



State of New Jersey
DIVISION OF RATE COUNSEL
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CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

STEFANIE A. BRAND
Director

February 22, 2013

Via Overnight Delivery and Electronic Mail

Honorable Kristi Izzo, Secretary
New Jersey Board of Public Utilities
44 South Clinton Avenue, 9th Floor
P.O. Box 350
Trenton, New Jersey 08625-0350

**Re: Combined Heat and Power/Fuel Cell Working Group
January 31, 2013 Request for Comments**

Dear Secretary Izzo:

Enclosed please find an original and ten copies of the Comments submitted on behalf of the New Jersey Division of Rate Counsel ("Rate Counsel") in connection with the above-captioned matter. Copies of the comments are being provided to all parties on the e-service list by electronic mail and hard copies will be provided upon request to our office.

We are enclosing one additional copy of the comments. Please stamp and date the extra copy as "filed" and return it in our self-addressed stamped envelope.


Honorable Kristi Izzo, Secretary
February 22 , 2013
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Thank you for your consideration and assistance.

Respectfully submitted,

STEFANIE A. BRAND
Director, Division of Rate Counsel

By:


Kurt S. Lewandowski, Esq.
Assistant Deputy Rate Counsel

Encl.

c: OCE@bpu.state.nj.us
Michael Winka, BPU
Mona Mosser, BPU
Scott Hunter, BPU
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Marisa Slaten, DAG

Combined Heat and Power / Fuel Cell Working Group:

January 31 2013 Request for Comments

Comments of the New Jersey

Division of Rate Counsel

February 22, 2013

The Division of Rate Counsel (“Rate Counsel”) would like to thank the Office of Clean Energy (“the OCE”) for the opportunity to respond to questions raised in a request for comments distributed to the Combined Heat and Power (“CHP”)/Fuel Cell (“FC”) working group (“Working Group”) via email on January 31, 2013. Meetings of the working group were held on December 18, 2012 and January 30, 2013 to elicit discussion on several issues, including whether potential storm response measures associated with CHP/FC can and should be encouraged by the CHP/FC programs. Via the email notice dated January 31, 2013, the OCE requested comments on seven specific items of discussion resulting from the working group meeting:

1. Definition for critical facilities to be included in the next CHP solicitation;
2. Solicitation Tiers;
3. Pipeline of CHP-FC projects;
4. Other State activity;
5. Standby Tariffs and Gas Tariffs;
6. Strategic or Long range plan; and
7. Budget.¹

Rate Counsel submits the following general comments, followed by comments specifically addressing items 1, 2, 6 and 7. Rate Counsel does not address items 3 through 5.²

¹ In the request for comments, “Budget” was listed as a second item number 6.

² Item number 3 seeks information on projects in the “pipeline” from CHP/FC developers. Item 4 states that BPU Staff will seek information on activity in other states and/or participate in an interstate work group on distributed generation. Item 5 reserves standby tariff rates to another proceeding, and seeks gas tariff information from the gas distribution companies.

I. General Comments

Rate Counsel recognizes the important steps that the Board is taking to identify and address storm response issues. See I/M/O the Board's Review of the Utilities' Response to Hurricane Irene, Docket No. EO11090543 (Board Order, 1/23/2013) ("Hurricane Irene Order"). The restoration-related actions required by the Hurricane Irene Order were not focused on increased black start, microgrid concepts, or additional back-up generation assets. Furthermore, the discussion of comments found under the "Circuit Outages" subsection of the "Underlying Infrastructure Issues" (pages 41-43) portion of the Hurricane Irene Order does not address the potential for increased resiliency from increased amounts of self-generation assets. The Board noted that additional actions might be required after its review of Hurricane Sandy. See Hurricane Irene Order, p. 43. However, until EDC responses to the Hurricane Irene Order are received, and additional assessment of Hurricane Sandy needs are completed, the role that increased CHP/FC could play is unclear.

