From: Rolfing, Tiffany
To: TCDERmicrogrid
Subject: Attendance List for Stakeholder Meeting
Date: Thursday, August 25, 2016 1:57:58 PM

Hi there – the leader on the call mentioned that the list of attendees would be distributed to all the stakeholders who attending the session. Have you send that out to everyone involved? If so, can you please direct me to that list?

Thank you!

Tiffany Rolfing
Account Manager, C&I Outreach

New Jersey's Clean Energy Program™
c/o ICF International | 850 Bear Tavern Road, Ewing, NJ 08628
Mobile: 605-366-4909 | Email: Tiffany.Rolfing@icfi.com

BEVAN, MOSCA & GIUDITTA, P.C.
ATTORNEYS AT LAW

222 MOUNT AIRY ROAD, SUITE 200
BASKING RIDGE, NJ 07920-2335
(P) 908.753.8300
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WWW.BMG.LAW

MURRAY E. BEVAN
mbevan@bmg.law

August 29, 2016

VIA ELECTRONIC AND REGULAR MAIL

Michael Winka
Office of Clean Energy
Board of Public Utilities
44 South Clinton Avenue, 3rd Floor, Suite 314
P.O. Box 350
Trenton, NJ 08625
TCDERmicrogrid@bpu.nj.gov

Re: Comments on Microgrid Feasibility Study Draft Application

Dear Mr. Winka:

On behalf of the Retail Energy Supply Association ("RESA"),[1] I am writing today regarding the proposed Town Center Distributed Energy Resource Microgrid Feasibility Study Incentive Program Application, which was discussed at a stakeholder meeting on August 23, 2016 and attended by my associate, Gabrielle Figueroa. At the present time, RESA does not have specific comments to offer on the feasibility study application process itself. RESA is, however, interested in the Board's proposal for the development of Town Center Microgrids and its member companies are actively involved with distributed energy resources and the development of microgrids in other states, and welcome participation in the development of Town Center Microgrids in New Jersey.

[1] The comments expressed in this filing represent the position of the Retail Energy Supply Association (RESA) as an organization but may not represent the views of any particular member of the Association. Founded in 1990, RESA is a broad and diverse group of more than twenty retail energy suppliers dedicated to promoting efficient, sustainable and customer-oriented competitive retail energy markets. RESA members operate throughout the United States delivering value-added electricity and natural gas service at retail to residential, commercial and industrial energy customers. More information on RESA can be found at www.resausa.org.

RESA looks forward to the development of a final application and the conclusion of the feasibility studies, and in participating in this stakeholder process. RESA members believe they are situated to provide the value added services and operational reliability and resiliency expertise New Jersey is looking to cultivate.

Very truly yours,

Murray E. Bevan

From: paul westfall
To: TCDERmicrogrid
Subject: Fwd: New Energy Source For Your Company
Date: Friday, August 12, 2016 1:30:15 PM

To who it may concern Mission; To provide alternative power source
that is Green Energy and
is fossil,solar,wind,coal,nuclear free and Cost zero amount to operate
24/7 and is not Harmful to the Environment and that has Endless uses
for this type of Technology

---------- Forwarded message ----------
From: paul westfall <pwestfall272@gmail.com>
Date: Thu, 11 Aug 2016 14:45:05 -0500
Subject: Fwd: New Energy Source For Your Company
To: keith.diemer@sos.arkansas.gov

Keith
Here is the email I told you about our project that I am working on.
Hope the State of Arkansas is Interested in something like this. I
would appreciate any help you can give me, thanks for spending time on
the phone with me today. This email was addressing a company which I
believe would be the same as the Mechanical & Electrical Systems for
Capitol & Capitol Hill
>Manager ,Keith Diemer
> Hello
> My name is Paul Westfall I own Free Earth Resources LLC
> Our invention can work like a micro grid on a island full time not
> just when there is no power because the grid is down. Having your own
> micro grid means no more electric bills plus helps out the
> environment. And allows money spent towards monthly electric bills to
> go other places for the Company. There is some federal and state
> funding that would help you fund the cost of that type of technology
> for a Company when we get to that phase ll
>
> Free Earth Resources LLC, and their university researcher partners
> from (U of A)and (UALR/SBA) are in the process of preparing grant
> proposals using the Small Business Innovation Research (SBIR) program.
> The goal of the SBIR program is to fund new project ideas that
> addresses significant market needs, and help bring them from the
> feasibility/proof of concept stage in Phase I to commercial readiness
> in Phase II. This is why we need Letters of Support for Free Earth
> Resources LLC and our Project to send in with the Grant Proposals. To
> show there is a significant market out there that is interested ,Feel
> free to Google both of the Doctors that i mention in the portion
> below. They both have very high credibility in this Area of
> Engineering. Like i mentioned we was wanting a letter of interest in
> Free Earth Resources LLC and Our Technology not any money just saying
> you would be interested in that type of Technology. And we can power
> all of your companies need with the size of power, that is needed to
> provide electricity they use each month and they would not have a
> electric bill .,This does not use any fossil fuels,solar,etc nor does
> it need to be charged , it keeps itself charged and running
>
> I am working on a project with Dr Uche Wejinya and He is Bringing

