

Eugene G. Preston, PhD, PE
Transmission Adequacy Consulting
6121 Soter Parkway
Austin, Texas 78735-6100

January 28, 2011

PROJECT NO. 35792

RULEMAKING RELATING TO § PUBLIC UTILITY COMMISSION
THE GOAL FOR RENEWABLE §
ENERGY § OF TEXAS

I, Eugene Gordon Preston, writing in my capacity as a Citizen of the State of Texas, humbly submit to you my comments concerning the proposed amendments to the Texas PUC Substantive Rule 25.173, Goal for Renewable Energy.

I am concerned about rising electric rates from renewables. I have been a member of my church finance committee and have seen the impact of rising rates on the church budget. Churches and schools on tight budgets are hit hard by rising electric rates. We should avoid imposing expensive energy sources on folks and businesses that cannot afford them.

I am concerned about subsidy programs that give to the rich and take from the poor. These are reverse Robin Hood programs, such as a rooftop solar incentive program. A family on a tight budget does not have the money to install solar panels. Neither does that family need to be paying for part of the cost of well-to-do homeowners that do elect to install solar panels.

However, we do need to curb green house gases, reduce our dependence on imported oil, improve our environment, develop new energy sources, and provide a safe future for our children. My readings of credible scientific and business reports shows me we are moving too slowly in solving these problems. I want to do more to help this process by making my own renewables and non-CO2 plant investments. I do not wish to cause harm by using incentives whose costs are passed to others. I value my own energy supply decades into the future and choose to use a 0% discount rate for evaluating capital costs when spread over future kWh. Below are power plant investment opportunities that are of the most interest to me.

Option 1 – Rooftop solar panels. I currently use ~12,000 kWh annually. I would need 10 kW of solar rooftop panels to supply $.137 \times 8760 \times 10 = 12000$ kWh. The estimated cost is \$6/W, so the total installed cost (without subsidies) would be \$60,000. Assuming a 25 year life, the average energy cost is 27 cents per kWh. The rules allow residential customers this option.

Option 2 – Large single axis solar PV farm. I would need 5.5 kW of this solar plant to generate the annual energy of $.25 \times 8760 \times 5.5 = 12000$ kWh. The estimated cost is \$4/W, so the total installed cost (without subsidies) would be \$22,000. The average energy cost over a 25 year life is 10 c/kWh. The rules do not allow residential customers off-site generation sources.

Option 3 – Nuclear STP 3 and 4. I would need 1.5 kW of nuclear to generate the annual energy of $.913 \times 8760 \times 1.5 = 12000$ kWh. The estimated cost is \$5/W, so the total installed cost (without subsidies) would be \$7500. My energy cost (40 year life) is 1.6 c/kWh + 2 c/kWh O&M = 3.6 cents per kWh. The rules do not allow this kind of off-site plant investment.

Option 4 – Solar PV + STP 3 and 4. This option considers adding 1.2 kW of solar PV and 1.2 kW of nuclear. The annual energy is $.25*8760*1.2 + .9*8760*1.2 = 12000$ kWh. The total estimated up-front cost is \$10,800. Although this is not the lowest cost option, the combo mix of solar and nuclear investments would provide a generation supply that most closely matches the total ERCOT residential load pattern. This option is superior to a plan relying on wind power and natural gas backup because the solar + nuclear power sources roughly match the residential load pattern. The rules do not allow residential customers to invest in off-site generation power sources. This is a missed opportunity for developing more renewable power.

Capital Costs and Energy Costs of 12000 kWh per year sources

Rooftop Solar Panels	\$60,000	27 c/kWh
Single Axis Tracking PV	\$22,000	10 c/kWh
Nuclear STP 3 & 4	\$ 7,500	3.6 c/kWh
Tracking PV + STP 3&4	\$10,800	5 c/kWh

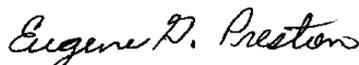
How does utility financing (either directly or through PPA contracts) affect the above energy prices? The answer is that the above solar PV and nuclear rates offered by utilities to their customers will be much higher. Utilities would offer solar and nuclear energy to their customers at rates of 16 c/kWh for solar PV and 10 c/kWh for nuclear power. At these high prices customers are not likely to be interested in purchasing renewable and nuclear power. Customers have even less interest in these plants when they are not personal investments.

Summary – High capital cost renewables and nuclear projects can be financed by interested individuals if they have sufficient funds in hand. The billing rate structures can be set up to not harm disinterested customers and not cause a loss of revenue to service providers. Residential customers would pay the capital cost of a new solar PV plant or nuclear plant directly to the builder. The utility billing to that customer when the project generates energy would only include the transmission and other costs for delivery for that energy. The plant O&M costs could be handled either through the customer’s utility bill or directly from the plant operator to the investing customers. A successful program would allow utilities to defer new generation because their customers would already be making those new plant investments for them. The utilities could count the new residential generation investments as their own for meeting ERCOT, NERC, and FERC generation capacity and reliability requirements.

Recommendation – The PUC rules need to be changed to allow all individual residential customers in Texas an opportunity to invest directly in off-site renewable generation and in new nuclear plants. New rates will be needed for the investing customers to allow the off-site kWh to be accounted for on the investing customer’s bills. Non-participating customers would remain on existing rates to not be harmed. Utilities would be adding less of their own gas generation to meet reliability requirements, which holds down existing rates to the lowest levels possible.

If the rules cannot be changed at this time under project 35792, then possibly this topic can be considered in future proceedings.

Sincerely,



Eugene G. Preston
www.egpreston.com