



Connecticut General Assembly
Energy and Technology Committee
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In Support of House Bill No. 5200
An Act Establishing a Task Force to Study Hydrogen Power

In Support of House Bill No. 5202
An Act Exempting Existing Nuclear Power Generating Facilities in the State from the Nuclear Power Facility Construction Moratorium

Chairmen Needleman and Arconti, Ranking Members Formica and Ferraro, and distinguished members of the Energy and Technology Committee,

Dominion Energy Nuclear Connecticut, Inc. (“Dominion Energy”) appreciates the opportunity to submit written testimony in support of House Bill No. 5200, *An Act Establishing a Task Force to Study Hydrogen Power* and House Bill No. 5202, *An Act Exempting Existing Nuclear Power Generating Facilities in the State from the Nuclear Power Facility Construction Moratorium*.

Dominion Energy is the owner and operator of Millstone Nuclear Power Station (“Millstone”) located in Waterford, Connecticut. With 2,100 megawatts (“MW”) of installed generating capacity, Millstone is one of the largest power stations in New England and the largest source of carbon-free electricity in the region. Millstone’s two nuclear units, licensed to operate through 2035 and 2045, produce approximately 16 to 17 million megawatt-hours of carbon-free energy each year, representing more than half of the electricity consumed in Connecticut on an annual basis and more than 90% of the state’s carbon-free power. Their continued operation prevents more than four million tons of carbon dioxide from being released into the atmosphere each year.

House Bill No. 5200, *An Act Establishing a Task Force to Study Hydrogen Power*

Dominion Energy supports House Bill No. 5200, which would establish a task force to study hydrogen and the contributions it could make to Connecticut’s clean energy economy.¹ Dominion Energy sees tremendous potential in hydrogen – an emerging clean energy source that could help reduce greenhouse gas emissions in a variety of sectors. It can be used to generate electricity, heat homes and buildings, power manufacturing, and fuel transportation – all with few or zero emissions. Dominion Energy is exploring how hydrogen can help the company achieve its goal of net-zero emissions by 2050 and supports Connecticut’s efforts to do the same.

¹ <https://www.cga.ct.gov/2022/TOB/H/PDF/2022HB-05200-R00-HB.PDF>

Dominion Energy's Net-Zero Emissions Goal

Much like Connecticut, Dominion Energy has set a company-wide goal to achieve net-zero carbon and methane emissions across its electric and gas operations by 2050. Last month, Dominion Energy announced it will broaden its efforts to reduce greenhouse gas emissions and also work to achieve net-zero emissions outside the company's direct operations, including emissions generated by customers and by suppliers.

Dominion Energy is employing multiple strategies to achieve its net-zero goal; chief among them is preservation of the company's carbon-free nuclear fleet through relicensing efforts at the Nuclear Regulatory Commission, a process that has already begun for Dominion Energy's nuclear power stations in Virginia. Dominion Energy is also investing heavily in renewable energy, like wind and solar, and exploring new and emerging technologies, like battery storage, renewable natural gas, small modular reactors, and clean hydrogen.

Most of the hydrogen produced in this country is made via steam-methane reforming, a process that relies on a methane source, such as natural gas, and high-temperature steam. One of the byproducts of this process is carbon dioxide emissions. Electrolysis, on the other hand, uses electricity to split water into hydrogen and oxygen and represents a promising option for clean hydrogen production if paired with a carbon-free electricity source.

When hydrogen is produced using carbon-free electricity, it results in zero greenhouse gas emissions and can be used to decarbonize distinct segments of the economy. Hydrogen can be injected into the natural gas distribution system to help reduce greenhouse gas emissions from the heating sector. Hydrogen can be blended with natural gas to fuel natural gas-fired power plants, producing electricity with the same level of reliability but with fewer emissions. Hydrogen can be produced, stored, and used later to generate electricity with a hydrogen fuel cell when renewable resources, like wind and solar, are unavailable. Hydrogen fuel cells can be used to power light- and heavy-duty vehicles, like cars, trucks, trains, and ships, to help decarbonize the transportation sector. These are a few of the possible applications for clean hydrogen.

A Unique Opportunity at Millstone

Connecticut is uniquely positioned to explore clean hydrogen production with an abundant supply of baseload, carbon-free electricity at Millstone, the largest source of carbon-free power in the region. Millstone is already the clean energy hub of New England, and Dominion Energy is interested in exploring ways to expand its role by enabling other clean energy technologies, like clean hydrogen production, onsite at Millstone.

In December 2021, Dominion Energy signed an option to lease agreement with FuelCell Energy for an acre of land at Millstone to pursue a project involving hydrogen production via electrolysis using Millstone's carbon-free electricity. The project represents an exciting opportunity to demonstrate nuclear-produced hydrogen and would be the first of its kind in the New England region.²

² See Connecticut Public Utilities Regulatory Authority (PURA) Docket No. 21-08-08 for more information.

House Bill No. 5202, An Act Exempting Existing Nuclear Power Generating Facilities in the State from the Nuclear Power Facility Construction Moratorium

Dominion Energy supports House Bill No. 5202, which would allow the construction of new nuclear power facilities at any existing nuclear power station operating in the state.³ Dominion Energy supports the state's efforts to explore all options available, including advanced nuclear technologies like small modular reactors, to achieve its long-term decarbonization goals.

Dominion Energy has no plans to add small modular reactors to the Millstone site at this time, as their commercial viability is still many years away, but it supports Connecticut taking this first step to allow exploration of all forms of clean energy generation to see how they could contribute to the state's clean energy economy, today and in the future.

Carbon-free nuclear power plays a critical role in ensuring clean, reliable, and cost-effective electricity supplies in Connecticut and across the region. In addition to preserving existing nuclear power resources in the state, Connecticut should explore advanced nuclear technologies, like small modular reactors, which come with distinct advantages, including a small physical footprint, lower capital investment given their modular design, and greater scalability. Additional system benefits include fuel diversity, reliable and dispatchable generation, and greater flexibility compared to traditional nuclear reactors. Dominion Energy has invested in advanced nuclear technologies, including GE Hitachi's small modular reactor design, to help advance research and development of small modular reactors, as these technologies could play a critical role in achieving deep decarbonization in the decades to come.

House Bill No. 5202 would allow construction of new nuclear technologies at existing nuclear power station sites, where existing safety and security infrastructure could be leveraged. Like all nuclear power stations in this country, Millstone was designed and built and is operated and guarded with multiple, redundant layers of safety and security. Its security forces are highly trained and routinely drilled to ensure their readiness. Its emergency preparedness program is highly coordinated and rigorously tested, involving multiple station personnel, as well as local, state, and federal agencies to ensure an integrated and effective response to any emergency. This is the decades-long safety culture in which any new technology would be introduced.

Conclusion

Dominion Energy supports House Bill No. 5200 and House Bill No. 5202 to give Connecticut the ability to explore all options available, including clean hydrogen and advanced nuclear, to achieve the state's decarbonization goals.

³ <https://www.cga.ct.gov/2022/TOB/H/PDF/2022HB-05202-R00-HB.PDF>