> in Dr Allen Mantooth both of University of Arkansas. Dr Wejinya is
> working on a slide presentation It is a Fly wheel Electric Generator
> and storage devise. We are working on a working Prototype together. My
> prints are for a model that is 15 in x 15 in x 30 in making 1920
> Amperes and 234k watts. But can be made much smaller or larger, this
> one weighs about 250 lbs total, with Rotor 100 lbs that is spinning.
> This devise is operating at 5175 rpm to produce this and does not
> have to be charged by any other source.I was just wondering if you
> might be able to use something like this . We think it can even Power
> Electric Generating Plants, Electric Auto's,Self Driven Auto / Tractor
> Trailers, Buses,Homes,Shops , Plants, Schools. Depending on the size
> that is built for your application.,Endless use for this technology
> Please contact me if you have any questions. And direct Letters of
> Interest to name and Address below.
>
> Thank You For Your Time
>
>
>
> Paul Westfall -Owner
>
> Free Earth Resources LLC
>
> 197 martingale
>
> Pearcy AR 71964
>

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Free Earth Resources LLC
Paul Westfall-Owner
197 Martingale
Pearcy AR 71964
501-767-3115
E-mail; pwestfall272@gmail.com

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Pearcy AR 71964
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E-mail; pwestfall272@gmail.com

Jersey Central Power & Light
A FirstEnergy Company

300 Madison Avenue
P. O. Box 1911
Morristown, NJ 07962-1911

August 30, 2016

Via email to TCDERmicrogrid@bpu.nj.gov

Michael Winka
New Jersey Board of Public Utilities
Office of Clean Energy
44 South Clinton Avenue
P.O. Box 350
Trenton, New Jersey 08625

Re: Town Center Distributed Energy Resource Microgrid Feasibility Study Incentive Program

Dear Mr. Winka:

Jersey Central Power & Light Company ("JCP&L" or the "Company") is pleased to submit these comments on the proposed "Town Center Distributed Energy Resource Microgrid Feasibility Study Incentive Program" dated August 2016 (the "Program") issued for comment by the Staff of the New Jersey Board of Public Utilities ("Board" or "BPU").

The Company recognizes the Board's interest, consistent with the goals of the State's Energy Master Plan (as recently updated), in investigating microgrids as a potential resiliency measure following the extreme weather events, in particular of 2011 and 2012, and agrees that feasibility studies are an appropriate first step to gather valuable data and other information that will eventually inform policy discussions and before undertaking any commitment to engineering and implementation. While JCP&L is supportive of the State's Energy Master Plan goals, the Company believes it is important that the BPU recognize the potential impacts and associated costs that the deployment of microgrids may have on the State's utilities, as well as the resultant costs to customers.

Recognizing that the Program is concerned with providing incentives for feasibility studies, JCP&L's comments will be separated into those directed to the Program draft and those that are reflective of policy questions that should be actively considered during the feasibility study process. In general, the Company's comments, which are addressed to the draft Program document, are intended to seek clarity regarding certain facets of the Program.

At the outset, JCP&L suggests that the Program document would benefit from an "Introduction" section that precedes the "Background" section in order to bring to the fore the Program's stated purposes and the potential anticipated results from the feasibility studies. In this regard, the Company notes that the Program document states (on page 3) that "The Town Center Microgrid Feasibility Study Incentive program is intended to serve as one part of[1] guidance for the

[1] The Company suggests that the words "one part of" might be better stated as: "one source of."

BPU in establishing a statewide Microgrid policy for connecting multiple customers across multiple rights of way (ROW) and can include both electric and thermal energy." JCP&L suggests that this statement would best serve as part of the Introduction section together with the portion of the last paragraph under the "Incentive" section (on page 7), which indicates that a Phase 1 approval is no guarantee of any subsequent incentive or BPU approval of a DER Town Center Microgrid. In conjunction with these types of changes, JCP&L also suggests that the Program document would benefit from additional internal definition of terms, including the use of the defined term "Program" and the delineation of the Program phases, which are not previously mentioned prior to page 4 of the Program document, with a later reference to "Phase 1" on page 7. For instance: "The Program will be managed in two phases: first, a feasibility study phase ("Phase 1") and, second, a detailed engineering design phase ("Phase 2"). Only applications for Phase 1 are being sought at this time."

Background section

In the second full paragraph on page 2 of the Program document, the word "a" should be deleted in front of the word "Campus" on the second line thereof and inserted before the words "natural gas" on the third line. In the fourth full paragraph on the same page, the word "by" before words "the Electric Distribution Companies (EDC)" should be "of."

