

WRITTEN TESTIMONY OF EXELON GENERATION COMPANY - SB265

Exelon Generation Company, LLC (“ExGen”) appreciates the opportunity to provide written comments in response to Senate Bill 265 and House Bill 363, which would adopt a Clean and Renewable Energy Standard (“CARES”) to achieve 100% clean energy in Maryland by 2040. As Maryland’s largest generator of clean and renewable power, ExGen agrees with Governor Hogan’s ambitious goal to achieve 100 percent clean energy by 2040. ExGen also commends Governor Hogan and the staff involved with crafting CARES in a way that recognizes “the baseload, greenhouse gas-free, and carbon-free production of electricity provided by nuclear generation assets” and that existing nuclear energy facilities provide carbon-free power essential to meeting Maryland’s clean electricity goals. In doing so, the CARES proposal represents an important shift in Maryland’s broader energy policy discussion. However, CARES does not effectively translate the recognition of that value into a mechanism to retain it for the state. CARES does not allow existing nuclear generation to qualify for a credit even though it is providing the same carbon-free attribute to Maryland that is provided by other clean energy resources that do receive a credit. By counting the carbon-free output of existing nuclear generation towards Maryland’s 100% clean target, but denying a credit, CARES essentially takes for granted that Maryland’s largest source of carbon-free electricity, the Calvert Cliffs Nuclear Power Plant (“Calvert Cliffs”), will continue to provide 15 million mega-watt hours per year of carbon-free electricity through 2040. 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.

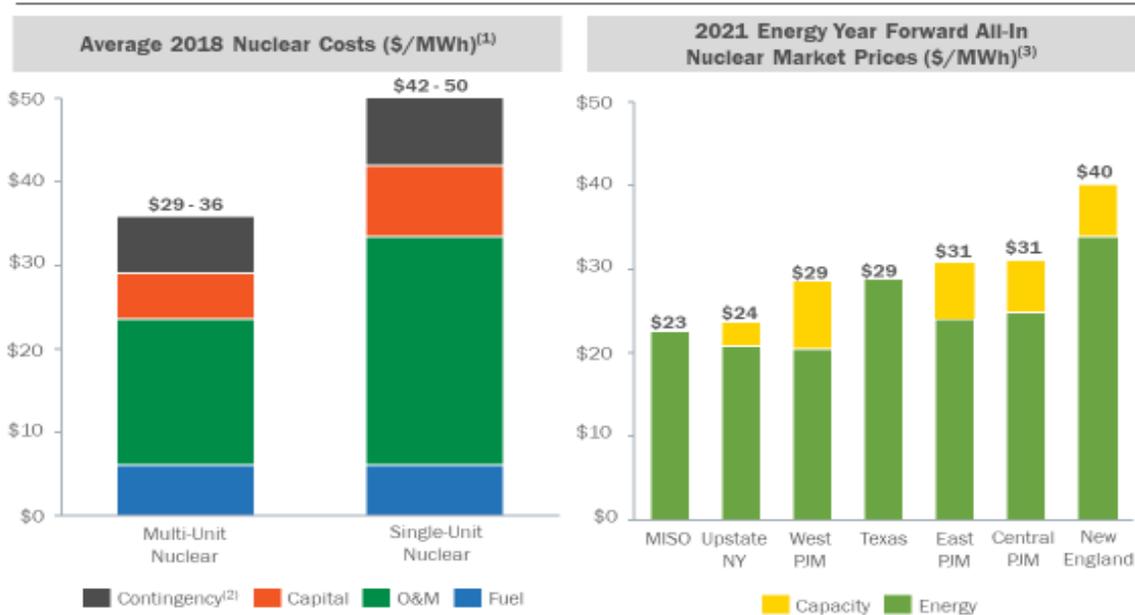
It is well demonstrated that the current energy market environment is leading to premature retirements of nuclear plants throughout the US.¹ This is based on a continued lack of demand growth, decreases in the price of natural gas, and further gas overbuild. Calvert Cliffs faces the same economic headwinds 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

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

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:

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



(1) Source: Nuclear Energy Institute, "Nuclear by the Numbers," March 2019
 (2) Contingency (or risk) is calculated as 10% of total costs plus \$4/MWh
 (3) Based on 1/31/20 ICE forward energy prices from 6/2021 through 5/2022 for relevant hub less 2017-2019 average basis differential to nuclear plants



It would cost consumers significantly less if the CARES proposal were modified to allow existing nuclear generation to qualify for a credit. Because the current proposal reduces annual CARES targets by the actual annual generation from Maryland nuclear facilities, if Maryland's nuclear facilities are no longer operating, the number of credits that will need to be procured from other sources of clean generation will go up dramatically. In fact, with an annual output of roughly 15 million megawatt hours per year, a Calvert Cliffs retirement could increase customer costs under CARES by as much as \$400 million/year.² So continued operation of Calvert is very

² The CARES cost impact of the increased targets due to the lost nuclear output could be as much as \$27.5/MWH (2024 ACP) x 15 TWH = \$412 million per year declining to \$22.35 (2030 ACP) x 15 TWH = \$335 million per year.

valuable to customers, because the lost output must be replaced by Tier 1. Therefore, Calvert MWhs are equal in value to Tier 1 RECs to customers. Preserving existing carbon-free resources, in particular Maryland's most abundant sources of carbon-free energy, is just as important as promoting the growth of new clean energy resources and can certainly be done at a far lower customer impact.

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 must also 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 goals. ExGen appreciates the Hogan administration's work on the CARES proposal and 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.

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.