The Working Group discussions have for the most part presumed that CHP/FC should be a part of a long range storm response strategy. However, to Rate Counsel's knowledge, the problems that are motivating the OCE to consider changing CHP incentives and program structures have not been clearly articulated or prioritized. The OCE should first step back and identify or define the problems associated with the current state of storm response strategies that are not otherwise being addressed, e.g. through implementation of the Board's directions to the utilities in Docket No. EO11090543. Secondly, the OCE should identify and prioritize potential solutions to those unaddressed problems based on clearly defined criteria including cost effectiveness and with consideration of whether these potential solutions merit funding from the CEP or other sources.³ It is premature to discuss incentives for integrating capabilities such as black start or microgrids into distributed generation applications until there is a clear picture of the needs that these capabilities could address, and until it has been determined that these capabilities are the most

³ As presented at the December 18, 2012 CHP-FC Working Group meeting, the CEEEP is conducting a cost benefit analysis ("CBA") to look at emergency response policy options, apparently in connection with the Board's direction to analyze specific areas that continue to raise concerns and impact restoration efforts. (See p. 2, Board's Order in Docket No. EO11090543, January 23, 2013) The CBA will provide useful information, however this analysis has not been completed.

efficient, effective use of limited resources to address those needs. The OCE should also consider the larger context in which its programs operate. Rate Counsel notes, for example, that PJM's black start program is a tariffed service under the PJM Open Access Transmission Tariff ("OATT") and that costs are allocated system-wide in accordance with the relevant tariff schedules. Any consideration of proposed New Jersey Clean Energy Program ("CEP") incentives for black start capability must fully appreciate the regional context in which black start service is purchased and deployed by PJM. Distributed generation may play a role in improving electric system resiliency; however, it appears that the OCE's work plan has defined the solution first, which could result in an ineffective use of ratepayer funds.

II. Comments on Specific Items

Item 1. Definition for critical facilities to be included in the next CHP solicitation

"critical facility" means any hospital, police station, fire station, water treatment plant, sewage treatment plant, public shelter, or correctional facility any commercial area of a municipality, a municipal center as identified by the chief elected official of the municipality, or any other facility or area identified by DEPE as critical.

What should be added to or deleted from the definition? Should we have a public and private critical facilities definition?

Rate Counsel suggests that whether it is appropriate to fund CHP/FC for a certain class of critical facilities, and which facilities would be included in that class, are questions that should be answered by a group with greater responsibility in disaster response (e.g., Office of Emergency Management, State Police, etc.) than is currently represented in the CHP/FC working group. Moreover, specific storm-related needs should be considered relative to ongoing efforts, and a range of potential solutions to those unaddressed problems should be identified and prioritized based on clearly defined criteria. The emphasis on "critical facilities" seems to be driven by the belief that CHP/FC will allow critical facilities to stay up and running during major outages. Rate Counsel maintains that CHP or FC may not be the most effective application for the many critical facilities, and thus limiting consideration of solutions to CHP or FC is not appropriate.

To the extent that distributed generation or CHP/FC may have a role in keeping critical facilities up and running, priority should be limited to facilities that have some kind of urgent necessity to keep running. The definition of “critical facility” put forth by OCE is too broad to be used to qualify CHP/FC projects for enhanced incentives. Specifically, including “any commercial area of a municipality” in the definition of critical facility would qualify a large portion of load in the state. The definition of “critical facility” should more strictly identify the infrastructure that is most critical in the face of weather-related or other crises.⁴

The definition of “critical facility” need not necessarily exclude all facilities that have poor economic potential for CHP and/or fuel cells. Nonetheless, the cost effectiveness of alternative solutions must be considered for all applications for incentives, including those for critical facilities.

Rate Counsel is not aware of the statutory, regulatory, or programmatic basis for creating separate definitions for public and private critical facilities.

Item 2. Solicitation Tiers

The discussion at the wg [sic] meeting was that the next solicitation might be tiered to address the public policy concerns include the following:

⁴ For example, in a study to identify and recommend the most opportune uses for CHP to enhance New York’s critical infrastructure resiliency, Energetics, Inc. employed the following criteria to determine a facility’s importance during an emergency: human impact (fatalities or injuries that would result if the critical asset is degraded or incapacitated); economic impact (the direct and indirect effects on the economy that could result if the critical asset is degraded or incapacitated); impact on public confidence or psychological consequences (the effect on public morale and confidence in national economic and political institutions if the critical asset is degraded or incapacitated); and impact on government continuity (the reduction in the ability of state and local governments to deliver minimum essential public services, ensure public health and safety, and carry out national security-related missions if the critical asset is degraded or incapacitated). Energetics Incorporated, Pace University Energy and Climate Center, and Energy and Environmental Analysis Inc. “The Contribution of CHP to Infrastructure Resiliency in New York State: Final Report.” Submitted to New York Energy Research and Development Authority. April 2009. Available at <http://www.energetics.com/resourcecenter/products/studies/Pages/CHP-Contribution-Infrastructure-NY.aspx>.