At the top of page 3, Staff may wish to consider adding a link to, or reference for, the Rutgers' DER Cost Benefit analysis model, the usage of which is encouraged or suggested by the Program document. In the second full paragraph on this same page, the last sentence refers to the "focus in this initial program," which the Company believes may be a confusing reference that is not necessary to the Program document. Also, in the second sub-bullet under the second bullet, the second period can be deleted and in the following sentence, Staff should consider replacing "They" with the word "Applicants"

Target Market and Eligibility section

JCP&L notes the reference to an EDC letter of support (the "EDC LOS") at the bottom of page 3 and carried over on page 4 (and as mentioned later) in the Program document. According to the Program document, the EDC LOS will "detail the EDC's willingness to assist in the study." It is clear that the EDC LOS is important to the process as it will be part of Staff's recommendation for approval by the Board. JCP&L appreciates the need for EDC input, cooperation and coordination (as noted by reference to EPRI material earlier in the Program document), but suggests that the "willingness to assist in the study" be further delineated to indicate "willingness to assist in the study in terms of providing input, cooperation and coordination at the applicant's cost and expense, which costs shall be eligible for timely reimbursement to the applicant as part of the incentive award." Also, the Company notes that on page 4 there is a reference to the possible assistance of the local gas utility, which the Program document should further clarify in the event that, in addition to the EDC LOS, there may also be a need for a "GDC LOS."[2]

[2] The Company further notes its anticipation that issues related to the EDC LOS will be addressed consistent with applicable law including the Board's current regulations. For example, with respect to access to customer information, if any, the confidentiality of customer information will be addressed consistent with applicable law and the Board's pertinent regulations.

JCP&L further notes that the Program document also states near the bottom of page 4 that:

> *The advanced microgrid must have a nucleus of critical buildings and customers that can provide essential services and emergency energy services under black sky conditions in a cost effective manner,* ***as well as operate in a cost effective manner 24 – 7 under "blue sky" conditions***. (Emphasis added).

The Company believes that the intent of this statement is not clear. JCP&L suggests that this statement be clarified to more fully support the new section in the updated *NJ Energy Master Plan: Improve Energy Infrastructure Resiliency & Emergency Preparedness and Response* and state that the microgrid will operate under black sky conditions and that the associated generation within the microgrid could operate under blue sky conditions, while conforming to current standards and regulations.[3]

The Program document also requires certain information from the applicants, including a list of potential partners to be included in the project. This section should be expanded to include identification of the consulting firm (mentioned on page 5) employed to perform the proposed feasibility study, including a description of the qualifications of the firm and other credentials. This will help provide additional information for Board Staff to use as they evaluate proposals, as well as enforce the Program provision that the consultant for the applicant is limited to only one award in this first round of applications. In addition, the Program document should clarify the nature and type of study costs eligible for incentive funding. For instance, if an EDC has to perform any engineering or related studies in order to be able to provide the EDC LOS, the applicant, as indicated above, should be required to pay for such studies and should be eligible to receive timely Program funding to cover this eligible expense. In this regard, the Company recommends that the Program document and the application should clarify that these types of EDC costs would be an eligible study expense, which should be included as part of the applicant's cost estimate.

Pre-Application Review Process section

The Program document refers to a "quasi-competitive" process but does not further

[3] In referring to the NJ Energy Master Plan ("EMP"), JCP&L is reminded that NJUA submitted a comment letter on August 13, 2015 discussing, among other things, issues related to microgrids (at page 6). In addition, JCP&L, itself, submitted comment letters on the EMP, each addressing, among other things, microgrids, on August 24, 2015 (at pages 5-6) and on December 4, 2015 (at pages 11-12). Furthermore, in the context of a request for comments related to certain Energy Resiliency Bank ("ERB") documents, JCP&L also submitted a comment letter dated September 5, 2014 (to the ERB through the Board) discussing microgrids (at pages 4-7) as well as issues related to interconnection (at page 3). The Company believes that Staff may find these comments useful to revisit and reconsider in the context of the Program since they may help to further inform the policy considerations, which JCP&L believes should be addressed during Phase 1 of the Program and as it unfolds into Phase 2. Copies to these comments have heretofore been made available on applicable portions of the Board's website but can be provided again if necessary.

describe what is meant by this term. The Program document would benefit from further clarification on this point so as to anticipate applicant questions regarding award criteria.

Incentive section

The Company notes that there is a reference to a "final report" regarding the feasibility study as a precursor to payment of the incentive. The Program document would benefit from further clarification regarding the expectations for the elements (and/or table of contents) to be covered in such a final report. Furthermore, although a final report is the suggested trigger for funding, the Program should recognize that the failure of an applicant to deliver a final report (for whatever reason) should not preclude funding for certain types of otherwise eligible expenses such as EDC costs incurred in support of the feasibility study.

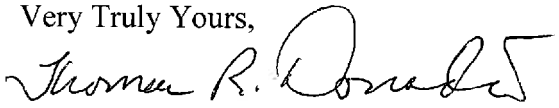
Policy Considerations during Feasibility Study Phase

Although Phase 1 of the Program incentivizes feasibility studies and does not provide funding for engineering studies (reserved for the later Phase 2) or microgrid construction, it does clearly contemplate the designation of certain physical characteristics relative to locations and operations. The Company points out that, among other issues, there may be regulatory and legal issues concerning the crossing of multiple rights-of-way and tax lots in the establishment of a microgrid. In addition, further issues may be present, including the applicability of aggregate net metering, for which rules have been established, and net metering issues that will arise in situations where generation from mixed sources is present. It is also not clear if any limitations on generation sizing will be addressed, particularly if the end result may be the export of excess power. These issues should be considered and resolved during Phase 1 and prior to Phase 2 of the Program.

