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Pennsylvania Senate Consumer Protection and Professional Licensure Committee

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Good morning Chairman Tomlinson, Chairman Boscola, and distinguished Members of the Committee. My name is Kathleen Barrón, Senior Vice President of Government and Regulatory Affairs and Public Policy for Exelon, and I am here today on behalf of the nuclear generating facilities in the Commonwealth of Pennsylvania.

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Nuclear power forms the backbone of Pennsylvania's electric generation fleet and its energy economy. Pennsylvania is the second-largest nuclear capacity state in the country with nine nuclear reactors at five different facilities, employing 16,000 Pennsylvanians, contributing \$2 billion to the Pennsylvania GDP annually, and paying nearly \$70 million in annual state and local taxes.

Nuclear power is safe, reliable, and clean. Nuclear facilities operate at close to 100% capacity, 24 hours a day, with planned refueling outages occurring only every eighteen to twenty-four months. They avoid fuel supply issues faced by most other generating sources—such as disruptions in the natural gas pipeline network, frozen coal stockpiles, and weather conditions that prevent renewable energy production—that can threaten the reliability of the power grid. And, importantly, the production of electricity using nuclear fission technology produces no air pollution and releases no carbon dioxide emissions.

Two of Pennsylvania's five nuclear plants have announced plans to shut down. Three Mile Island (TMI) will shut down in September 2019, and Beaver Valley will shut down in 2021 - both well before their current operating licenses are set to expire. Once these plants shut down, they will not be brought back into operation. These two plants are the latest examples of the

premature retirements that are occurring across the country, but they are not the last. Policy flaws have put much of the domestic nuclear fleet on the same trajectory.

What are those policy flaws? Pennsylvania participates in a wholesale market called PJM, which is regulated by FERC. That market decides what power is used in Pennsylvania, using rules that decide for you what power your customers receive and what price they pay for it. That market does not consider whether the power plant contributes to harmful air quality that has left seven counties in the state exceeding air pollution limits. It doesn't account for whether the power plant adds carbon pollution to the air. It doesn't take into account whether the plant has a reliable source of fuel on site. All it does is pick the power that is cheapest for the next five-minute increment. It doesn't think about what generation mix will be most cost-effective for customers over the long term.

Against the backdrop of that federal market, many states, including Pennsylvania, have stepped in to promote a cleaner and more diverse generation fleet. In 2004, Pennsylvania enacted the Alternative Energy Portfolio Standards Act, or AEPS, which provides financial support for 16 forms of clean energy, including wind, solar, and hydroelectric power. But nuclear resources, despite being the state's largest source of clean energy by far, are not eligible for the program.

You will hear opponents claim that we should all "play by the rules" but let me offer some perspective on that. When the rules allow you to pollute for free, not show up when customers need the power, and get paid the same as power plants that don't pollute and run 24/7, of course you like the rules. Fossil generators have the luxury of having the costs of their pollution borne by society so they do not have to factor those costs into their market offers. This means that a market offer from a fossil generator appears artificially lower than it should be, because the cost of emissions is not factored in, which makes non-emitting generators appear more expensive even though they aren't. AEPS and RPS standards across the country are explicitly designed to correct that problem by providing extra compensation to power sources that have the characteristics sought by policymakers – whether based on their emission profile or their diversity or something else.

Senate Bill 510 is no different. It seeks to correct the problem faced by nuclear generators who are "competing," on the one hand, with polluting resources that do not bear the cost of their

emissions and on the other hand with 16 other types of resources that receive financial compensation from customers for their clean characteristics. The result of this unlevel playing field is unsurprising. Nuclear facilities here and elsewhere in the country are struggling to stay open in markets that are skewed against them and are facing the prospect of premature retirement.

The impact of losing the state's nuclear facilities cannot be overstated. Nuclear power represents 93% of the Commonwealth's zero-carbon electricity. TMI alone produces more zero-carbon megawatts than all of the wind and solar plants that have been built to date in Pennsylvania. The Commonwealth's nuclear plants avoid 37 million tons of CO<sub>2</sub> annually and prevent significant emissions of criteria pollutants like sulfur dioxide, nitrogen oxide, and particulate matter. Independent experts value these contributions at \$1.6 billion and \$260 million, respectively, per year. If these facilities are lost, they will be replaced primarily by natural gas-fired generators—not wind and solar. Carbon and other harmful emissions will increase. Grid resilience will deteriorate. And costs to consumers will go up—by \$788 million per year, according to the Brattle Group.

The proposed legislation will temporarily avert this outcome and give the federal government and PJM time to work on a permanent solution. It would amend the Pennsylvania AEPS to create a new Tier III AEPS credit program open to nuclear power to go along with the existing Tier I and Tier II AEPS credit programs. This new tier will put clean and dependable nuclear power on equal footing with other clean energy resources in the state. One Tier III credit would be earned for each megawatt-hour of electricity produced by a qualifying resource, and Pennsylvania's electric utilities would be required to purchase these credits from qualifying facilities, as they currently do for wind, solar, waste energy, hydro, and other environmentally beneficial technologies. The Tier III credit price would be tied to the Tier I AEPS credit price but would contain both a floor and a ceiling to provide pricing stability and to protect consumers. In other words, nuclear will get the same credit as Tier I renewables, but unlike Tier I renewables, the Tier III credit price will never go above \$8 per megawatt hour.

As Pennsylvania and the country transition to a cleaner energy future, it is a mistake to overlook the importance of highly resilient, secure and 100% clean nuclear power. Many scientists now

agree that no other energy source can provide around-the-clock, carbon-free power on the scale necessary to meet the climate challenges we face, and Pennsylvanians think the same. According to a recent Franklin and Marshall College poll, two-thirds of Pennsylvania voters think the state should be doing more to address climate change. Just last week, the experts at Harper Polling here in Harrisburg conducted a statewide poll of 500 likely voters. The survey found that not only do 63% have a favorable opinion of nuclear power, 72% said they would be more likely to vote for a state legislator who fights in Harrisburg to keep nuclear power plants open. And more to the point of SB 510, when asked if they would favor a proposal being considered which would add nuclear energy to Pennsylvania's AEPS, giving nuclear energy many of the same incentives as wind, solar, and hydroelectric and would help keep electricity prices in check, 75% said they're in favor.

Let me pause on one additional number before I close. Opponents will tell you that if you add up Tier I, Tier II and the new Tier III, that this bill takes 68% of the market away from fossil generators. That's just wrong. When you hear that number, I ask you to remember what I said about how the market works. This bill and the AEPS allow clean generators to earn credits for the clean energy output. Earning that credit during hours they run partially makes up for the flaw in the market that allows fossil generators to pollute for free. 100% of the generation in Pennsylvania can continue to sell 100% of its output into the electricity market. But this bill starts to level the playing field so there can finally be real competition among resources in that market.

In closing, shutting down these facilities will increase your constituents' electric bill, lead to a generation portfolio that is dangerously dominated by a single fuel source, eliminate any possibility of achieving the Commonwealth's environmental goals, eliminate 16,000 highly-skilled jobs and represent a loss of economic vitality for many of our communities. I encourage you to support Senate Bill 510 and avoid that outcome.

Thank you for your time and attention.