

February 12, 2021

VIA ELECTRONIC MAIL

Ms. Aida Camacho-Welch
Secretary of the Board
New Jersey Board of Public Utilities
44 South Clinton Avenue
Trenton, NJ 08625
board.secretary@bpu.nj.gov
zec.comments@bpu.nj.gov

Re: Comments for the Record of Maria Korsnick, Nuclear Energy Institute

**BPU Docket No. ER20080557 Application of PSEG Nuclear, LLC and Exelon
Generation Company, LLC for the Zero Emission Certificate Program Salem Unit 1**
**BPU Docket No. ER20080558 Application of PSEG Nuclear, LLC and Exelon
Generation Company, LLC for the Zero Emission Certificate Program Salem Unit 2**
**BPU Docket No. ER 20080559 Application of PSEG Nuclear, LLC and Exelon
Generation Company, LLC for the Zero Emission Certificate Program Hope Creek**

Dear Secretary Camacho-Welch,

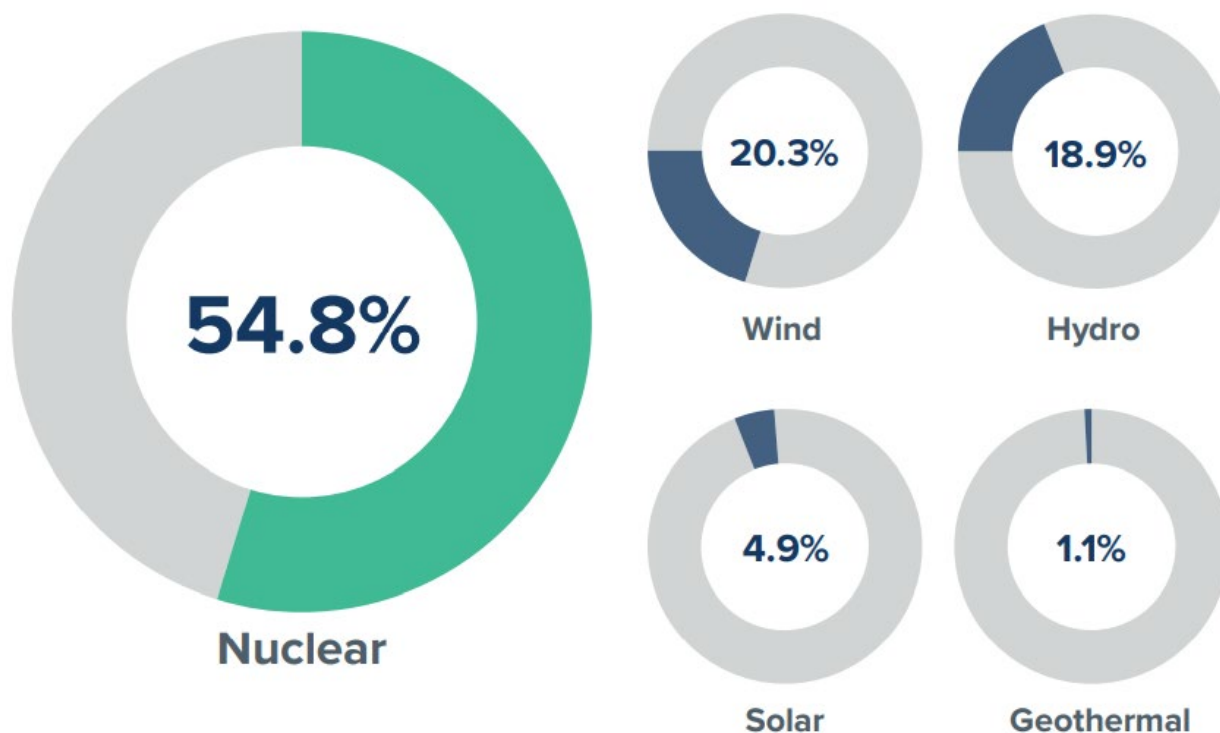
Thank you for the opportunity to share my perspective via written testimony. I am proud to represent the nuclear industry and excited about the role nuclear energy plays in New Jersey and the nation. I am grateful for the opportunity to address to the Board and the BPU staff to highlight the importance and the need for the Zero Emissions Certificate (ZEC) program that supports the largest source of carbon-free electricity in New Jersey.

Nationally, the need to transition to a low carbon energy system is moving to the forefront of policymaking, and the need for nuclear energy to work alongside wind and solar to produce carbon-free electricity is being increasingly appreciated. But this appreciation has not yet translated into market signals that value carbon-free energy. Without policies that recognize the role of carbon-free nuclear energy, these plants face a difficult future.

Fortunately, New Jersey has been a leader on these issues. The state has ambitious carbon reduction goals set out in the Governor's Energy Master Plan. As its leaders were charting a path to reaching those goals, they appreciated the massive head start that the Salem and Hope Creek plants provided. These plants, however, are operating in a wholesale market that was not designed to care about carbon emissions. New Jersey had the wisdom to pass and implement a

ZEC program that ensures that the carbon-free attribute of this electricity would be considered in decisions about the future of these plants.