Another important consideration is control and ownership of the microgrid, as well as EDC cost recovery of any added costs for circuit changes and additional equipment accommodations. While the Company agrees with the premise that microgrids should be designed such that DER technologies, while isolated and islanded from the main grid, may operate as an alternate source of power due to an emergency, such as a power outage, relinquishing control of a portion of an electrical circuit to a third party for use as a microgrid would be very problematic for the incumbent EDC. This is due to various switching activity and circuit tie schemes that may be employed during service disruptions, not to mention serious EDC-employee and public safety issues as well as the use of the EDC's investment in infrastructure. In addition, as to ownership issues associated with the types of microgrids being promoted by the Program, given the particular experience and expertise of EDCs in operating electric systems in a safe, adequate and proper manner, JCP&L recommends that additional consideration and more detailed review is also necessary due to the potential entwinement of these microgrid systems with existing EDC infrastructure, so as to better understand the option (and possibly even a policy preference), under certain circumstances and conditions, at least, for New Jersey EDCs to construct, install, own, operate and/or maintain such systems with appropriate cost recovery.

The Company appreciates the opportunity to provide these comments, which it hopes will be helpful to Staff in initiating the Program. If there are any questions, please contact me.

Very Truly Yours,



Thomas R. Donadio

From: Nicholas Buckley
To: TCDERmicrogrid
Subject: NJ Microgrid Feasibility Study
Date: Monday, August 22, 2016 3:50:59 PM

To whom this may concern,

I am reaching out to get more details regarding the new Town Center DER Microgrid Feasibility Study incentive program and budget. Our company has recently been involved with completing the first stage of the NYSERDA NY Prize feasibility study and would like to get involved in New Jersey's upcoming program. Would you be able to provide me more information about the town centers they are looking to build these microgrids? (I don't see appendix A. I assume it's the same as the "site atlas"?) Can you provide any contact information for these specific sites? Also, what is the time schedule for these studies (i.e. when do they start?, how long to complete?)

Any help is greatly appreciated. Feel free to contact me anytime at the contact information provided below.

Thanks,

Nicholas Buckley
Engineer II
RRT SIGMA Engineering
1 Huntington Quadrangle Suite 3S01
Melville, NY 11747
(631) 756-1060 x126
Fax: (631) 756-1064
nbuckley@rrtsigma.com

From:	Danielle Anderson
To:	TCDERmicrogrid
Subject:	NJ Microgrid Opportunity Question
Date:	Friday, August 19, 2016 10:48:26 AM

Good Morning,

I work for Millennium Strategies. We do grant writing for Municipalities here in NJ. I am trying to figure out if any of our clients should look into this opportunity. I have a couple questions regarding the NJ Microgrid Opportunity that I didn't get from the application:

1. What are the municipalities in which NJIT identified as useful town centers to put microgrids responsible to submit in order to apply for this program?
2. Has NJBPU already been in communication with these communities regarding this program, or do they have to opt in by submitting a pre-application?
3. Is it competitive for other non-listed municipalities to submit a pre-application?

Much appreciated,

Danielle Anderson
Research Associate
Millennium Strategies
60 Roseland Ave
Caldwell, NJ 07006
(973)226-3329 ext. 107

From: David Smith
To: TCDERmicrogrid
Subject: NJIT Town Center DER Microgrids Report
Date: Tuesday, August 09, 2016 10:20:54 AM
Attachments: image002.png
image004.png
image006.png
image008.png
image010.png

Hello –

I would like to obtain a copy of the NJIT report with the Appendix listing identified town centers. Can you provide this report or point me in the right direction? I've looked online and also searched the BPU and OCE sites,

Thank you for any assistance you can provide.

David Smith

David J. Smith
Director of Energy Services
Burns Engineering, Inc.
t: 215-979-7700 x7735 | m: 215-880-4478
dsmith@burns-group.com | burns-group.com

From:	Justin Barnes
To:	TCDERmicrogrid
Subject:	Question - Town Center DER Microgrid program
Date:	Tuesday, August 09, 2016 1:54:58 PM

Hello,

Could you please forward me a copy of the Board's Order of June 29, 2016, which established this microgrid program? It does not appear to be on the BPU's website (or am I looking in the wrong place)?

Thanks,
Ben

From: David Smith
To: TCDERmicrogrid
Subject: RE: NJIT Town Center DER Microgrids Report
Date: Wednesday, August 24, 2016 3:09:44 PM
Attachments: image006.png
image007.png
image008.png
image009.png
image010.png
image011.png
image012.png
image013.png
image014.png
image015.png

Hello – I was present for the Town Center meeting in Trenton yesterday and would like to obtain the attendee sign in list from yesterday's meeting with Mike W. Is it available?

Thank you in advance for your help.

David Smith

David J. Smith
Director of Energy Services
Burns Engineering, Inc.
t: 215-979-7700 x7735 | m: 215-880-4478
dsmith@burns-group.com | burns-group.com

From: TCDERmicrogrid [mailto:TCDERmicrogrid@bpu.nj.gov]
Sent: Wednesday, August 24, 2016 1:53 PM
To: David Smith; TCDERmicrogrid
Subject: RE: NJIT Town Center DER Microgrids Report

Please see attached email

Michael Winka

Michael Winka
Senior Policy Advisor
NJBPU – President's Office
44 South Clinton Ave
POB 350
Trenton, NJ 08540-0350
609 777 3312

To save energy and reduce GHG NOW

check out our clean energy programs incentives at:
www.njcleanenergy.com
In the wink of an eye

From: David Smith [mailto:DSmith@burns-group.com]
Sent: Tuesday, August 09, 2016 10:13 AM
To: TCDERmicrogrid
Subject: NJIT Town Center DER Microgrids Report

Hello –

I would like to obtain a copy of the NJIT report with the Appendix listing identified town centers. Can you provide this report or point me in the right direction? I've looked online and also searched the BPU and OCE sites,

Thank you for any assistance you can provide.

