

***SB 106 AAC ZERO-CARBON ELECTRIC GENERATING FACILITIES AND ACHIEVING CONNECTICUT'S GREENHOUSE GAS EMISSIONS MANDATED LEVELS.***

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Co-Chair Winfield, Co-Chair Reed, Committee Members and staff, my name is Joel Gordes. I am an independent energy consultant. While the words "nuclear energy" are not used in the bill title or very short description, I suppose the committee means nuclear power. As a member of the Connecticut Energy Advisory Board I attended in ex officio capacity meetings of the CT Academy of Science & Engineering 2011 study *Advances in Nuclear Power*. This is a balanced report that both committee staff and legislators should avail themselves of.

Many decades ago, before the Three Mile Island or Chernobyl catastrophes, the major selling point for nuclear energy was that proponents said it was "Too Cheap To Meter." While relatively low priced as fuel goes, the capital cost was large. When the cost of Millstone III got out of hand this legislature capped the price after which ratepayers would not be responsible. In its early days it had history of safety violations and paid some severe fines as a result. Dominion acquired plants in year 2000 and have generally done a better job with operations but probably never saw this future coming.

Millstone II went into operation in 1975 and Millstone III in 1986 making the plants currently 42 and 31 years old and with extensions to 2035 and 2045 would make them both about 60 years old. I am willing to bet no legislators drove 60 years old cars to the Capital today. This raises some major concerns where incidents/accidents can cascade.

There are also very serious questions on what this committee may be contemplating not just on the Millstones but other aspects of our energy system design as well. Both storms, possibly enhanced by climate change, and cyberattack challenges would be better met by a decentralized grid. Nuclear is the opposite, i.e. highly centralized.

First and foremost please consider the very basic fact that we have gone from nuclear technology sold in the 70's on the basis of being "too cheap to meter" to one where they are today out begging for a subsidy. What this cries out and says is that our ability to predict most aspects of energy futures are severely limited. All the nice graphs charts and columns are never checked 5, 10 or 20 years later to assess accuracy so be mindful when you see them.

Secondly, even with the "too cheap to meter" claim in its heyday, the nuclear industry was the recipient of huge amounts of subsidy in numerous forms which many nuclear adherents disclaim. But the evidence is clear:

One of the hallmarks of commercial nuclear power is the high degree of federal participation in its development and regulation...This support has been manifested in a number of ways: subsidies, use of facilities.. sponsorship of R&D directly applicable to commercial nuclear power, transfer of technology from weapons, space and military applications, and legislation. [From: An Analysis of Federal Incentives Used to Stimulate Energy Production. p.111. June 1978. USDOE.]

Third, there is a time to retire old technologies. Each nuclear plant built in that era was very much a one-off proposition with many custom parts. That gets even more expensive over time. Right now it is primarily cheap gas and some renewables taking over greater portions of the generation and while I do share your concerns over fuel diversity, keeping these plants running will require greater subsidies going forward. That is one prediction I am pretty sure of.

With that, I suggest that you very carefully consider any actions this year since they might add to the eventual stranded cost of this technology that will hold up newer, lower cost decentralized options. The future belongs to those who prepare for it best. Don't fall on your swords for old technology.

Thank you for your attention.