

December 12, 2022

**Via publicaccess.bpu.state.nj.us**

Carmen D. Diaz  
Acting Secretary of the Board  
44 South Clinton Ave., 1<sup>st</sup> Floor  
P.O. Box 350  
Trenton, NJ 08625-0350

**Re: Docket No. QO22080540; In the Matter of the New Jersey Energy Storage Incentive Program**

Dear Acting Secretary Diaz:

FuelCell Energy, Inc. submits these comments to the New Jersey Board of Public Utilities (“BPU” or “the Board”) in response to its Straw Proposal (“Straw”) on the New Jersey Energy Incentive Storage Program (“NJ SIP”). FuelCell Energy appreciates the opportunity to provide these comments and thanks the BPU for allowing stakeholders like FuelCell Energy to participate in the formative stages of this innovative program.

FuelCell Energy is proud to be among the companies that have been dedicated to clean energy innovations since our inception five decades ago. The company was founded in the United States in 1969, by two scientists devoted to pursuing technological innovations that address a wide variety of energy priorities through patent-protected U.S. innovations, compound combinations that produce and use energy in ways that are smarter and cleaner. It is important to note that the strength of FuelCell Energy’s technologies is that they can be combined in ways to achieve multiple objectives and to provide a myriad of energy and other direct community benefits, such as improved air quality.

As examples, our current product portfolio includes two dynamic electrochemical platforms: molten carbonate and solid oxide. The platforms are similar in many ways, but they also have unique capabilities. Importantly, both can support power generation and combined heat and power applications from a variety of fuels, including natural gas, biofuels, renewable natural gas, and pure hydrogen.

These fuel cells react fuel electrochemically, without combusting the fuel, which avoids harmful emissions produced by fuel combustion such as oxides of nitrogen, oxides of sulfur, and particulate emissions each of which directly impact the communities where those technologies are deployed. As you know, these are emissions that impact air quality in communities in real time versus climate change, which is also harmful but happens over decades. In the electrochemical process, fuel and air are reacted in separate chambers in the fuel cell stack. As a result, the reactions producing CO<sub>2</sub> happen before the fuel is mixed with air while the CO<sub>2</sub> remains concentrated and easy to remove. Both molten carbonate and solid oxide fuel cell systems can benefit from this unique feature, with modifications enabling the capture of system level CO<sub>2</sub> for use or sequestration before it is emitted into the air. FuelCell Energy’s molten carbonate fuel cell is unique in its ability to also capture

CO<sub>2</sub> from an external source, such as a power plant or an industrial boiler just to name a couple. Our solid oxide fuel cell can operate on pure hydrogen as a feedstock to produce electricity and other value streams, emitting zero CO<sub>2</sub>, which will become increasingly important as the uses of one hundred (100%) percent hydrogen for fuel, as an energy carrier, and energy store become more widely adopted. Hydrogen-based energy storage is the most practical and efficient long duration energy storage solution and the only zero carbon energy storage solution that largely avoids geopolitical risk since it is not solely dependent on mining. We recently announced the commercialization of our solid oxide electrolyzer that will produce hydrogen from power (electricity) and water, which is well suited to partner with renewable energy projects as firm capacity negating one of the most material downsides of intermittent renewable energy technologies, and as a generation source to fill hydrogen storage infrastructure.

At the outset, FuelCell Energy wishes to thank the BPU for the time, effort, expertise, and countless other resources it has dedicated to preparing the Straw and conducting the stakeholder proceeding. The NJ SIP in its current form is thorough, thoughtful, and tailored well to catalyzing the initial stages of New Jersey's transition to clean energy storage and meeting its 2030-goal of 2000 MW of energy storage. In particular, FuelCell Energy appreciates the BPU's broad definition for energy storage within the Straw, and agrees with the BPU that that this definition will allow many applications and technologies to be considered and included. FuelCell Energy also supports the Board's proposed definition of long-duration storage as any storage technology that is greater than 20 hours of storage.

The goals of the Straw are also well-framed, specifically the identification of the need to ensure that energy storage devices are deployed in a manner that decreases greenhouse gas emissions by tying operations to pay-for-performance metrics. The BPU's recognition that certain battery storage technologies can lead to an increase in GHG is just one of many examples that demonstrate the Board's careful crafting of the Straw to not only catalyze investment in New Jersey's clean energy storage market, but to also ensure that these investments effect meaningful change.

FuelCell Energy appreciates the BPU's recognition of the need for flexibility in adopting technical considerations that allow for promotion of new and emerging energy storage technologies that are cost-competitive with more established energy storage technologies. FuelCell Energy hopes that this focus continues to play a substantial role in the BPU's selection of participants. While the BPU's initial focus may be on commercially available technologies, we also encourage the BPU to keep in mind how rapidly storage technology is changing. In particular, we encourage the BPU to consider the potential role of hydrogen fuel cells in achieving the state's climate goals and welcome the opportunity to further discuss the benefits of hydrogen storage technologies with the Board.

In addition, because FuelCell Energy is based in Connecticut and has participated in the ConnectedSolutions program after which the Straw is modeled in part, FuelCell Energy has experienced the benefits of such a program and has also had the opportunity to identify potential areas for improvement. FuelCell Energy is glad to share its expertise with the Board, to the extent the Board is interested.

## Conclusion

At FuelCell Energy, we are particularly proud of our history as an energy technology innovator and we celebrate the women and men who have, for decades, been driven to create and share new technologies that produce multiple value streams for our customers worldwide. We are also proud to purchase the vast majority of our technical manufacturing equipment (i.e., the equipment we use daily that we have not invented) almost exclusively from U.S. based manufacturers across the country.

We thank you for the opportunity to submit these comments and appreciate your willingness to consider our recommendations. Should you need any additional information, please contact the undersigned using the information below.

Sincerely,

*Alexandrea Isaac*

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