David Smith

David J. Smith
Director of Energy Services
Burns Engineering, Inc.
t: 215-979-7700 x7735 | m: 215-880-4478
dsmith@burns-group.com | burns-group.com

From: Matthew von der Hayden
To: TCDERmicrogrid
Subject: RE: Question - Town Center DER Microgrid Feasibility Study incentive program
Date: Tuesday, August 23, 2016 9:05:29 AM

Under the Town Center DER Microgrid Feasibility Study incentive program and budget are there any opportunities to participate in this program in Cape May County, specifically Ocean City, NJ?

After reading through the information on the program, under the Technical Report (Referenced here: http://www.njcleanenergy.com/files/file/Technical%20Memo_Oct_31%20%282%29.pdf on page 10) Cape May County does not have a town center that would fit this program, so I just wanted to confirm that Ocean City would be ineligible for this program?

Thank you
Matt

Matthew von der Hayden
Manager of Capital Planning
Department of Financial Management
City of Ocean City
861 Asbury Ave.
Ocean City, NJ 08226
Phone - (609) 525-9360
Fax - (609) 391-1707
Mvonderhayden@ocnj.us
www.OCNJ.US

CITY OF HOBOKEN

Office of the Business Administrator

DAWN ZIMMER
Mayor

QUENTIN WIEST
Business Administrator

STEPHEN D. MARKS, PP, AICP
Municipal Manager

Mr. Richard Mroz
President
New Jersey Board of Public Utilities
44 S. Clinton Avenue
Trenton, NJ 08625

August 30, 2016

Via electronic mail
Re: Town Centers Distributed Energy Resource (DER) Microgrid Feasibility Study Incentive Program and Hoboken Microgrid Project

Dear President Mroz,

Thank you for the opportunity to comment on the recently released Town Center DER Microgrid Feasibility Study Incentive Program. As you know, Hoboken has spent more than three years working to advance a microgrid concept with the Board of Public Utilities, Public Service Electric and Gas, Sandia National Laboratories, and the United States Department of Energy. The intent of this letter is to confirm and seek clarification that the Hoboken project is indeed eligible for advancement under this new funding opportunity.

Hoboken is currently pursuing two distinct microgrid projects, one of which would centralize a combined heat and power (CHP) plant for 22 Housing Authority buildings, and another would energize 21 facilities along our main commercial corridor (Washington Street). Both concepts were previously studied as part of the upper and lower bound solution sets presented in the Preliminary Design Summary by Sandia. We understand that the incentive program is still in the draft stages, and as such would like to suggest additional language be added to the draft that articulates the eligible activities that might apply to our project, such as feasibility, operational planning, research or regulatory precedence. Although our microgrid project continues to advance there are still technical, financial and legal areas that need to be investigated.

For example, the microgrid anchored along the length of Washington Street would be proximate (within 1 city block) to 21 of the original 55 facilities studied. Funding for the underground conduit associated with the microgrid "spine" has been authorized by the City Council, bid alternatives have been received that are consistent with the approved budget, and construction is expected to begin as early as this fall. The conduit will provide 16 contiguous blocks of parallel underground service and enable the eventual connection of a number of distributed energy resources. Additional engineering and technical feasibility must be performed before facilities such as City Hall, the Police Department, the H1 & H5 wet weather pumps, and the Fire Department can connect to the new electrical feeder. Legal and regulatory questions need resolution before we are able to connect critical facilities across multiple municipal rights of way.

The second concept capitalizes on boiler replacements as part of a Housing Authority energy efficiency investigation. In speaking with the Housing Authority we have discovered that in the mid 1990's a

centralized heating plant was decommissioned, and that underground steam pipes may still exist to each campus building that would enable a re-introduction of a centralized combined heat and power (CHP) plant. Both Housing Authority leadership and the administration are actively pursuing this concept in the hopes that a Housing Authority specific microgrid, largely dependent on CHP could integrate with existing distributed energy resources, replace outdated boilers and re-purpose the old steam pipes within a new thermal loop. This project also needs funding to understand the legal and regulatory ability for the housing authority to distribute not only thermal energy, but electrical energy amongst its 21 buildings separated by multiple municipal right of ways.

The existing draft states "The Town Center DER Microgrid – feasibility study incentive program is initially open to proposed Town Center DER microgrids that include critical facilities identified in the NJIT report or similar Town Centers within the 9 Sandy designated counties that can document that they satisfy the screening criteria set forth in the NJIT report." We suggest that additional language be added to this statement that expands and clarifies that our microgrid project and facilities are indeed eligible for inclusion in this funding round.

