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**FILED**

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Clerk's Office  
N.C. Utilities Commission

July 15, 2013

Gail L. Mount  
Chief Clerk  
North Carolina Utilities Commission  
4325 mail Service Center  
Raleigh, North Carolina, 27699-4325

**RE: Duke Energy Carolinas' and Duke Energy Progress' Response to May 3, 2013 Order  
Requiring Verified Responses  
Docket No. E-100, sub 137**

Dear Members of the North Carolina Utilities Commission:

Thank you for posing these important questions and directing Duke Energy to answer them in order to satisfy their requirements for completing their Integrated Resource Plan (IRP). In this letter I'm going to address the concerns Duke Energy has raised in attempting to answer the first of the 19 questions you asked. My comments will be in blue ink.

I'll premise my comments by pointing out that similar inverted, tiered-block utility rate structures, such as outlined in 2011 House Bill 135 (identical to 2013 HB 401), are currently being employed in at least 7 other states in our country. Given that reality, it's difficult to give credence to the claims by Duke Energy that this type of restructured rate system is impractical, inefficient, too complex, discriminatory, unfair and ungrounded in economics.

It's much more likely that the corporate staff member who was charged with the task of reviewing this material didn't understand some of the aspects of the proposal, as this represents a different way of doing business for energy companies. Understandably, also, H401 (2011 H135), does ultimately represent an end to an obsolete operating mode for the utility industry as we know it, and it's difficult to let go of old habits as bad as they may be. But, H401 doesn't spell the end of the utility industry. It's more accurately a transformation to a pared-down, decentralized, more efficient and economical system that will benefit the public to a much greater degree through lower costs, less air pollution and greenhouse gas emissions, less fresh water depletion, less dependence on fossil fuels and nuclear power and the creation of thousands of new, high paying jobs in the industries of energy efficiency, industrial co-generation and rooftop solar installation and maintenance.

(continued below)

**Request No. 1:**

At the hearing for public witnesses that the Commission convened in Raleigh on February 11, 2013, it was suggested that the utilities should be required to pursue policies that were included in House Bill 135, which was introduced in the North Carolina General Assembly on February 21, 2011. That legislation includes: (a) a proposal to establish tiered electric rates; (b) a proposal to establish an energy efficiency public benefit loan fund to be used for loans to customers for energy efficiency or renewable energy projects; and (c) a proposal to create an incentive for consumers to buy EnergyStar™ qualified products. Explain your Company's position on these proposals and whether each proposal would cause the Company's IRP to result in lower electricity costs for consumers.

**Response:**

- (a) **The Companies' concern with a tiered or inverted/inclining rate structure for all customers, such as set forth in the 2011 version of House Bill 135 and which was not enacted by the General Assembly, is that such a structure is inefficient, administratively complex, potentially confusing to customers and could lead to subsidization and customer discrimination issues. In addition, unlike the Companies' current declining block rates set by the Commission, such an inverse tiered rate structure as proposed in House Bill 135 is not cost based. The tiered electric rates described in the proposed legislation in House Bill 135 proposed to have commercial and industrial block schedules developed on a "case by case basis" which would inherently cause subsidization and discrimination concerns and raise administrative concerns with developing customized rates for all impacted customers. House Bill 135 also proposed a type of peak pricing with higher block pricing across the board, on top of the inclining energy block rates, which is quite a complex and potentially confusing mix of rate structures.**

**Duke Energy is mistaken.**

**The proposal in H135 is cost based. Section 1, paragraph 8 of the legislation reads:**

**"All inverted tiered block rate structures shall be designed to guarantee electric public utilities regulated by the provisions of this Chapter will receive a reasonable rate of return on their capital expenditures."**

**Case by case rate determination for commercial and industrial ratepayers will not be discriminatory or unwieldy if developed through a standardized process. Section 1, paragraph 7 reads:**

**"The inverted tiered block rate structure for industrial and commercial customers shall be tailored on a case-by-case basis to maximize the financial benefit of investing in energy efficiency and job creation."**

