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Draft 2019 New Jersey Energy Master Plan

Policy Vision to 2050

Comments of FuelCell Energy, Inc.

September 16, 2019

I. Introduction

FuelCell Energy, Inc. (FCE) wishes to take this opportunity to submit written comments in the stakeholder feedback process with respect to the Draft 2019 New Jersey Energy Master Plan (EMP) document, as solicited by the Board of Public Utilities (BPU) on June 10, 2019.

It should be noted that FCE has provided testimony and comments at Energy Master Plan stakeholder meetings related to the inclusion of fuel cells as a carbon-neutral, distributed energy resource, and on our products, value proposition, and contributions to grid resiliency, carbon reduction and air quality improvement. We (FCE) have also provided comments as to how fuel cells offer unique benefits that contribute to carbon reduction, resiliency and air quality that are not achievable via more traditional, intermittent, clean energy resources and they should be explicitly included in this Plan.

II. RESPONSES TO ENERGY MASTER PLAN QUESTIONS

Strategy 5: Modernize the Grid and Utility Infrastructure

19) How should New Jersey approach the modernization of the current utility model (e.g., decoupling or performance incentives, rate design, smart grid technology, demand response)

Create Resilience and Microgrids

Fuel cells have a proven record of providing reliable, consistent energy for sites in need of high-quality primary power such as data centers, hospitals, university

campuses, military bases, and other critical users, often displacing older, inefficient diesel backup generators.

With their islanding capability, fuel cells form the backbone of microgrids and our installations have seamlessly transitioned to microgrid mode when the grid has gone dark. We have such microgrids operating in many places – one example is a municipality in Woodbridge, Connecticut, where the fuel cell feeds the grid during normal operation, but during a grid outage will deliver power via underground feeders to police, fire, town hall, the high school and other critical municipal facilities, irrespective of weather conditions. We have many fuel cells at universities, including one at the University of Bridgeport, which serves as an emergency evacuation shelter for New York City due to its fuel cell-based microgrid.

FuelCell Energy is currently constructing a 7.4 MW fuel cell project at a U.S. Navy submarine base. The plant will be a cornerstone of a new micro-grid and will ensure the delivery of reliable, round-the-clock power to critical services, helping the Navy to adapt to the dynamic energy security challenges of the 21st century.

Support Front-of-the Meter DER for Grid Services and Support

Fuel cells also contribute to local infrastructure development providing extensions of gas service to underserved areas, deferring transmission and distribution investments and can be key element in "non-wires" planning. One example is the recent award of approximately 40MW of fuel cell projects on Long Island. LIPA was faced with a need for clean energy in a heavily constrained area with little available real estate. By strategically selecting three fuel cell projects totaling 40MW to connect at targeted substations, LIPA was able to avoid $78 million in transmission upgrades that would have otherwise been required to bring the necessary power to the local area. These projects were awarded via a feed-in tariff, with a power purchase agreement, thus resulting in zero capital outlay by the utility.

Value the Reduction of Criteria Air Pollutants with Carbon Reduction

These projects also reduce industrial and commercial ratepayer reliance on combustion-based diesel generators as sources of backup power, as fuel cell systems have built-in, always-on resiliency. As indicated in previous spoken testimony, FuelCell Energy respectfully suggests that the BPU include the value of

the reduction of criteria air pollutants in the development of a mechanism to compensated for the full value stack, due to the immediate positive impact on local, and often disadvantaged communities.

Furthermore, fuel cells emit negligible NOx, SOx and particulate pollutants. That is because in a fuel cell there is no combustion. Power is efficiently produced from fuel through a chemical reaction. While fuel cells do emit some carbon dioxide, it is only a fraction of the carbon dioxide emitted by traditional grid generators because of the inherent efficiency of direct power conversion without combustion. To the extent that the reduction of harmful criteria air pollutants – not just the reduction of carbon dioxide – is an important policy priority, FCE urges that the Energy Master Plan and New Jersey's programs place quantifiable value on their reduction in order to meaningfully advance those policies.

Fuel cell systems exemplify the carbon-neutral distributed energy attributes detailed throughout the Energy Master Plan (e.g. flexibility, reliability, resilience, security, and sustainability) of appropriately sized, modular, and decentralized resources– although compact, quiet, unobtrusive and easy to site, our installed fuel cells are robust industrial power plants with an average reliability rate in excess of 95%, that provide steady, reliable power through hurricanes, earthquakes, blizzards, and the California wildfires. Few decentralized energy resources can claim such robustness or reliability.

Address the Coordination of Statewide DER Permitting and Siting

We wish to stress that we support the recognition in the draft EMP to coordinate the permitting and siting process between multiple agencies and jurisdictions, and FCE respectfully suggests that New Jersey make note of Connecticut's siting model, which places exclusive jurisdiction for siting of all energy and telecommunications infrastructure in one statewide agency (the Siting Council), whose members are appointed by a diverse range of stakeholders. This single agency is then able to balance infrastructure needs and environmental justice concerns while avoiding typical NIMBY ("Not in My Backyard") and BANANA ("Build absolutely nothing anywhere near anything") outcomes.

Strategy 7: Expand the Clean Energy Innovation Economy

26) What industry sectors or job occupations are expected to see growth? Which industry sectors and job occupations are expected to need job training support to ensure an appropriate workforce is

available to meet the needs of a growing economy?

27) What industry sectors or job occupations are expected to stagnate as we get closer to 2050 and beyond, and what retraining tools and strategies can the state use to support transferable skills to new industries?

28) What are best practices, financial tools, and financial infrastructure that New Jersey should consider in supporting the clean energy economy, attracting private investment, and enabling clean energy opportunities to become more affordable for all?

The Energy Master Plan also calls for distributed energy resources to support the economy and increase local jobs, encourage private sector investment, accelerate clean power production, and improve resiliency. FCE respectfully suggests that it is most cost-effective for ratepayers to turn to the benefits of new infrastructure in the pursuit of these important policy goals when such projects deliver the multifaceted value proposition of fuel cells: improved resiliency, reliability, cleaner air, tax revenue, and ease-of-siting, all in a cost-effective manner.

Indeed, fuel cells are easily sited in urban areas and our projects contribute to the remediation and restoration to the tax rolls of brownfields, as well as reducing emissions that impact community air quality. Fuel cell projects can provide voltage stability and avoid the need for costly transmission and substation upgrades and are cost competitive to the grid.. The cost effectiveness of our fuel cell installations is greatly enhanced when thermal use, resiliency and reliability are included in the evaluation.

With respect to the integrity of the grid, we also wish to underscore that given their distributed status, round-the-clock security monitoring, compact design nature, and the absence of internal combustion activity fuel cells are inherently more secure than most any other mode of power generation available – particularly relative to the amount of power generated per area of development.

III. CONCLUSION

Thank you for your time and for your consideration of FuelCell Energy's comments; we look forward to contributing to New Jersey's pathway to clean energy and being part of New Jersey's Clean Energy Master Plan.

Very truly yours,

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S. Derek Phelps
Director, Market & Project Development