale into more favorable markets outside of the PUCT jurisdiction of the REC's created by

the PUCT market. This question goes at the heart of biogas production in significant quantities and there effect on natural gas markets and green power in other markets. If PUCT wishes to garnish only CREZ's that market within Texas, then entry into a Texas might be deterred by possible CREZ's. The biogas gas sales will have a choice to make on the Btu's produced and sold into the commodities market and where the best conditions for final sales exists. This question goes at the heart of biogas production for the sake of biogas production and the intent of PUCT to create tradable and retired REC's solely for electricity generation and the implications for sales into other states. Also what comes to mind is that if biogas is created and stored, then used to generate electricity in tandem with existing contracts, the implications for peak demand generation, load leveling of industrial and commercial end users and putting forth contractual power delivery schedules using non-wind renewable resources exists in many markets. Perhaps of most importance is the creation of CREZ's in which renewable energy generation and other commodity values could be explored. These other commodity values include carbon dioxide and co-products produced from renewable energy resources. Just to enlighten the PUCT of my efforts in the EPA and DOE ENERGY STAR, Renewable Energy and Climate Change programs, impetus has already been gained and the discussion is now at the engineering level to explore creating CREZ's that go beyond the electricity generation and pursue many other forms of renewable energy in tandem and also produce sufficient carbon dioxide from natural resources to be used in Enhanced Oil Recovery (EOR). The programs are active to educate and help comment to groups on ideas to gain an ability to create more than just REC's from CREZ's but also to be able to raise the debate on "green tags" for a variety of commodities that set intrinsic values on products. Is it PUCT's intent to create solely an electric market REC without acknowledging the implications of the CREZ's in light of these other activities. Several players are already published and are buildings and constructing facilities to be CREZ's in other states as well as Texas on a full spectrum of synergies that have merit and appear to meet standards of PUCT under the proposed rules.

Page 26 of 57 (p) Voluntary Retirement of REC's

One question that comes to mind, deals with Tracking and accountability standards for such transactions under the current and how one form can be created to account for all form on non-wind and if the system is a collaborative community approach taken for instance by PV systems in distributed energy generation applications. As an example, the tracking and accountability for such PV systems offers and intriguing data and market analysis opportunity to determine the local effects of such systems on nodal markets and locational marginal pricing, if adopted.

The issues of EOR and the implications for CREZ's offers some intriguing possibilities. The climate change programs are already in communication with many industry groups, commercial marketing and state and local leaders to provide information and bolster voluntary decisions to pursue co-locating facilities for the purposes of doing EOR and provide for mechanism by which DOE can make a determination for possible Certified Emissions Reductions (CER's) Credits. This overlays a very strong commodity value mechanism for economics on top based on oil recovery from the CO2 emissions. This also makes for greater transport distances of materials and better economics for investors in such projects. It also opens the door to the technical needs of exploring the best approaches needed. Several states I have been working with, have prepared plans to explore exactly these issues and are moving to capitalize on a CREZ that incorporates EOR activities as well as those that do not have EOR capability. Most industry players are well aware of players in their industry who are capitalizing on this aspect to vastly improve the economics. PUCT should expound a little more on the idea of suitable land areas to open the dialogue statewide, I do not mind seeing the single project work I am currently doing eliminated in favor of a state wide program to explore the economics. As I have stated other are incorporating their thoughts and moving forward to assist the renewable energy as well as industrial community realize this co-locate EOR value. The benefits also lead to economic growth in many depressed rural areas and distributing environmental issues as well as developing new synergies and renew old energy sources.