There are a variety of other final planning efforts that are necessary as part of the process to enable Hoboken and NJ BPU to fully implement a functioning microgrid. Hoboken still needs to build upon preliminary design feasibility, re-engage stakeholders, update consumption data and energy production capabilities at the facility level and finalize an administration structure for operations, maintenance and ownership. In addition, Hoboken intends to use grant funding to explore operational implementation. Whether it is a utility authority or another independent authority, there is a need to define how risks and benefits associated with the microgrid development will be distributed to stakeholders, owners, the general public and any private partners.

As we move forward with the Board of Public Utilities we hope that our efforts can help educate and inform the process for completing other community based microgrids throughout New Jersey. We welcome your thoughts on our request and approach.

Sincerely,

Caleb D. Stratton, AICP
Principal Planner

CC: Mayor Dawn Zimmer, City of Hoboken
Stephen Marks, Municipal Manager, City of Hoboken
Michael Winka, Senior Policy Advisor, New Jersey Board of Public Utilities

From: Jamison Hill
To: TCDERmicrogrid
Subject: Town Center DER Microgrid Comments
Date: Tuesday, August 09, 2016 5:37:07 PM

Does the applicant's proposed town center need to coincide with the Site Atlas prepared by NJIT, or can the town center be anywhere so long as it meets program criteria? The Penn Station-Gateway Center in Newark complex of interconnected seems to me at first glance a good target for micro-grid or even micro-district energy plant. Likewise, so does the Federal Courthouse-Post Office-Rodino Building-City Hall-Police Department-Municipal Courthouse complex.
~ Jamison Hill

Jamison Hill, PE, CEM, LEED-AP – Senior Energy and Sustainability Engineer
ALTANOVA Energy+Sustainability – www.altanova-energy.com
11-05 44th Drive - Long Island City, NY 11101
T: (347) 410-9024 E: jhill@altanova-energy.com

Clean Coalition
Making Clean Local Energy Accessible Now

NJ Bureau of Public Utilities (BPU) Town Center DER Microgrid Feasibility Study Incentive Program Request for Comments

The Clean Coalition is pleased to submit a response to the NJ Bureau of Public Utilities (BPU) Town Center DER Microgrid Feasibility Study Incentive Program Request for Comments.

Organization:	Clean Coalition (http://www.clean-coalition.org/)
Contact Person:	Kenny Klittich
Address:	16 Palm Court Menlo Park, CA 94025
Phone:	530-219-5035
Email:	Kenny@clean-coalition.org

The Clean Coalition is a non-profit organization dedicated to accelerating the transition to renewable energy and a modern grid through technical, policy and project development expertise. As part of this mission, Clean Coalition has developed the Community Microgrid Initiative (http://www.clean-coalition.org/our-work/community-microgrids/) to incorporate large amounts of local, grid connected distributed energy resources at an electrical substation scale and provide tiered emergency microgrid operation for resilience. This holistic approach offers economic, environmental, resiliency and security benefits.

Comment 1:

What the application says:

The advanced microgrid must have a nucleus of critical buildings and customers that can provide essential services and emergency energy services under black sky conditions in a cost effective manner, as well as operate in a cost effective manner 24 – 7 under ”blue sky” conditions.

Our comment:

The Clean Coalition would like to suggest adding language highlighting the added value from renewables-based DER, both environmental benefits as well as resilience benefits. Solar and energy storage DER technologies can be configured to provide indefinite emergency backup under ‘black-sky’ conditions, while diesel generators must be refueled and natural gas based engines rely on a functioning utility supply of natural gas. Only renewable based, locally sited DER technologies provide this very high level of community resilience.

Comment 2:

What the application says:

It should be clear to any applicant upfront in this process that while there are strong benefits including security, reliability, resiliency, energy saving and environmental, there are also costs and impacts of those costs. All of these costs and benefits need to be evaluated and assessed in an open

and fair process. EPRI advanced the principles of the benefits of DER on the distribution system as an integrated grid through their Integrated Grid Benefits-Cost Framework. This incentive program will require the development of a detailed cost benefit analysis. At a minimum, that will include an initial assessment through the Rutgers' DER Cost Benefit analysis model.

Per USDOE's various energy laboratory microgrid reports, microgrids if designed, constructed and operated properly can increase distribution grid system reliability, resiliency and efficiency with the use and integration of DER technologies. However, these general statements depend on case specific design details. A key barrier to developing Town Center DER Microgrids is the availability of detailed data on the costs and benefits of specific projects.

Our comment:

The Clean Coalition appreciates the BPU's commitment to fair assessment of costs and benefits associated with DER. We are particularly pleased to see that a third-party evaluator will be used to assess CBA for the incentive program. The Clean Coalition expects that the assessments would be made on each specific project conducting a feasibility study, such as it was done by NYSERDA for the NY Prize Community Grid Competition. Most importantly, we hope that CBA of proposed Town Center DER Microgrids would include an assessment of avoided capital investments and energy time-of-use shifting, as both provided significant benefits.