1. *CHP private critical facilities -communication center, data centers, supermarkets*
2. *CHP Public critical facilities -public hospitals, schools, municipal buildings*
3. *Additional incentive for blackstart*
4. *Additional incentive for microgrid*
5. *Additional incentive for renewable energy*

Please provide your comments on the above tiers and additional incentives for the next CHP solicitation. Please provide comments relative to the current solicitation on the EDA and CEP websites within the current incentive levels. If you are proposing an increase or additional incentives please justify the increase/additional incentives. Any unsubstantiated increases/additional will not be considered. Also provide any comments on the current solicitation to improve the process or the solicitation.

Additional incentives or set-asides for CHP/FC that fall within the OCE's proposed five tiers should not be put in place unless and until OCE has confirmed they would address a need that is not being covered elsewhere (e.g., by the Board's directions to the utilities in Docket No. EO11090543). Although Rate Counsel opposes the use of such tiers to set-aside incentives or as the basis for increased incentives at this time, additional comments on the five tiers are made below.

As proposed by the OCE, Tiers 1 and 2 both involve critical facilities. It is not clear why the OCE is proposing to create separate tiers for public and private critical facilities. In addition, specific facility types listed in Tiers 1 and 2 appear to be restrictive when compared to the definition of "critical facilities" suggested in item 1.

CHP/fuel cells and enhancements to those systems for black start and microgrid applications (corresponding to Tiers 3 and 4) may have a place in improving electric system resiliency, however, the determination of specific storm-related needs and measures should be the outcome of an analysis of the most efficient, effective use of limited resources to address those needs. Absent such a study, Rate Counsel does not agree that incentives for CHP or fuel cells should be increased at this time. If such a study finds that the contemplated CHP/FC enhancements are

beneficial for increasing energy system resiliency, the specific increase should: (1) be based on a finding that additional incentives are necessary to support the development of these enhancements; and (2) consider the incremental costs and benefits of these enhancements.

Rate Counsel notes that it is not clear whether renewable resources would contribute toward energy system resiliency. Before considering a set aside or adder for renewable fueled CHP or fuel cells, the OCE should present its case demonstrating that reliability or other resiliency benefits are likely to accrue from their increased implementation.

Item 6. Strategic or Long range plan

The BPU will, after the award and transition of the new NJCEP Program Administrator develop and finalize a 4-year strategic plan for EE and RE. This will include the coordination of the utility programs over the same term. CHP-FC will be a component of that Clean Energy 4-year plan. If you have comments on what and how the CHP-FC component should be developed please feel free to submit. However, this task is not currently the number one priority. The number one priority for the work group is to assist in development of the 2014 CHP budget and the 2014 CHP solicitation.

See comments in the following section, 7.

Item 7. Budget

The 2012/2013 budget is (rounded to the nearest \$100K):

- 1. \$17M with current commitments of \$5.247M plus TRC admin cost through the end of the budget year for the small CHP-FC program.*
- 2. \$36.970M with current commitments of \$11.1M plus EDA admin cost through the end of the budget year and the \$25M second round CHP-FC solicitation.*
- 3. \$23.1M with current commitments of \$2.432M plus Honeywell admin cost through the end of the budget year. This program funds incentives for wind, biomass and renewably fueled CHP.*

The current straw proposed funding levels for 2014 through 2017 were: \$325M, \$325M, \$300M, \$300M.

Based on these funding levels and annual budget please provide comments on the proposed budgets for 2014. Also provide comments for the funding level for 2015 through 2017. As noted above provide your documents amounts for the budgets.

With regards to the delineated question above, Rate Counsel believes that it is premature to discuss issues, and specific funding levels, for the 2015-2017 clean energy budget. To date, the OCE has not prepared a full straw man proposal. This makes it difficult to put any perspective on (1) the amount of CHP funding that should be dedicated to this resource, and (2) the nature of how any funding should be distributed to CHP projects. Without a full budget reflecting all of the OCE's funding proposals, it is impossible to evaluate how CHP should be prioritized. Stakeholders require a full budget proposal in order to understand how other priorities would be affected by allocating funding to CHP.

