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Hon. Jeffrey C. Cohen  
Acting Secretary, Public Service Commission  
Three Empire State Plaza  
Albany, NY 12223-1350

secretary@dps.ny.gov

**Re: Case 12-E-0577, Proceeding to Examine Repowering Alternatives to Utility Transmission Reinforcements**

Dear Secretary Cohen,

I am a Ph.D. economist who has been analyzing regional economic impacts and developing economic models for over 35 years, and I am a concerned New York State resident, parent and grandparent. I have no financial interest in any energy business, and my comments on this subject are motivated solely by a personal conviction to do what is right for the general population and future generations.

Prior to deciding whether to repower the Cayuga Power Plant with natural gas, the economic pros and cons must be fully understood. Many supporters of such a conversion make at least two questionable claims regarding the economics. The first claim is that natural gas is a clean fuel. While numerous industry-funded studies have attempted to drive this conclusion, multiple independent and respected scientists have challenged it [1,2]. As my area of expertise is economics, I will not focus on the global warming impacts of natural gas fired power plants, except to point out that there are many economic costs associated with the global warming and pollution that would be caused by increased extraction and use of natural gas in power plants [3].

The second questionable claim is that the price of natural gas is low, making it a cost effective alternative for the power plant. Those who state this claim simply and self-servingly ignore the medium to long term. The current low price of natural gas is not here to stay and when the price of natural gas increases significantly, ratepayers will be harmed. Ratepayers will be harmed along with the communities, such as Lansing, that are home to the failing repowered plants.

The price of natural gas is likely to increase substantially due to both demand pressures and supply constraints. Ongoing efforts to convert large buildings to natural gas for heating and to increase the use of natural gas in transportation will put upward pressure on prices. This pressure is only increased by nationwide efforts to incentivize energy producers to use natural gas instead of coal or nuclear power generation.

Exporting LNG will exert further upward pressure on the price of natural gas, because of additional export demand and by participation in the global gas market with its attendant vastly higher gas prices.

On the supply side, supporters of shale gas development and their hired consultants claim that there is a 100-year or more supply of shale gas in the United States. I have written comments on various studies that make exaggerated claims of shale gas supply. One example is the study by IHS Global Insight [4,5]. I have also submitted comments to the Department of Energy (DOE) on a DOE-funded study that claims that domestic natural gas prices will not be impacted by exports [6,7]. I take issue with these studies. In these documents, I explain in detail why they are both biased and highly flawed.

Well after my comments on these studies were written, two other authors independently published books on these subjects [8,9]. These works in particular support my conclusions that the supply of shale gas in the US is highly exaggerated by industry shills and that the price of natural gas is likely to rise significantly.

In addition to the logical conclusion that the price of natural gas will increase going forward, it should be noted that natural gas has a history of price volatility. The President of American Electric Power commented on the concern of volatility in the price of natural gas. He said, "Whether that volatility has changed permanently remains to be seen." He said that natural gas prices could spike if major environmental issues emerge with fracking, and that natural gas prices are vulnerable to volatile weather conditions. He also said they could increase as export facilities for LNG are constructed [10].

In light of current knowledge, it would be shortsighted for the PSC to approve the conversion of any coal-fired power plant in New York State to natural gas. It takes substantial capital to make such a conversion, a huge investment to be made only to be faced with high natural gas prices for power generation.

The conversion of power plants to natural gas will itself increase the use of shale gas, the production of which results in negative economic impacts on state and local economies. I have been writing and lecturing on the economic impacts of shale gas development for over four years, including a peer reviewed article on state and local impacts [11]. A few more of my papers on the economic impacts of shale gas development are listed in the references at the end of this comment [12- 20]. These and more can be accessed at [www.catskillcitizens.org/barth](http://www.catskillcitizens.org/barth). I show in these

documents how the economy will be negatively impacted by shale gas development and I reference numerous peer reviewed and independent studies. Most of the proponents of shale gas development speak only of positive economic effects, wholly ignoring the established and potential costs, including destruction of other, more labor intensive industries, public health effects and the boom-and-bust cycles associated with extractive industries.