For example, following is the breadth of benefits offered by the Clean Coalition's proposed Long Island Community Microgrid Project (LICMP):

- The LICMP will avoid $29-38 million of new, local transmission capacity resulting in an immediate net cost benefit for all PSEG LI utility ratepayers.
- The local generation capacity provided by the LICMP solar and energy storage facilities will reduce NYISO capacity charges by $6 million through 2022, and at a rate exceeding $1 million annually thereafter.
- The energy storage will allow the utility to shift wholesale power purchases from daily peak pricing periods to off-peak periods, realizing net savings in energy purchases of $2.5 million by 2022 and more than $500,000 annually thereafter.
- Savings for all PSEG LI utility customers from the start and ongoing.
- Over $32 million in local wages and other economic value from project construction; and additional local economic stimulation ongoing.
- The value of avoiding loss of local electrical power to the community served by the LICMP circuits estimated by the NYSERDA Independent Evaluator at $334,000 per day of avoided outage.

We recommend that any cost effectiveness approach used consider, at a minimum, the costs and benefits included in existing analytical approaches and public cost effectiveness approaches. For example, the California Public Utilities Commission has directed utilities to develop a common locational net benefits methodology based on the Commission-approved E3 cost effectiveness

calculator (Distributed Energy Resource Avoided Cost Calculator or DERAC) to specify net benefits that DERs can provide at any given location.

The DERAC calculator can be found at:
https://www.ethree.com/documents/DERAvoidedCostModel_v3_9_2011_v4d.xlsm

DERAC is an Excel-based tool used by all California investor-owned utilities to compute the cost-effectiveness of demand-side programs. Inputs to the Calculator include the energy savings and costs of each measure proposed in a demand-side program, the anticipated installation rate of each measure, and costs related to program administration and implementation. The avoided cost model is built into the Calculator such that the outputs of the Calculator include the anticipated energy savings, emission reductions, and the TRC, PAC, and RIM test results related to the Standard Practice Model cost effectiveness methodologies.

In addition to those values currently included in the DERAC model, California has determined that the following impacts should be considered in determining the costs and benefits of distributed energy resources through the Locational Net Benefits Analysis being developed under the state's Distribution Resource Planning process (CPUC proceeding R.14-08-013)

- Avoided Sub-transmission, Substation and Feeder Capital and Operating Expenditures
- Avoided Distribution Voltage and Power Quality Capital and Operating Expenditures
- Avoided Distribution Reliability and Resiliency Capital and Operating Expenditures
- Avoided Transmission Capital and Operating Expenditures
- Avoided Flexible Resource Adequacy (RA) Procurement
- Avoided Renewables Integration Costs
- Any societal non-energy avoided costs which can be clearly linked to the deployment of DERs, such as environmental or public safety avoided costs

The Standard Practice Manual contains the Commission's method of evaluating energy saving investments using various cost-effectiveness tests. The four tests described in the Standard Practice Manual (i.e., the Total Resource Cost (TRC), Program Administrator Cost (PAC), Ratepayer Impact Measure (RIM), and Participant Cost Test (PCT)) assess the costs and benefits of demand-side resource programs from different stakeholder perspectives, including participants and non-participants.

The Standard Practice Manual can be found at
http://www.cpuc.ca.gov/uploadedFiles/CPUC_Public_Website/Content/Utilities_and_Industries/Energy_-_Electricity_and_Natural_Gas/CPUC_STANDARD_PRACTICE_MANUAL.pdf

Standard Practice Manual - Tests for Cost Effectiveness of Energy Programs

Abbr.	Name	Perspective	Description
TRC	Total Resource Cost	Utility + Participant	Combines the costs and benefits of the program administrator (usually the utility) and the participants
PAC	Program Administrator Cost	Utility	Includes costs and benefits experienced by the program administrator (usually the utility)
RIM	Ratepayer Impact Measure	Impact on rates	Includes all PAC costs and benefits, plus changes in revenues
PT	Participant Test	Participant	Includes costs and benefits experienced by the participants
SCT	Social Cost Test*	Society	Includes all TRC costs and benefits, plus several environmental benefits and a lower discount rate

**Proposed by staff in 2013, but never adopted in California*

Comment 3:

What the application says:

The applicant must be a government entity including municipal or county agency that owns or manages critical facilities.

Our comment:

While having government entities as key partners in a feasibility study is critical, Clean Coalition suggests that the application be revised to allow non-profit entities to act as lead entities in addition to local government institutions. Not all government entities have the available resources to administer and facilitate such a feasibility study - allowing this change would open up participation in this incentive to cities and municipalities that otherwise cannot take a role as the lead applicant.

Town Center Distributed Energy Resource Microgrid Feasibility Study Incentive Program

[NOTE: Below comments submitted by Paul Heitmann, who is submitting them on behalf of himself and Businovation, LLC with his interest in bringing more of these resilient and flexible grid-tied community based DER solutions into operation within NJ (preferably including renewable energy, storage, and advanced microgrid control systems.)

Paul is currently engaged in the standards definition and conformity assessment work being led by IEEE Standards Association which is developing the IEEE1547 compliance certification process that will give regulators, utilities, inverter manufacturers, and facility developers a higher confidence level in the safety and interoperability of the DER assets. These standards are critical to balance the societal desire to develop higher levels of clean, distributed DER adoption and penetration with the need for utilities to maintain visibility into, and control over, the reliability and stability of the distribution system.

Paul also serves on the Board of Directors for the NJ Clean Cities Coalition whose mission is to radically reduce carbon intensity from vehicle fleets within the transportation sector, while pursuing leverage of electric vehicle assets into valuable grid service solutions for full battery capacity utilization.]