Further, Rate Counsel is concerned about moving forward on any CHP funding initiatives when a complete study of the economics and potential rate impacts of CHP, and the potential role that CHP can have in system restoration and resiliency, has not been provided. Rate Counsel urges OCE to abstain from making any CHP-related clean energy funding recommendations, or reaching any CHP-related policy conclusions, until such a study has been completed by the CEEEP and comments and inputs from other interested parties on this study, have been provided.

III. Conclusion

Rate Counsel looks forward to continued participation in the Working Group but finds that the OCE should first step back and identify or define the problems associated with the current state of storm response strategies. Only then should the OCE identify and prioritize potential solutions to the identified problems. Further, if there is a need to encourage measures such as distributed generation with black start capability and microgrids the Board should also consider mechanisms other than incentives and set-asides. With regard to the OCE's specific requests for comments, Rate Counsel's comments are summarized as follows:

Item (1): The definition of "critical facilities" should be informed by a process that includes input from a group with greater responsibility for disaster preparedness (e.g., Office of

Emergency Management, State Police, etc.), and should be limited to facilities that have an urgent need to continue operating following a disaster.

Item (2): The suggested solicitation tiers for CHP and fuel cells should not be implemented at this time, without further studies or supporting information.

Items (6) and (7): The proposal for allocating funds to CHP and fuel cells should be considered in the context of a complete budget proposal reflecting all of the OCE's funding priorities. Further, CHP and fuel cell funding initiatives should be based on a complete study of the economics and rate impacts of such initiatives.



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MURRAY E. BEVAN
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February 22, 2013

VIA ELECTRONIC MAIL

Michael Winka, Senior CE Policy Advisor
President's Office
Board of Public Utilities
44 South Clinton Avenue
Trenton, NJ 08625
m.winka@bpu.state.nj.us
chpfc@njcleanenergy.com

**Re: *CHP-FC Working Group
Follow-Up Comments requested at January 30, 2013 Meeting***

Dear Mr. Winka:

On behalf of our client, Bloom Energy Corporation ("Bloom Energy"), please find attached responses to the request for comments in follow-up to the January 30, 2013 CHP-FC Working Group meeting. Please note that Bloom Energy's responses to each question submitted by Board of Public Utilities ("Board") staff are identified in italics.

Thank you for your consideration of Bloom Energy's feedback with regard to these crucial issues. Please do not hesitate to contact me with any additional questions or concerns.

Very truly yours,

Murray E. Bevan

1. Definition for critical facilities to be included in the next CHP solicitation.

“critical facility” means any hospital, police station, fire station, water treatment plant, sewage treatment plant, public shelter, or correctional facility any commercial area of a municipality, a municipal center as identified by the chief elected official of the municipality, or any other facility or area identified by DEPE as critical.

What should be added to or deleted from the definition? Should we have a public and private critical facilities definition?

The definition of “critical facilities” should be expanded to include additional facilities that serve at-risk populations or provide government and/or social services in the event of a widespread and extended electric power outage. Bloom Energy does not believe it is necessary to have separate definitions of public and private critical facilities, but instead believes that particular facilities should be included only based upon the services that a facility can provide to the public during an outage.

Examples of additional facilities that should be included are: Long-term Care Facilities, Telecommunications Providers, Government Buildings, Emergency Management Centers, Schools, Universities, Police & Fire Departments, Supermarkets and other large retail stores that may carry critical community needs (food, clothes, water), Transportation Centers, Rail Lines, and Fuel Supply Infrastructure.

The Board of Public Utilities (Board) should also consult with emergency management and public security officials to gain insight into the classes of facilities that they would consider important to have “powered up” during a crisis based upon their experiences during Hurricane Sandy.

2. Solicitation Tiers

The discussion at the wg meeting was that the next solicitation might be tiered to address the public policy concerns include the following:

1. CHP private critical facilities -communication center, data centers supermarkets
2. CHP Public critical facilities -public hospitals, schools, municipal buildings
3. Additional incentive for blackstart
4. Additional incentive for microgrid
5. Additional incentive for renewable energy

Please provide your comments on the above tiers and additional incentives for the next CHP solicitation. Please provide comments relative to the current solicitation on the EDA and CEP websites within the current incentive levels. If you are proposing an increase or additional incentives please justify the increase/additional incentives. Any unsubstantiated

increases/additional will not be considered. Also provide any comments on the current solicitation to improve the process or the solicitation.