**The legislation purposely does not detail this process so that the Utilities Commission can have the flexibility to design the best system after using its legal and technical resources to research and develop the program. But, for instance, one process to consider would be the requirement for each commercial and industrial customer to fill out a standardized energy audit form every two years. This completed form would be used as the basis to determine the specific energy needs of the business or industry, if/where they are wasting energy, whether they qualify for a profitable low-interest loan for an energy efficiency project, co-generation or rooftop solar energy system and what kilowatt/hr allotment they have for the lowest-tiered rates.**

**As for the complexity of the system, we live in an era in which we have powerful machines called computers that store and sort data in any way in which we program them. The public benefit of dramatically reducing energy consumption statewide is so great, that any inconvenience created by transforming an accounting method should be nothing more than an afterthought. While there will always be problems when new systems are put into place, these types of problems can be dealt with and are dwarfed by the overall good that is being accomplished.**

**Customer confusion would hardly be more likely with this system than with the current system. People will quickly learn that if they use less energy they will save money by remaining within the lowest tiered-block of energy use each month.**

**The policy referenced in House Bill 135 attempts to insulate low income customers from higher electricity rates/bills by drawing a correlation between low income level customers and low energy use. This assumed correlation is not always true. In fact, although residential low income customers typically have smaller homes, they are more likely to be less insulated and therefore inefficient in their use of electricity with a greater penetration of electric heat (particularly in rural areas where natural gas is not as prevalent a heating source), thereby increasing their respective electricity load. Low-income customers are also more likely to use appliances like window air conditioners and electric resistant space heaters to inefficiently attempt to isolate heating and cooling to specific. In this way, inclining block rates can actually be regressive and disproportionately burdensome to low income or fixed income customers because more of their respective load would be exposed to the higher block rates.**

**H 401 (2011 H135) does not draw a correlation between low income level customers and low energy use. It does however provide assurances that low-income people will not be negatively impacted by the new rate structure. Section 1, paragraph 5 of H401 (2011 H135) reads:**

**“The inverted tiered block rate structure for residential customers shall be designed to avoid a negative economic impact on low-income families and rental units.”**

**Again, it's important to understand that it will be the responsibility of the Utilities Commission to use its legal and technical resources to research and design a system that meets all the**

criteria outlined in this legislation. So, the legislation has provided great flexibility for defining how the rate structure will be implemented. Where necessary, for instance, low income families could be given exemptions from higher tiered rates.

At the same time, H401 provides an Energy Efficiency Bank (aka Public Benefit Fund) to issue low-interest loans to customers, that will be administered through the monthly utility bill. This will enable low-income families to upgrade the efficiency of their homes while realizing lower monthly energy bills from day one, with the monthly loan payment included. This will, in turn, make it much easier for these families to qualify for lower-tiered rates. It's a win-win situation.

**Additionally, the proposed tiered or inverted/inclining rates in House Bill 135 would have a negative impact to industrial and large commercial loads. Industrials**

**and large commercial customers typically have more kWh over which to spread the Company's fixed cost (i.e., generation, transmission and distribution facilities that are required regardless of how many kWh are consumed) and that is why they pay an overall lower cost per kWh. Industrials and large commercial customers also have a higher load factor than other rate classes such as the residential class. If the industrial and commercial rates increase with consumption due to a tiered rate design, the industrials and large commercial customers may choose to not add additional production facilities, remove current production facilities or even move their business out of state reducing the need for or eliminating North Carolina jobs. Residential customers would then see their bills increase as Company facilities that were historic paid for by industrial customers are shifted to all other rate classes.**

This statement by Duke Energy reveals a gross misunderstanding and mis-interpretation of the language in H401 (2011 H135).

As mandated in this legislation, the energy use of the commercial and industrial sectors is not compared to the energy use of residential customers in determining the thresholds of tiered-block rates.

