

WRITTEN TESTIMONY OF EXELON GENERATION COMPANY – SB926/HB1425

Exelon Generation Company, LLC (“ExGen”) appreciates the opportunity to provide written comments in response to Senate Bill 926/House Bill 1425, which would, among other things, increase the greenhouse gas emissions reductions that Maryland must achieve by 2030 and require the Department of the Environment to adopt a final plan that reduces statewide greenhouse gas emissions by 60% by 2030 while setting the State on a path toward achieving net-zero statewide greenhouse gas emissions by 2045. As Maryland’s largest generator of clean and renewable power, ExGen concurs with the ambitious carbon emission reduction goals set forth in SB 926/HB 1425. However, ExGen would like to highlight the need to recognize that existing nuclear units provide carbon-free power essential to meeting Maryland’s *existing* clean electricity goals and, indeed, any expansion of those goals like those contemplated in this bill.

These comments focus on a central flaw in Maryland’s existing energy policy and planning, which is that achieving Maryland’s aggressive goals hinges on the assumption that the state’s largest source of carbon-free electricity, the Calvert Cliffs Nuclear Power Plant (“Calvert Cliffs”), will continue to operate through 2030 and beyond to 2050. This is not a safe assumption upon which to build long term energy policy, as the continued operation of Calvert Cliffs through 2040 will require significant investment by ExGen, which it would not make unless it had confidence that Calvert Cliffs will earn compensation sufficient to cover its ongoing costs and risks of operation.

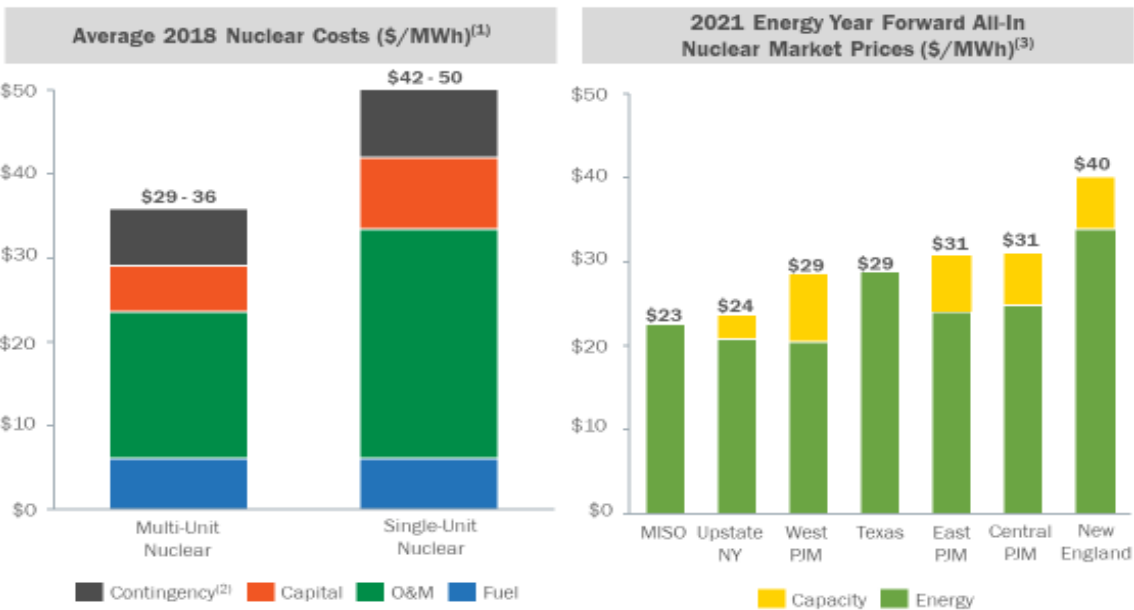
Maryland cannot take for granted that Calvert Cliffs will continue to operate and serve as a pillar of greenhouse gas (“GHG”) reduction in Maryland through the remainder of this decade, let alone 2050. In short, the long planning horizon featured in this legislation warrants a more fulsome analysis that accounts for the possibility of the early retirement of Calvert Cliffs. It is fair to say that without the continued existence of nuclear power, Maryland’s goals would not be attainable without exorbitant cost, particularly if they are expanded even further.