Bloom Energy would like to renew its request that the term "CHP" not be used to define the scope of this effort to promote reliable, efficient distributed generation. The Working Group was formed to address issues related to CHP and Fuel Cells, including fuel cells that are "all-electric" and are not deployed in CHP mode. By limiting the discussion to just "CHP," the participants are excluding all project opportunities where there is not a thermal load that happens to match the electric load. There are many situations that require a highly resilient distributed generation solution that do not have a thermal load. The policies under consideration by the Working Group should apply at least equally to the most efficient, all-electric fuel cells as they do to CHP. The term "clean distributed generation" would be more inclusive and appropriate than CHP.

The small and large CHP/Fuel Cell programs administered by the BPU and EDA are well-structured and successful. Adding a "resiliency incentive" component is a good idea, but it should not involve deconstructing the existing program nor should it diminish the incentives offered under the existing small and large CHP/Fuel Cell programs. Rather, Bloom believes that an additional incremental incentive should be made available when a project meets a pre-defined set of reliability characteristics.

The most important criteria in deciding whether a project receives a "resiliency incentive" should be the project's ability to isolate from the grid and continue to supply power to a customer in the event of a widespread outage. There are significant costs attendant to designing and implementing a project with the capability to automatically isolate from the grid. An additional incentive of \$1.25 per watt in conjunction with the existing incentives for fuel cells and CHP projects under 1 MW would ensure that projects are designed to continue operating during a grid event and would greatly contribute to the overall resiliency of the New Jersey electric power supply system.

Bloom believes the term "black-start" should be clearly defined and then applied only where it is necessary to achieve the intended policy objective of power continuity. The term "black-start" is often used to mean the ability of a power plant to re-start its own operations without reliance on external grid power.

The public policy purpose of power continuity for critical facility customers is achieved by technologies that are designed to always remain operating and will automatically isolate themselves from the grid in the event of an outage even if they do not technically have "black-start" capability as that term is used above. A clean distributed generation resource that is "always on" does not need "black-start" because it does not turn off in the first place, and

therefore should not be excluded by the imposition of a requirement that is not relevant to the actual design of the leading technologies in the super-high reliability requirement marketplace.

3. Pipeline of CHP-FC projects

CHP-FC work group member please provide us with your pipeline projects. We do not need to know the customer but do need general location (EDC or GDC area), size of the project and total cost. I talked to the BPU OPRA officer and we can provide confidentiality for this information. Any use of the data would be in total aggregate by EDC/GDC area and not identified by the entity that supplied the information.

Bloom Energy has been actively working with potential customers (many of whom are already Bloom Energy customers in other jurisdictions) in each of the EDCs' service territories. Reliability is a critical consideration for these customers, but the incremental costs of designing a project to be capable of isolating from the grid during an outage have, with few exceptions, been a barrier to date in NJ. In the event that the incremental additional incentive for "critical facilities" is adopted, Bloom expects that the 2013 pipeline will quickly grow to exceed available small CHP/Fuel Cell program funding.

4. Other State activity

BPU staff will reach out to the other region states Energy Offices/PUC to develop and/or participate in an interstate work group on DG including micro-grid for storm response.

Bloom Energy believes that establishing an Interstate Work Group on DG is a good idea and would welcome the opportunity to participate in that Work Group.

5. Standby Tariffs and Gas Tariffs

There was a lengthy discussion on tariff issues including both standby rates and CHP gas rates. The standby rate issue is the subject of a separate proceeding and for the efficiency in management will not be repeated in the CHP-FC work group. All discussion on standby rates need to be made in that proceeding (on the formal record). We will of course keep this work group updated on the process. Per discussion with Alice Bator Bureau Chief in the Division of Energy which has the lead on this proceeding that a stakeholder hearing/meeting is being scheduled for mid-February. In terms of gas rates for CHP, each gas distribution company should provide their current rate structure and any other incentive designed for CHP.

In terms of gas rates for CHP, each gas distribution company should provide their current rate structure and any other incentive designed for CHP.

In addition to soliciting information regarding each gas distribution companies' current rate structure and any other incentive designed for CHP, Bloom Energy encourages Board Staff to solicit the same information from the GDCs with regard to fuel cells.

