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Connecticut Center for Advanced Technology, Inc.

March 12, 2018

Connecticut General Assembly/Energy and Technology Committee
State of Connecticut
Legislative Office Building, Room 3900
Hartford, CT 06106

Re: Governor's Bill No. 9 – An Act Concerning Connecticut's Energy Future

The Connecticut Center for Advanced Technology, Inc. ("CCAT"), offers this testimony in support of Governor's Bill No. 9 – An Act Concerning Connecticut's Energy Future.

CCAT is a nonprofit corporation that provides services and resources to entrepreneurs, businesses, industry, academia, and government. The Energy Initiative of CCAT has been established to improve the economic competitiveness of the region through solutions that lower energy costs and increase long-term energy reliability. This CCAT Initiative also provides assistance to businesses and manufacturers regarding energy use and energy efficiency; promotes the use of sustainable and renewable distributed energy technologies; and undertakes energy planning, including planning for microgrid development.

Renewable portfolio standard (RPS) – The proposed bill which would increase the RPS Class I goal to 40 percent by 2030, appears reasonable and consistent with Connecticut's energy and environmental policies.¹ It is recommended that fuel cells be confirmed as a Class I renewable energy source, which provides the best opportunity for Connecticut to meet its energy and economic development goals at the lowest cost to ratepayers with the least impact to environmental resources.

Alternative compliance payment (ACP) – The proposed bill would reduce the ACP from five and one half cents per kilowatt hour (kWh) to four cents per kWh. However, the weighted average bid price of accepted bids for Year 5 of the LREC/ZREC program was approximately \$59/MWH (5.9 cents/kWh). Consequently, it is suggested that the ACP value remain unchanged, which will provide greater certainty to investors.

Net metering – The proposed bill would end the credit for electricity generated by a customer from a Class I renewable energy source with a nameplate capacity less than two MW by December 31, 2039. The proposed bill also includes a provision to establish a rate for that electricity generated after December 31, 2039. This change appears to create uncertainty, which may introduce risk and may make financing more difficult and costly.

¹ According to the Energy Information Administration, Connecticut's retail sales of electricity in 2016 totaled approximately 29 million megawatt-hours (MWH). If Connecticut's electricity sales remain level due to Connecticut's energy conservation and renewable energy programs, approximately 11.6 million MWH would be required to meet this new RPS Class I goal. Connecticut must recognize that new Class I capacity resources will be needed to meet this goal. The production of approximately 11.6 million MWH would require a minimum of approximately 1,390 megawatts of fuel cell capacity (95% availability), almost 9,460 MW of solar capacity (14% availability), or 3,310 MW of wind capacity (40% availability). When compared to other Class I renewable energy sources, fuel cells would provide the greatest capacity to meet demand, use the least amount of land resources, and have the lowest overall costs to consumers.

Reliability – The proposed bill directs the PURA to establish a tariff for the procurement of low emission and zero emission resources, in which they may give a preference to technologies manufactured, researched or developed in the state. This provision would help to bolster the state’s economy by directing ratepayer funds to Connecticut companies that pay taxes and employ residents in the state.

Clean energy facilities – The proposed bill includes a provision for one or more solicitations for the purchase of energy and RECs by eligible generation projects that are less than the load at the customer’s electric meter(s) or beneficial accounts that are part of a microgrid or shared clean energy facility. It is expected that these provisions will encourage the favorable development of generation technologies in locations that are already developed, thereby preserving agricultural and undeveloped land. Furthermore, this provision favors the use of technology manufactured in Connecticut, including small combined heat and power fuel cell technology located at the customer sites, which provides additional opportunities to increase efficiency, improve reliability, and reduce emissions.

Increasing funding for energy conservation and the Clean Energy Fund – The proposed bill contains provisions that increase funding for energy conservation and the Clean Energy Fund. While these provisions would double the ratepayer funds collected, presumably for high value energy projects, it may be more important to protect the funds from being used for purposes other than energy conservation and renewable energy development.

Passive demand response measures – The proposed bill includes provisions for solicitations for passive demand response measures up to 25 MW. Passive demand response measures can be very effective in reducing peak demand and peak electricity costs; however, such measures should be thoughtfully assessed to encourage businesses in the state to become more productive rather than reducing demand by decreasing production. In addition, the use of consultants in the process is appropriate, but there should be a preference for use of in-state consultants that are well qualified to assist in implementing passive demand response solicitations.

In summary, CCAT supports the intent of this bill, and with some minor refinement, Connecticut would be well positioned to increase the development and use of renewable energy and expand energy conservation measures in order to increase energy reliability, reduce costs to ratepayers, and improve environmental performance. CCAT strongly suggests that fuel cells be confirmed as a Class I renewable energy source in order to meet Connecticut’s RPS goals and to operate in coordination with intermittent renewable energy capacity and electric grid resources for the best combination of clean, reliable, and locally manufactured energy resources.

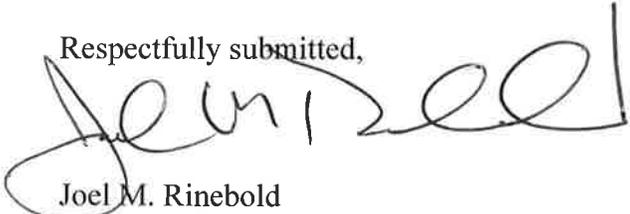
CCAT also suggests that this Bill be used to encourage improved energy management, lower costs to consumers, and enhance economic development associated with research, development, and manufacturing of Connecticut energy products as follows:

- Increase the amount of fuel cell capacity that can be acquired by the electric utilities up to 170 megawatts at sites needed for voltage control, grid security, economic development, and/or system reliability.
- Provide long-term and predictable grant and grant matching resources to support innovation and the high-tech research sector in Connecticut.
- Provide long-term support for zero emission motive power, including buses, passenger vehicles, trucks, and hydrogen fueling station infrastructure development in Connecticut.

- Provide support for the Connecticut Hydrogen-Fuel Cell Cluster to assist Connecticut's hydrogen and fuel cell industry.
- Expand property tax and state sales tax exemptions for Class I renewable energy sources, especially if they are manufactured in Connecticut.
- Establish a preference for renewable energy technologies made or installed in the state to maximize system reliability and economic development when using Connecticut Ratepayer funds.

CCAT will make itself available to the Committee and legislature upon request to assist in the refinement of this legislation.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Joel M. Rinebold". The signature is written in a cursive style with a large initial "J" and "R".

Joel M. Rinebold
Director of Energy
Connecticut Center for Advanced Technology