The ZEC program provided time for the broader policy conversation to catch up to what New Jersey already figured out – nuclear energy provides a strong carbon-free foundation that can work with offshore wind and solar to create the energy future that we need. While the dialogue around the role of nuclear in a decarbonizing economy has evolved, the policies that would provide the clear, long-term signal valuing nuclear’s carbon-free electricity are still lagging. ZECs are still a vital tool to ensure that these massive sources of clean power are not lost, while we try to sort out the policy framework to guide us toward a low-carbon economy. Unlike other facilities, nuclear power plants cannot be mothballed and later returned to service. Once a nuclear plant closes, it is gone for good.



Source: U.S. Energy Information Administration.

Updated: March 2020

FIGURE 1 - 2019 U.S. CARBON-FREE ELECTRICITY FUEL SHARES

The ZEC program is so important because the market for electricity is so difficult right now. Fracking has unleashed a wave of cheap fossil fuels. Commercial and industrial demand have decreased. Wholesale power prices today are lower than they were three years ago.

Although there are conversations about how the market could be redesigned to address carbon emissions, those are likely a long way from bearing fruit. PJM includes states that have a

different vision of the energy future than the one New Jersey has laid out. Further, FERC’s minimum offer price rule makes it more difficult for state energy priorities to be accommodated in the regional market. The vision of having greater alignment between energy markets and environmental protection is a noble one, but much more work will be needed to see it realized.

PLANT/SITE	STATE	SUMMER CAPACITY (MWe)	CLOSURE YEAR	FINAL YEAR ELECTRICITY GENERATED (billion kilowatt-hours/year)	FINAL YEAR CARBON EMISSIONS AVOIDED (million metric tons/year)
Crystal River 3	FL	838	2013	7.0	4.8
San Onofre 2 & 3	CA	2,150	2013	18.1	8.0
Kewaunee	WI	566	2013	4.5	4.4
Vermont Yankee	VT	604	2014	5.1	2.5
Fort Calhoun	NE	478	2016	3.5	3.4
Oyster Creek 1	NJ	608	2018	5.4	3.9
Pilgrim 1	MA	679	2019	4.4	2.0
Three Mile Island 1	PA	803	2019	7.3	5.0
Indian Point 2	NY	1,016	2020	8.4	3.9
Duane Arnold	IA	601	2020	5.2	4.7
TOTAL		8,343		69.0	42.7

Source: Emissions avoided are calculated using regional and national fossil fuel emissions rates from the U.S. Environmental Protection Agency and latest plant generation and average household electricity usage data from the U.S. Energy Information Administration.

Updated: August 2020

FIGURE 2 - PREMATURELY RETIRED NUCLEAR PLANTS

The challenges to nuclear energy realizing its potential in a carbon-free portfolio are not confined to New Jersey. In recent years, eleven nuclear units across ten states have closed prematurely, including Three Mile Island in neighboring Pennsylvania. Because of these closures, the U.S. has lost over 7,000 highly-skilled and good-paying nuclear jobs in rural areas of the country. Another eight units in four states have announced their plans to close over the next few years.

Those eight units generate over 60 million megawatt-hours of carbon free electricity and avoid the emission of over 38 million metric tons of CO2 every year.

PLANT/SITE	STATE	SUMMER CAPACITY (MWe)	PLANNED CLOSURE YEAR	ELECTRICITY GENERATED IN 2019 (billion kilowatt-hours/year)	CARBON EMISSIONS AVOIDED IN 2019 (million metric tons/year)
Indian Point 3	NY	1,038	2021	8.3	3.9
Byron 1 & 2	IL	2,300	2021	20.1	12.8
Dresden 2 & 3	IL	1,797	2021	15.1	9.6
Palisades	MI	772	2022	6.9	5.4
Diablo Canyon 1 & 2	CA	2,240	2024	16.2	6.7
TOTAL		8,147		66.6	38.5

Source: Emissions avoided are calculated using regional and national fossil fuel emissions rates from the U.S. Environmental Protection Agency and latest plant generation data from the U.S. Energy Information Administration.

Updated: August 2020

FIGURE 3 - NUCLEAR POWER PLANTS ANNOUNCED FOR PREMATURE CLOSURE

During this same period six states have enacted policies to preserve the carbon-free electricity from nuclear plants. New Jersey has been at the forefront of these challenges and has acted by creating ZECs. The result has been the continuing operation of Salem and Hope Creek and the reliable generation of over 90 percent of the state’s carbon-free electricity.