6. Strategic or Long range plan

The BPU will, after the award and transition of the new NJCEP Program Administrator develop and finalize a 4-year strategic plan for EE and RE. This will include the coordination of the utility programs over the same term. CHP-FC will be a component of that Clean Energy 4-year plan. If you have comments on what and how the CHP-FC component should be developed please feel free to submit. However, this task is not currently the number one priority. The number one priority for the work group is to assist in development of the 2014 CHP budget and the 2014 CHP solicitation.

Bloom Energy believes that the CHP-FC component of the Clean Energy 4-Year Plan should be developed as soon as possible to guide CHP and FC providers in their long-term planning processes in New Jersey. Bloom Energy also believes it is important to consider stakeholder input in developing this 4-Year Plan.

7. Budget

Background

The 2012/2013 budget is (rounded to nearest \$100K):

1. \$17M with current commitments of \$5.247M plus TRC admin cost through the end of the budget year for the small CHP-FC program
2. \$36.970 M with current commitments of \$11.1 M plus EDA admin cost through the end of the budget year and the \$25M second round CHP-FC solicitation
3. \$23.1M with current commitments of \$2.432M plus Honeywell admin cost through the end of the budget year. This program funds incentives for wind, biomass and renewably fueled CHP.

The current straw proposed funding levels for 2014 through 2017 were: \$325M, \$325M, \$300M, \$300M

Based on these funding levels and annual budget please provide comments on the proposed budgets for 2014. Also provide comments for the funding level for 2015 through 2017. As noted above provide your documents amounts for the budgets.

Bloom Energy recommends continuing the current small and large CHP/Fuel Cell programs as the small CHP/Fuel Cell program continues to foster the benefits of more widely distributed generation. In addition, Bloom Energy would support increased funding levels annually to provide the program consistency which CHP and fuel cell customers need in order to commit to these clean distributive generation technologies.

February 22, 2013

Michael Winka
Senior Policy Advisor, New Jersey Board of Public Utilities
POB 350 - 44 S Clinton Ave
Trenton, NJ 08625-0350

Re: Response to the New Jersey Board of Public Utilities Request for Comment on the Large FCCHP Program Requirements, Incentive Structure and Future Budget Allocation

Comments of ClearEdge Power

Dear Mr. Winka:

ClearEdge Power submits the following comments based on the public request from the New Jersey Board of Public Utilities related to the Fuel Cell and Combined Heat and Power (FCCHP) program's future requirements, structure and budget.

Respectfully submitted,



Lisa C. Ward
Government Business Development Specialist

STATE OF NEW JERSEY
BOARD OF PUBLIC UTILITIES
FUTURE FUEL CELL AND COMBINED HEAT AND POWER PROGRAM REQUIREMENTS AND
FUNDING LEVELS
COMMENTS OF CLEAREDGE POWER

I. Introduction

ClearEdge Power is a company located in South Windsor and employing 343 people in the development, design, production and service of fuel cell technology for use in stationary, transportation, and space and defense applications. We appreciate the opportunity to comment on the future requirements and funding levels of the large fuel cell and combined heat and power program in the State of New Jersey.

We offer the following as comments with regard the Large Fuel Cell/CHP Program Working Group Memo, dated January 30, 2013, written by the New Jersey Board of Public Utilities representative, Michael Winka.

II. Comments

A. Definition for critical facilities for the next FC/CHP solicitation

The Connecticut Legislature and Department of Energy and Environmental Protection (DEEP) provided an excellent "critical facility" definition as part of Public Act 12-148 and the subsequent project feasibility application for the microgrid program. Connecticut Public Act 12-148 defines a critical facility as follows:

"Critical facility" means any hospital, police station, fire station, water treatment plant, sewage treatment plant, public shelter or correctional facility, any commercial area of a municipality, a municipal center, as identified by the chief elected official of any municipality, or any other facility or area identified by the Department of Energy and Environmental Protection as critical".

Due to the passage of Public Act 12-148, DEEP released a microgrid project feasibility application which extended the definition of critical facilities to include:

"Military bases, communications towers, fueling stations, food distribution centers, and mass transit. In addition, DEEP considers as critical facilities those facilities that have some or all of the following characteristics: provide support for national security; act as a command center; act as an emergency shelter; provide access to food, fuel, money, or medication".

