

Chairman Wilson, Vice Chair McColley and Ranking Member Williams and members of the committee,

Thank you for your time today. My name is Ray Gifford. I am former Chairman of the Colorado Public Utilities Commission; former President of a think tank, The Progress & Freedom Foundation, that studied the regulation of network industries like power and communications; and founder of the Institute for Regulatory Law & Economics, a course for state regulators on the law and economics of regulated industries. That's a lot of formers in my biography, but I hope I convey I am a somewhat wizened regulator, who has traveled all the way from Colorado today to offer comment on Ohio energy legislation.

I've been writing on energy policy in PJM for these past few years now through a series of White Papers and op-eds because it's a microcosm of what is right with the unprecedented innovation that happens outside the regulatory construct – namely, the shale gas revolution, which turned natural gas from something that was expensive and dear to something cheap and plentiful. By contrast, PJM also illustrates what is wrong when close regulation of what purports to be a market devolves into an administrative regulatory scheme, where prices are no longer true and emergent, but manipulated every which way to achieve a multitude of goals, some noble, others not. But none of the outcomes resemble a “market” outcome.

Which is where we come to Ohio and the Zero Emission Credit (ZEC) program proposed here. Now, as someone with fairly impeccable pro-market credentials *AND* a record of advocacy for environmentally sound, pro-customer policy, my first and maybe not even my second instinct is *not* to call for nuclear subsidies such as are proposed here. But I see no good alternative, and these plants are too vital to Ohio to sacrifice because of the failures of a distorted regional wholesale market.

I've written that once subsidies start – as they have in neighboring states and across the region – they are hard to stop. In the end, you end up with a collective action problem where states that do not subsidize their failing (nuclear) units end up being chumps who forego the power, the resilience characteristics, the jobs and tax revenue. By contrast, states that do adopt ZEC programs keep their plants. So, I am here to urge Ohio not to be the chumps who lose their nuclear units while other states enact energy policies to save theirs.

I do not say that because I thrill at subsidizing specific sources of power. I do say that because other states are subsidizing their power. In recent years, Illinois, New York, Connecticut and New Jersey have each adopted ZEC policies. Pennsylvania and Maryland are currently considering similar programs. Ohio has that same set of energy policy choices and should use the same ZEC mechanism to preserve its nuclear plants.

Energy policy – specifically pertaining to power generation – remains a state prerogative. States have been exercising that prerogative to preserve their carbon-free nuclear facilities that, if shutdown by supposed “market” forces, are never coming back. Energy policy remains a decision for the states to make, and they have been making them. Instead of an administrative regulator in Valley Forge, PA, legislators in Springfield, Trenton, Annapolis and Harrisburg (not to mention Albany and Hartford) have been making decisions about the future of their states'

nuclear fleets. They have elected – inelegantly as a matter of policy at times, to be sure – to save those plants.

90% of Ohio’s carbon-free power comes from the nuclear units at issue here. If those plants close, there is a huge carbon deficit to make up. (Just look to Germany or Japan to see what replaces closed nuclear plants – baseload nuclear cannot be swapped out for renewables and battery storage.)

Now, there is some controversy over whether the plants at issue in Ohio actually need the subsidies proposed here. A study sponsored by the American Petroleum Institute claims that Davis Bessie and Perry plants are actually economic, profitable even, within the parameters of the PJM “market.”

First of all, you have to ask, if every other state in the region has looked to the viability of their nuclear plants and decided the ZEC program is vital to their survival, why would not the same be true in Ohio. The economics of running a nuclear plant are similar everywhere. They have very high fixed costs. Those costs are too high to be recovered in the short-run marginal cost markets at the core of the PJM blackboard economic model. Therefore, nuclear units fail economically under the PJM administrative market scheme.

Furthermore, the API study does what all wish-fulfillment utility planning models do -- it cherry-picks its numbers to overstate revenues and understate costs. By doing so, plants operating at a loss, suddenly turn profitable. For instance:

- The API Study Assumes that the plants receive revenue from capacity market auctions, when they have not and are not expected to clear the PJM capacity auction. (**overstated revenue**)
- The API Study uses the wrong node for assuming power sales and prices in PJM West, as opposed to AEP Dayton Hub (AD Hub), where the plants sell into. Prices in PJM West are higher than in AD Hub. (**overstated revenue**)
- The API Study used prices at the high point of the year, during the meaningful winter cold spell. Prices in PJM West and AD Hub are now 10% lower than the Study. (**overstated revenue**)
- The API Study inaccurately portrays plant costs to grossly understate actual costs incurred, reported by nuclear operators and verifiable by the Nuclear Energy Institute. The report cherry-picks a single year -- 2016 – to ignore refueling years, resulting in lost revenue from downtime and incremental O&M and labor costs needed to refuel a large facility. (**understated costs**)
- Single unit nuclear sites, like the ones in Ohio, have a significantly different cost structure than multiple unit sites. The API Study incorrectly “reconciles” its costs to a rate that encompasses both single and multi-unit costs. (**understated costs**)
- The API Study fails to consider all of the cost components associated with operating a nuclear plant, including: overhead allocation for plant management, safety, planning and oversight, full cycle maintenance expenses incurred to repair equipment wear and tear over a multi-year basis and capital spending requirements to replace and upgrade plant components over time. (**understated costs**)

- The API Study excludes power sales and hedging costs: The cost to market and hedge all 19 TerraWatt hours of power/year from a plant that provides 15% of Ohio's electricity are meaningful and not even discussed in the report. No large industrial business can magically receive revenue without incurring costs to place all of its product in the market. **(understated costs)**
- Finally, and perhaps most compelling, API recently funded and published a similar study in Pennsylvania, in which it projected the Three Mile Island nuclear station (the only single unit reactor in PA) would lose \$466M over the next ten years. Three Mile Island and Davis-Besse are virtually twin facilities, and both are operated at the highest level of performance within the same PJM market construct. Yet, a study completed 60 days prior to the one submitted to you today reflects nearly a 750-million-dollar difference in profitability between the two units over the next ten years. How can that be?

I do not wish to cast aspersions completely on the API study. The natural gas industry is doing what all rivalrous generation resources do in these instances. It is protecting its turf and trying to handicap its rivals. To do that, you model assumptions beneficial to your ends, and deleterious to your rivals' ends. We do, by contrast, have a real-world test of whether these plants are profitable or not. That test shows that nuclear plants in Illinois, New York, New Jersey, Connecticut and – per the owners – Pennsylvania and Maryland are not.¹

This is old hat in utility generation planning, and it's not necessarily ignoble in its ends. The shale gas revolution has brought tremendous benefits to the region, the nation and electric customers. But it would be imprudent and rash to allow this great innovation to make the nuclear units a casualty, especially when it is the result of a deeply flawed and disintegrating market construct.

Unfortunately, the administrative construct of PJM, the infrastructure limitations for gas pipelines and the historic price volatility of natural gas should make us take pause as a matter of energy policy. Putting all of your eggs in the gas and renewables basket seems imprudent as a matter of history and climate policy. It further means the loss of revenues, jobs and tax revenues from those nuclear plants.

Energy policy where we are talking about capital intensive, long-lived assets is terribly fraught with favor-seeking and policy-ends masquerading as economics. I don't know a good way to cut this Gordian knot, but I do know that losing these plants would be bad for Ohio and bad for consumers.

¹ And, in fact of Davis Bessie and Perry are as profitable as the API Study says, we might expect more ardor and activity in the bankruptcy proceeding by investors to get their hands on these supposedly profitable assets.