A far better alternative to coal or natural gas is available through the use of wind, water and solar resources. The ongoing price of these fuels is zero. Capital expenditures should be devoted to the development of these sources of energy instead of expensive conversions of power plants to natural gas.

This better alternative would have a greater positive impact on job creation as well. Research indicates that more jobs are created by renewable technology than by fossil fuel. A study conducted at the Political Economy Research Institute, University of Massachusetts, Amherst, estimates the total number of jobs—direct, indirect, and induced—that would be created from spending \$1 million in a combination of six clean energy investment areas—three energy efficiency investment areas (building retrofits, public transportation and freight rail, and smart grid electrical transmission systems) and three renewable energy areas (solar power, wind power, and biomass fuels) is more than three times greater than a similar investment in the fossil fuel industry. The authors conclude, “this combination of clean-energy investments will generate about 16.7 jobs per \$1 million in spending.” They go on to say that equivalent spending in the fossil fuel industry will generate 5.3 jobs in total, and thus, “spending a given amount of money on a clean-energy investment agenda generates approximately 3.2 times the number of jobs within the United States as does spending the same amount of money within the fossil fuel sectors [21].”

Regarding the level of jobs created, the same authors conclude that, “relative to spending on fossil fuels, clean-energy investments create 2.6 times more jobs for people with college degrees or above, 3 times more jobs for people with some college, and 3.6 times more jobs for people with high school degrees or less [22].”

Research in Germany, arguably the country that leads the world in renewable energy development, shows that the expansion of renewable energy has a positive net effect on economic growth [23].

Jacobson et. al. provide a roadmap for New York State to transition to wind, water and solar sources of energy by 2030 [24]. This study shows that job creation with the wind, water and solar plan will result in far more jobs for New Yorkers than continuing with fossil fuels.

While the foregoing comments apply to all conversions of coal fired power plants to natural gas in New York State, the following are specific to the Tompkins County situation.

Community concerns about negative impacts on employment and tax revenues that may result from closing of the plant are real and deserve consideration and comparison with the positive employment and tax revenue impacts that would result from greater development of renewable energy alternatives. It is well known that the assessed value of the plant and the property tax collections from the plant are declining as specified by a PILOT agreement. While the hope is that taxable values and tax revenues will increase, particularly to help the local schools, the reality is that a large increase in the price of natural gas would render the plant uncompetitive with other energy sources, resulting in further declines in taxable value of the plant.

A carbon tax may not be in the cards in the near future, but concern about climate change is growing and one can imagine a carbon tax as a real possibility ten years down the road, still well within the useful life of a converted facility. A carbon tax imposed on a repowered gas plant would be just another nail in its coffin.

In the medium to long-term, the community will be better off by encouraging investment in renewables, not in natural gas conversion.

Finally, converting the local power plant to natural gas would be inconsistent with Tompkins County's recent and increased encouragement of renewable energy projects. Examples include the Black Oak Wind Farm and the recent decision to partner with the Municipal Electric and Gas Alliance to procure additional renewable energy.

There should be no new gas fired power plants created in New York State in light of the fact that the State can and should immediately begin to implement a renewables-only power plan. Available land should be used for development of renewable energy sources.

Investors should be incentivized to invest in and make a profit on renewable energy development instead of wasting millions of dollars on a natural gas conversion that will be a high risk investment in light of both the likely increase in the price of natural gas and the probable harm to the local economy. The renewable alternative will have a positive impact on the economy.

Research at both MIT and the Aspen Environmental Group [25,26,27] indicates that the encouragement of shale gas development and the continued conversion of power plants to natural gas, combined with the conversion of major heating systems to natural gas, are likely to seriously delay significant investment in renewable forms of energy.

Tompkins County is in an enviable position, having already taken significant action to transition to renewables and being home to some of the best minds and research facilities in New York State. It would be a mistake to repower the Cayuga Power Plant with natural gas. The best choice is to develop a plan for the Cayuga plant property that would contribute to moving forward the statewide transition to renewables.

Respectfully Submitted,

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