To build upon the definitions provided by the State of Connecticut, ClearEdge Power would urge the State of New Jersey to also include the following facility types due to their inherent public benefit and emergency services capability:

- a. *Emergency Communication/Command Centers*
- b. *Ambulatory/Emergency Medical Services*
- c. *Emergency Management Services*
- d. *Facilities of Refuge*
- e. *Emergency Shelters and Rest Centers*
- f. *Public Utilities (Water, Gas, Electricity)*
- g. *Hospitals*
- h. *Managed Care Facilities*
- i. *Broadcasting/Public Information*
- j. *Telecommunications*
- k. *Airports and support infrastructure*
- l. *Any facility that due to its inherent layout or configuration, e.g., university campus, high school, etc., which can be used to provide public benefits such as shelter, remote emergency command centers, etc.*

B. Solicitation Tiers

The 2014 solicitation for fuel cells and combined heat and power projects over 1 megawatt should include a tiered incentive, giving the largest amount of State funding to the projects at the most critical facilities operating on renewable fuels, such as anaerobic digester gas, on-site biogas or directed biogas.

The tiered structure should start at the current funding level, which for fuel cells is the smallest of 45% of project costs or \$3M. This should be the base incentive for all fuel cell projects over 1 megawatt. An enhanced incentive, in addition to the base, should be given incrementally to the following project types over 1 megawatt, listed in order of priority from least to most:

- 1) Fuel cell/CHP installations for critical facilities in the private sector
- 2) Fuel cell /CHP installations for critical facilities in the public sector
- 3) Fuel cell/CHP installations supporting two or more critical facilities, in either the public or private sector
- 4) Fuel cell/CHP installations for any type of critical facility, public or private, using renewable fuel

We do not have a recommendation for the Board related to the incremental incentive amount. Based on the incentive amounts for the current programs, we have confidence the Board will define a fair enhancement for the critical facilities based on priority to the State.

In order to fully maximize the number of fuel cell or CHP projects installed at different critical facilities in the State, the efficiency requirement of 60% HHV should be reconsidered. We fully support systems with high efficiencies; however, the 60% HHV does not necessarily return the best payback for most applications and therefore may limit the speed of deployment of fuel cells in New Jersey. Under the current rules, a customer desiring to deploy a CHP fuel cell must burden the project with extra equipment and costs to meet the efficiency hurdle, even if the additional costs do not result in heating fuel savings to pay the initial costs back. As an example, the data center market is an excellent fit for fuel cells and

CHP, especially given their potential as a critical facility. Data center applications typically utilize byproduct heat to drive absorption chillers for cooling, which is only one type of "heat" produced by fuel cell systems. Because of this, the 60% HHV requirement is a difficult hurdle for project implementation. To overcome this obstacle more effectively, we would suggest an efficiency requirement of 50% HHV. This efficiency requirement is similar to efficiencies that meet the requirements of the State of California's Self-Generation Incentive Program. While this is lower than the current 60% HHV efficiency requirement, an absorption chiller application using fuel cell waste heat can actually increase in efficiency over time, since the amount of chilling capacity increases over the life of the fuel cell.

Additionally, not all critical facilities have a large thermal load, making electric only fuel cell installations attractive. The current electric-only efficiency requirement of 45% within the first year is an unattainable hurdle for some leading fuel cell companies in the industry. Additionally, some fuel cells with high first year electrical efficiency values degrade quickly, resulting in a lower average electrical efficiency over a few years following installation. In order to drive true market competition and allow all companies the same opportunities for electric-only projects, and in order to ensure high overall efficiency for fuel cell customers, we would suggest a first year electrical efficiency requirement of 42% or a lifetime (10 year) electrical efficiency average of 40% on a lower heating value basis.

C. Pipeline of FC/CHP Projects

[Confidential]

D. Regulatory items - standby charges and gas tariffs

Proceeding GO12070600, which is currently underway at the New Jersey Board of Public Utilities, was established per the directive from Bill 219, which required all electric distribution companies to examine the standby charge law related to distributed generation. Based on most submissions from the four New Jersey electric utilities in November 2012, the current standby charge law should be extended with no rate structure updates. Industry understands the need for the electric utilities to account for peak demand without including distributed generation (DG). However, penalizing New Jersey consumers who choose to install on-site generation through the use of standby charges and extended demand charge periods will significantly deter the development of distributed generation within the State. This will ultimately lessen the environmental savings and the installed capacity of DG the State could realize as directed by the Energy Master Plan.