It is well demonstrated that the current energy market environment is leading to premature retirements of nuclear plants throughout the US.¹ This is based on a continued lack of demand growth, decreases in the price of natural gas, and further gas overbuild. Calvert Cliffs faces the same economic headwinds with forward market revenues falling short of covering its costs plus risk of continued operation. A primary challenge for plants like Calvert Cliffs is that they participate in organized wholesale markets that do not value the environmental attribute of zero emission generation, which instead provide a competitive advantage to emitting generators that can pollute for free. The continued operation of Calvert Cliffs through 2040 will require ExGen to have confidence that revenues available will cover the costs and risks of operation of the plant. Under current and projected future market conditions, that will not happen.

The following depicts the economics of a generic nuclear plant in PJM and the other organized wholesale electricity markets:

¹ See PPRP Nuclear Report, Table 1-1 and Table 1-2 showing announced closures and closures since 2013.

Merchant nuclear plants in all regions of the country face a shortfall of market revenues relative to costs



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ExGen recently filed comments expressing this same concern with the currently proposed GGRA Draft Plan under consideration. Specifically, ExGen shared that despite the fact that many nuclear plants have retired prematurely due to economic challenges, no sensitivities in the Draft Plan were performed with Calvert Cliffs retiring prior to the end of its current license life. Instead, every case except for one assumes that Calvert Cliffs operates well beyond its current license life.

In the Calvert Cliffs retirement scenario (at current license expiration dates) contemplated in the appendix of the Draft Plan, the model shows that Maryland's Policy Scenario 4 misses its GHG reduction targets by an additional 6.7 million metric tons in 2040 and by an additional 7.4 million metric tons in 2050. For context, that exceeds the 6.2 – 6.4 mmt combined annual emission reductions from Maryland's participation in the RGGI program through 2020 (3.6 mmt), enhanced forestry management (1.8 mmt), and all potential measures for sequestration in agricultural soils (0.75-1.0 mmt annually).¹³ If Calvert Cliffs were to retire prior to 2030, Maryland would miss its 2030 goal by more than 3.0 mmt in 2030 alone. To provide policymakers with a more accurate and robust forward outlook, ExGen recommends including this Calvert Cliffs retirement scenario in future planning and modeling as well as scenarios with Calvert Cliffs retiring in advance of the expiration of its respective licenses.

ExGen will continue to support policies that preserve and expand all the state's hydro, solar, wind and other sources of carbon-free energy, but these policies and the corresponding state-planning and modeling must also recognize and ultimately secure Calvert Cliff's foundational role in Maryland's clean energy future. Preserving Calvert Cliffs Nuclear Power Plant, which produces 80 percent of Maryland's carbon-free power, is essential to achieving Maryland's clean energy and greenhouse reduction goals with the lowest customer impact. ExGen appreciates the opportunity to provide testimony. ExGen commits to continued participation in the development

of Maryland's long-term approach to achieving meaningful green-house gas reductions and addressing climate change.

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Appendix - Calvert Cliffs Contribution to Maryland

In 2018, nuclear power accounted for 34 percent of the total power generated in the state while renewable energy generation represented about 10 percent of the mix. Maryland's only nuclear power plant, the dual-unit Calvert Cliffs plant, generated 80% of the zero-carbon electric power in Maryland, making it by far the state's largest zero-carbon resource. Calvert Cliffs is also a major contributor to economic growth for Maryland's local communities. In a 2015 report, The Brattle Group evaluated the contribution that Calvert Cliffs, the only nuclear plant in Maryland, makes to the State's economy. Brattle considered how the plant affects electricity markets and prices, as well as in-state production activity, and studied the ramifications of these factors throughout the Maryland's economy. Brattle's analysis showed that during the ten-year period spanning 2015–2024, the operations of Calvert Cliffs in Maryland would:

- Contribute approximately \$397 million annually to state gross domestic product;
- Account for 2,300 in-state jobs (direct and secondary);
- Help keep electricity prices low – without the plant, Maryland consumers would pay \$40 million more for electricity annually, and about \$340 million more in present value over the next ten years;
- Fund \$15 million in state tax revenues annually;
- Avoid 9.1 million metric tons of CO₂ emissions annually, valued at \$392 million per year; and,
- Avoid significant amounts of other air pollutants annually, valued at \$129 million per year.

In addition to Calvert Cliffs, conventional hydroelectric power (predominantly Conowingo) accounted for 15% of the zero-carbon electric power in Maryland, representing the state's largest carbon-free renewable electric power source. Wind and solar (both solar thermal and photovoltaic) were 3% and 2% of Maryland's in-state carbon-free power, respectively.