PLANT/SITE	STATE	SUMMER CAPACITY (MWe)	INITIALLY ANNOUNCED CLOSURE YEAR	ELECTRICITY GENERATED IN 2019 (billion kilowatt-hours/year)	CARBON EMISSIONS AVOIDED IN 2019 (million metric tons/year)
Beaver Valley 1 & 2	PA	1,808	2021	15.5	9.9
Clinton	IL	1,065	2017	8.4	8.4
Davis-Besse	OH	894	2020	7.8	5.0
FitzPatrick	NY	848	2017	7.4	3.5
Ginna	NY	582	2017	5.0	2.4
Hope Creek and Salem 1 & 2	NJ	3,500	2020-2021	26.6	17.0
Millstone 2 & 3	CT	2,073	2020	16.7	7.6
Nine Mile Point 1 & 2	NY	1,917	2017-2018	15.8	7.5
Perry	OH	1,240	2020	9.2	5.9
Quad Cities 1 & 2	IL	1,819	2018	15.5	9.9
TOTAL		15,746		127.9	76.9

Source: Emissions avoided are calculated using regional and national fossil fuel emissions rates from the U.S. Environmental Protection Agency and latest plant generation data from the U.S. Energy Information Administration.

Updated: August 2020

FIGURE 4 - PLANTS SAVED FROM PREMATURE CLOSURE THROUGH STATE ACTION

The New Jersey plants are economic engines for their communities and the state. They provide baseload power that runs around the clock, every day, under all weather conditions, to provide reliable electricity to the state’s homes and businesses. Their continued operation keeps electricity prices low for the customers of New Jersey. The 2019 New Jersey Energy Master Plan notes the economic benefits of in-state generation, including nuclear. Like most nuclear plants in the country, Salem and Hope Creek are located in a rural area of the state and directly employ around 1,600 people. A nuclear plant provides tens of millions of dollars toward the local tax base, providing funding for schools, firehouses and police stations. Nationally, nuclear plant worker salaries are 36 percent higher than the average local salary.

Preserving our nuclear energy capacity is the right thing for consumers. Studies consistently show that the most consumer-friendly paths to a carbon-free future include nuclear. We simply cannot afford to go backward. The investments made in these nuclear plants have resulted in excellent performance across the nuclear fleet. The cost to generate nuclear electricity has fallen 32 percent since 2012—with improved safety performance.

YEAR	FUEL	CAPITAL	OPERATIONS	TOTAL GENERATING
2002	\$6.18	\$4.23	\$20.08	\$30.50
2004	\$5.70	\$6.10	\$20.02	\$31.82
2007	\$5.54	\$6.61	\$20.59	\$32.73
2010	\$7.29	\$10.09	\$22.46	\$39.83
2011	\$7.64	\$11.02	\$23.81	\$42.47
2012	\$7.97	\$12.19	\$24.41	\$44.57
2015	\$7.37	\$8.60	\$22.49	\$38.45
2016	\$7.16	\$7.18	\$21.76	\$36.11
2017	\$6.71	\$6.92	\$21.39	\$35.03
2018	\$6.47	\$6.32	\$20.12	\$32.91
2019	\$6.15	\$5.71	\$18.55	\$30.41
2018-2019	-4.9%	-9.6%	-7.8%	-7.6%
2012-2019	-22.7%	-53.1%	-24.0%	-31.8%

Total generating cost is the sum of the fuel, capital expenditure and operations costs. The intent of the cost data, collected by EUCG, is to perform benchmarking comparisons on operation and maintenance and capital costs among nuclear power plant operators. The cost data does not represent the full costs of operations as it does not include market and operational risk management (including but not limited to revenue uncertainty, equipment malfunctions, regulatory changes), property taxes, spent fuel storage costs, or returns on investment that would be key factors in decisions about whether to continue operating a particular station. Also not included in the EUCG data are costs that could be relevant for other considerations such as depreciation or interest costs.

Source: Electric Utility Cost Group.


Updated: July 2020

FIGURE 5 - U.S. NUCLEAR INDUSTRY TOTAL GENERATING COST TRENDS

And the role of nuclear must continue as New Jersey pursues the ambitious actions outlined in the Energy Master Plan. To achieve deep decarbonization, large sectors like transportation will have to be rapidly electrified. Nuclear energy ensures that electric vehicles run on emission-free energy to serve as a truly clean alternative. Increased electrification will need a concert of nuclear energy, wind and solar working together to meet the economic needs of New Jersey.

During a period when the federal government and regional markets have been unable to find consensus, states like New Jersey have been leaders by preserving a role for nuclear energy to create a carbon-free electricity portfolio alongside wind and solar. As the Board looks to the next three years, you have the ability to ensure that the ZECs continue to provide an unambiguous signal of the importance of New Jersey's clean energy future and nuclear energy's irreplaceable role in reaching it.

Thank you,

A handwritten signature in black ink that reads "Maria Korsnick". The signature is written in a cursive, flowing style.

Maria Korsnick
President and Chief Executive Officer
Nuclear Energy Institute
1201 F Street NW Suite 1100
Washington, DC 20004
202.739.8187
mgk@nei.org