The BPU should consider updating the standby charge law to: 1) create more strict availability and/or capacity factor requirements for DG installed in-state and 2) set fixed, statewide costs for standby charges and demands charges with ratcheted costs of 30 days or less. By setting more stringent rules for the capacity factor of DG, the electric utilities can

rely more heavily on continuous on-site generation and discontinue significant standby and demand charges on its DG customers.

Promotion of DG can also be done through favorable gas tariffs. Most DG, fuel cells and combined heat and power generators operate using natural gas as an input fuel. DG customers often use large amounts of natural gas in known quantities, consumed at a consistent rate (as opposed to most natural gas-fueled equipment), which is based on number of expected kilowatt-hours per year. Because most DG utilizes a known, large quantity of natural gas, these customers should be eligible for fixed rates over extended periods of time. New Jersey Natural Gas offers DG customers a five-year fixed rate on an individual project basis. This pathway should be thoroughly examined by the BPU and potentially implemented statewide as a tariff. A fixed gas rate allows DG project developers and customers to accurately model their DG project costs over time. Without the removal of gas price risk, cogeneration projects are far less likely to move forward.

Separately, but equally important is the idea that DG customers operating on natural gas should have lower gas rates than other New Jersey consumers of natural gas. When natural gas fed DG is sited, the natural gas utility obtains a new, large scale end user. To compensate for the amount of natural gas consumed, the natural gas utilities should offer distribution only rates for DG customers. PSE&G, Elizabethtown Gas and New Jersey Natural Gas already offer a similar rate for DG customers. All New Jersey natural gas utilities should offer the same natural gas rate for consistency in the marketplace.

E. Strategic long term plan

The State of New Jersey should continue to review and update regulatory policies that would help facilitate the installation of clean, on-site generation. A regulatory hurdle for DG developers is the lack of standardized interconnection requirements for base load technologies. Most utilities outside of New Jersey require a reverse power relay for all DG installations that do not qualify for the net metering tariff. To overcome the cost impact of the reverse relay requirement and lifetime operation costs, the New Jersey electric distribution companies (EDCs), in conjunction with the BPU, should strongly consider standardizing the interconnection requirements for fuel cells. This should include a separate track for high capacity factor DG (> 80%) with a certified inverter and would require a detented meter instead of a reverse power relay. This would decrease installation costs for stationary fuel cell projects while simultaneously maximizing on-site power usage, as well as the maximizing the environmental attributes of the fuel cell.

A majority of end users who use fuel cell systems to generate their on-site power do not become net exporters of power to the utility. As a result, the amount of power exported to the utility does not usually factor into a fuel cell project's value proposition. A standard interconnection process with a detented meter option can play a twofold financial role in the development of stationary fuel cell projects:

- Reduced installation cost. Through the use of a detented meter, the need for a grid-protection relay to prevent power export to the utility grid is nonexistent. Without



this piece of interconnection equipment, the utility will not allow momentary export of power, thereby introducing the need for a certified relay.

- A detented meter would allow higher electrical output from the fuel cell to be achieved by allowing electric-load following with no power import buffer.

By requiring the EDCs to standardize fuel cell interconnections, the BPU can streamline the installation of fuel cells statewide. Standardization of the required interconnection equipment would also help the overall value proposition for larger DG installations at critical facilities; installation costs would be lower, allowing State funding to support a higher number of grid resiliency projects. Fuel cells actually offer a larger carbon emission reduction than variable output technologies, like wind and solar, due to their high system efficiencies and high capacity factor.

The key to the long term strategy will be the continuation of state supported programs, which would indicate New Jersey's commitment to the Energy Master Plan goals and the State's resiliency goals in the aftermath of Hurricane Sandy. Maintaining dedicated funding for distributed generation programs sends a clear message to the market, allowing project developers adequate time to develop high-quality, long term projects. Given that small and large fuel cell programs were only re-opened in January 2012, it would be short sighted of the State to move the funding dedicated to these programs by June 2013 if the funding is not adequately utilized. Fuel cell and CHP projects have a long development timeframe, typically 12 to 18 months. To continue the development of clean DG projects in the State, stable and dedicated programs are required for at least 5 years to make an appreciable impact.

III. Conclusion

Thank you for the opportunity to comment on the Fuel Cell and Combined Heat and Power (FCCHP) program's future requirements, structure and budget. We would be pleased to provide you with additional information or clarification as needed.

Respectfully Submitted:

By: _____

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February 22, 2013