Section 1, paragraphs 3 and 4 read:

**"(3) Separate inverted tiered block rate structures shall be developed for residential, commercial, public, and industrial customers.**

**(4) The number of inverted tiered blocks for residential, commercial, public, and industrial customers and the cost thresholds the tiered blocks represent shall be developed for the purpose of achieving the goals of promoting energy conservation and energy efficiency as provided in this section."**

It is precisely because many commercial and industrial customers have different energy requirements (usually a higher load factor) than residential customers that H401 prescribes a case-by-case basis for determining tiered rate thresholds for these sectors. The goal is to help businesses and industries gain greater efficiency to maximize their profits and provide

more jobs. Any industry already operating at maximum efficiency would not be subjected to higher-tiered rates, regardless of its load factor.

The Energy Efficiency Bank would provide the availability of low-interest loans for commercial and industrial efficiency improvements that would guarantee lower-tiered rates. Only businesses and industries that are running inefficiently and refuse to take advantage of the low-interest efficiency loans would be ultimately subjected to higher-tiered rates. It's important to understand that H401 gives the Utilities Commission a 10-year time-span to accomplish this transformation.

**Inverted pricing is inefficient and typically isn't aligned with cost causation. In North Carolina, rates are designed to recover an embedded revenue requirement, but need to reflect marginal cost to ensure efficient use of electricity. For example, if customers benefit by saving 20¢/kWh when usage is reduced, but the utility only recognizes a cost reduction of 4¢/kWh it ultimately leads to cost shifting and higher rates for everyone.**

**It might be possible to design an inclining rate structure that strikes the right balance between promoting energy efficiency and keeping a sufficient revenue stream for the utility but such a design would have to carefully consider the implications and potential impacts on all customers and the utility itself. House Bill 135 did not strike that balance.**

Inverted pricing is inherently neither efficient nor inefficient, depending on its design and implementation. Again, Section 1 paragraph 8 guarantees that the public utility will receive a reasonable rate of return on its capital expenditures. House Bill 401 (2011 H135) mandates the Utilities Commission to design a system that strikes this balance.

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(b) It is the Companies' position that a public benefit loan fund such as proposed in the 2011 version of House Bill 135 is not the most cost-effective vehicle for promoting energy efficiency. A public benefit fund approach creates a supply of money based on an assumed level of demand; however, it does not inherently guarantee that those funds are utilized for energy efficiency programs in a manner that returns maximum value to the citizens and businesses that contribute to the fund. In contrast, North Carolina already has in place a successful model for energy efficiency programs, which is based on utility administration. This approach has been successful for two main reasons. First, commission-approved recovery mechanisms have created a financial incentive for utilities to aggressively seek out opportunities for energy efficiency investments, and to ensure those investments produce cost-effective results. Dollars are committed to such investments once the market demand is substantiated, and the Commission, consumer advocates, and other stakeholders may review expenses and results in the associated EE/DSM rider proceedings. Second, the utilities are in the best position to assess the broader system benefits of energy efficiency projects, and to tailor financial support accordingly, thereby ensuring that the broader customer base is not overpaying for those benefits. In summary, the link to market demand, the financial incentives for prudent management, and the utility's unique ability to

evaluate the system benefits of efficiency investments make utility-administered programs a much more effective vehicle for promoting energy efficiency than a predetermined pool of loan funds. Therefore, while the introduction of a public benefit loan fund to the market could produce additional energy efficiency impacts, it is questionable whether the incremental benefits to the state would justify the costs of establishing and administering such a fund.

It is the company's position that a public benefit loan fund for renewable energy projects is unnecessary because the mechanisms already exist to allow for low-cost financing of such investments. The North Carolina Renewable Energy and Energy Efficiency Portfolio Standard and rules governing qualifying facilities position electric utilities to sign purchased-power agreements with developers/owners. These contracts, combined with attractive tax incentives from both the state and federal governments, make it relatively easy to finance renewable energy projects without further loan subsidies from the citizens and businesses of the state. Therefore, the Companies' IRP analyses already indicate significant growth in renewable energy, and therefore the Companies does not believe that further subsidies such as a public benefit loan fund are not needed or justified.

