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TESTIMONY BEFORE THE ENERGY, UTILITIES AND TECHNOLOGY COMMITTEE

An Act to Include Nuclear Power in the State's Renewable Portfolio Standard L.D. 342

**GOVERNOR'S ENERGY OFFICE
February 13, 2024**

Senator Lawrence, Representative Sachs, and Members of the Joint Standing Committee on Energy, Utilities and Technology (EUT): My name is Caroline Colan, and I am the Legislative Liaison for the Governor's Energy Office (GEO).

The GEO testifies in opposition to L.D. 342.

Nuclear power is an important resource in New England's energy generation portfolio. In 2024, 24 percent of electricity produced by generators in New England or imported from other regions to satisfy residential, commercial, and industrial customer demand came from the region's two nuclear power generators: Millstone in Connecticut and Seabrook in New Hampshire.¹ We recognize that these zero-carbon-emitting facilities are critical components of the region's reliable, clean power supply, particularly on the coldest days of the year when natural gas supply is constrained and renewable energy supply can be limited by weather or water conditions.

As Maine electrifies transportation and buildings to meet its statutorily required emissions reduction goals, electricity demand in the state will continue to grow. As it does, it will be essential to decarbonize the supply of electricity. To date, at the direction of the Maine Legislature, the state has taken several steps to add clean electricity resources through renewable energy procurements and its commitments to offshore wind and the Northern Maine Renewable Energy Development Program. The Technical Report that informs the recent Maine Energy Plan demonstrates that Maine's planned and contracted resources, on top of the renewable resources it is currently utilizing, will meet most of Maine's clean electricity needs by 2040, but additional renewable resources as well as clean resources that don't currently qualify under the state's Renewable Portfolio Standards (RPS) are likely needed.

Maine's RPS requirements define renewable resources to include solar, wind, geothermal, tidal power, fuel cells, hydroelectric generators that meet all state and federal fish passage requirements, biomass generators, including generators fueled by wood products and landfill gas, and municipal solid waste. While GEO does not agree that we should define nuclear as a renewable resource for the state's RPS under state law as proposed by L.D. 342, we do recognize the potential for nuclear to contribute to the state's goals, and have worked with Senator Lawrence on a legislative proposal that will come before this Committee later this session to define a set of clean resources and a Clean Energy Standard to complement our existing renewable portfolio standard which could incorporate nuclear generation.

¹ <https://www.iso-ne.com/about/key-stats/resource-mix>

Other jurisdictions including several in New England and across the country have adopted “clean energy standards” that accept technologies that have zero- or low-emissions but may not be renewable. Each state has different requirements, based on resource availability and priorities. Despite the variations in technology eligibility across states, clean resources generally include most renewables plus other resources such as zero- or very-low-carbon thermal generation and nuclear. We look forward to having that conversation with the committee soon.

As we have a broader conversation about the role of nuclear power generation in Maine’s energy portfolio, we observe several existing challenges facing existing nuclear, new large nuclear, and emerging small nuclear reactor modules.

The nation’s existing nuclear fleet is aging, with the average age of U.S. reactors being about 42 years old.² Many are also facing economic challenges that have driven closures and retirements. Since the end of 2017, nearly 4,800 MW of nuclear generating capacity have retired in the U.S. and an additional 3,000 MW are scheduled to retire in 2024 and 2025.³

The newest nuclear power plant built in the U.S., Vogtle located in Georgia, is now operating, but faced challenges that drew construction out over more than a decade and more than doubled the expected cost of the project to more than \$30 billion.⁴

There has been growing interest in new advanced nuclear and small modular nuclear reactors (SMR) which could offer greater siting flexibility and improved security compared to larger nuclear plants, but the technology remains nascent. To date only one SMR design has received approval from the Nuclear Regulatory Commission. This design, however has also faced some setbacks, canceling its first expected deployment set for Idaho Falls, Idaho with a power purchase agreement with Utah Associated Municipal Power Systems.⁵

In Maine, several additional barriers exist regarding nuclear power generation. Since 1985, state law has required the construction of any new nuclear reactor in Maine to first be approved by a public referendum. Ongoing challenges regarding long-term management of existing spent nuclear fuel remaining in Maine in addition to a challenging pathway for the permitting, siting, and approval of new facilities and the storage of their waste products also persist in the state.

For these reasons, from GEO’s perspective, the proposal before us today is unlikely to spur the addition of new nuclear power that could competitively meet the state’s RPS requirements in the near term. However, we look forward to discussing further with this committee, through the addition of a clean energy standard, how we might create a mechanism to support the maintenance of the region’s existing nuclear power capacity and other clean, firm resources critical to Maine and the region’s goals. As part of this discussion, we are certainly willing to discuss how a CES could provide the flexibility for new nuclear facilities and other emerging clean technologies built in the region to contribute to our goals should they become cost-competitive and other factors such as waste, permitting, and regulatory challenges are addressed.



Caroline Colan, Legislative Liaison
Governor’s Energy Office

² <https://www.eia.gov/energyexplained/nuclear/us-nuclear-industry.php>

³

<https://www.eia.gov/todayinenergy/detail.php?id=51978#:~:text=Three%20more%20reactors%20with%20a,2024%20and%20on%20in%202025.>

⁴ <https://www.eia.gov/todayinenergy/detail.php?id=61963>

⁵ <https://inl.gov/trending-topics/carbon-free-power-project/>