In this statement, Duke Energy is ignoring the relationship between the proposed new Energy Efficiency Bank (aka Public Benefit Fund) and the driving incentive for energy efficiency projects provided by the inverted, tiered rate-block structure. This carrot and stick approach

**work strongly together toward driving a rapid transition to a more energy efficient economy in North Carolina that will yield dramatic actual reductions in energy consumption from today's level, as it kick-starts the economy and provides thousands of new high paying jobs.**

**In contrast, the cumbersome efficiency program currently in place serves only to slow the growth of energy consumption to a degree that allows the public utilities to keep pace by building new infrastructure to accommodate this regulated growth, thus incrementally increasing their profits at the expense of the ratepayers as they see rates consistently rise to pay for new power plant construction.**

**It should be noted that all loans issued by the new Energy Efficiency Bank will be tied to the customers monthly utility bill. This provides for an extremely secure loan for the lending institution. Those who don't pay their utility bills (with the loan payment included) will see the lights go out. At the same time it will be easier for the customer to pay the monthly bill because it will be lower than it was previously, including the loan payment, before the efficiency improvements. This is because the energy savings each month will exceed the monetary value of the monthly loan payment. If this is not the case, the customer will not qualify for the efficiency loan.**

**We can't be blind to the fact that Duke Energy is in the business of selling energy. The more energy it sells, the more profit is realized for its shareholders. It is therefore a clear conflict of interest for Duke Energy to be administering the state's energy efficiency program. It is little surprise that the company would seek to dissuade the Utilities Commission and the NC General Assembly from adopting this program that would offer powerful economic incentive to all ratepayers to become more efficient in their energy use.**

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- (c) It is the company's position that a program targeted toward promoting the purchase of Energy Star-certified goods has the potential to produce benefits for certain products, but success would be contingent upon program design. It is important to note that Energy Star certification is approaching ubiquity in many major appliance categories, therefore incentives will not necessarily drive additional purchases. Programs that encourage customers to replace inefficient appliances with Energy Star-compliant purchases have been shown to produce efficiency gains. House Bill 135 proposed a tax on non-Energy Star products. Raising the cost of less efficient products could in some cases have the unintended effect of encouraging citizens, particularly low income customers, to keep older, even less efficient products rather than replace them with newer more efficient products. The Companies' appliance recycling programs are designed to cost-effectively remove a barrier to appliance replacement as well as ensure that the full savings of a customer's adoption of Energy Star-certified goods are realized. The forecasted impacts of that and similar future programs are already reflected in the Companies' IRP analysis. State incentives that complement the program could help to increase the system benefits, however such incremental impacts are already assumed to be included in the range of customer adoption strategies that are necessary to achieve the "High EE" case modeled in the IRP.

Again Duke Energy is ignoring the relationship between this aspect of H401 (2011 H135) and the other elements of the bill that work hand in hand to create an environment that fosters investment in energy efficiency to the benefit of all.

Coupled with the newly gained financial ability to upgrade the efficiency of their homes provided by the Energy Efficiency Bank (aka Public Benefit Fund), low income families could now purchase the more expensive Energy Star-rated refrigerators, washing machines and dryers as they discard their old, inefficient appliances and cash them in at the metal recyclers down the road.

The 5% Pollution Fee will annually produce millions of dollars at retail stores, collected from those hold-outs who still insist on buying incandescent lightbulbs and other non Energy Star-rated appliances. This will serve as substantial seed money for the state's new Energy Efficiency Bank that will recycle the money into the economy as it profits substantially and perpetuates itself through interest gained on the loans.

Nothing remotely comparable in scope to the efficiency program outlined in H401 (2011 H135) exists in current state efficiency programs or in Duke Energy's IRP.

Thank you,  
Sincerely,



Avram Friedman, Executive Director of the Canary Coalition