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Comment [PDH1]: Added for context and credentials of the commentor. Please delete in final document.

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Phase 1 Application Process

Background

The U.S. Department of Energy Microgrid Exchange Group defines a microgrid as:

> *"An integrated energy system consisting of a group of interconnected loads and distributed energy resources (DER) with clearly defined electrical boundaries that acts as a single controllable entity with respect to the grid and can connect and disconnect from the grid to enable it to operate in both grid connected or island mode."*[1]

A Town Center DER microgrid, for the purpose of this incentive program, is a cluster of critical facilities within a municipal boundary that normally stay connected to and are balanced with the Area EPS operated by the local utility, but may also be reconfigured quickly to operate as shelter or enable emergency evacuation for the public during and

[1] https://building-microgrid.lbl.gov/microgrid-definitions

after an emergency event, or provide services that are essential to function during and after an emergency situation. The Town Center DER microgrid could include, but not be limited to, multifamily buildings, hospitals, transportation and traffic management systems, and local or state government critical operations in a relatively small radius.[2] These are critical facilities ~~are~~ normally connected to a single or ~~series of~~multiple DER technologies, that can operate (and perhaps co-operate) while isolated and islanded from the main grid due to a power outage. In some cases these are termed an advanced microgrid since they connect multiple customers across multiple rights of ways within a municipality.

Based on a review of the events and consequences from several recent extreme weather events on New Jersey's energy systems, the 2015 Energy Master Plan Update (EMP Update) established a new overarching goal: "Improve Energy Infrastructure Resiliency & Emergency Preparedness and Response." One of the EMP Update's new Plan for Action's policy recommendations included: "Increase the use of microgrid technologies and applications for Distributed Energy Resources (DER) to improve the grid's resiliency and reliability in the event of a major storm." [3] This new policy recommends that:

> *"The State should continue its work with the USDOE, the utilities, local and state governments and other strategic partners to identify, design and implement Town Center DER microgrids to power critical facilities and services across the State."*

The Town Center DER Microgrid – Feasibility Study Incentive Program is the first step in implementing this new policy goal.

Because of the impacts of these weather events, the State of New Jersey has entered into two Memoranda of Understanding (MOU) with the U.S. Department of Energy (USDOE) to evaluate the potential of developing ER microgrids on two key projects: (1) a microgrid within the northeast portion of the NJ Transit system (NJT Grid) and (2) a microgrid within the PSE&G service area in the City of Hoboken. To test the feasibility of these two projects, the USDOE provided funding for both the NJT Grid and the Hoboken microgrid to evaluate the improved resiliency in these proposed systems when the grid is down. In addition, the Board of Public Utilities (BPU) worked with the New Jersey Institute of Technology (NJIT) to map potential Town Center DER microgrids. The resulting report (NJIT Report) mapped 24 potential Town Center DER microgrids across the 17 municipalities in the 9 Sandy-designated counties attached as Appendix A.

Comment [PDH2]: "Series" of – has electrical connection line diagram connotations.

Comment [PDH3]: Does this have to be an actual blackout? How about "…***due to temporary performance degradation within the Area EPS***". This would cover cyber threats and other non-energy related situations.

Comment [PDH4]: Is this meant to mean Energy Resilience – or was it supposed to have a "D" in front of Energy Resources?

[2] As general rule of thumb guidance this distance would be at a maximum 1 mile or less since overall costs will increase with the distance between multiple facilities.

[3] http://nj.gov/emp/docs/pdf/New_Jersey_Energy_Master_Plan_Update.pdf

New Jersey has at least 45 operating DER microgrids. These microgrids are single building or a campus setting microgrids with mostly a single DER ~~technology~~power generation source type. The current ~~main~~ predominant New Jersey DER microgrid technology is natural gas combined heat and power systems.

As documented in EPRI's report *The Integrated Grid*,[4] DER systems can:

1. benefit the distribution grid because of their increased efficiencies;
2. assist in managing the quality of power on the grid including enhanced voltage controls and balancing real and reactive power; and
3. provide energy, capacity and other ancillary services to the larger grid, which can potentially provide additional revenues to the DER system;

A key aspect noted by EPRI's report is that DER can help to optimize the operations of the distribution grid by being fully integrated with distribution grid operations. That ~~optimization~~ integration requires the input from, and cooperation and coordination by the Electric Distribution Companies (EDC) as the microgrid owner pursues their development plans.~~.~~

Awardees~~It should be clear to any applicant~~ of this program must develop concise models that ~~upfront in this process that while there are strong~~ quantify the anticipated benefits including security, reliability, resiliency, energy saving and environmental, ~~there are~~and also clearly allocate anticipated costs and impacts of those costs. All of these costs and benefits need to be evaluated and assessed in an open and fair process. EPRI advanced the principles of the benefits of DER on the distribution system as an integrated grid through their Integrated Grid Benefits-Cost Framework.[5] This incentive program will require the development of a detailed cost benefit analysis. At a minimum, that will include an initial assessment through the Rutgers' DER Cost Benefit analysis model.

Per USDOE's various energy laboratory microgrid reports, microgrids if designed, constructed and operated properly can increase distribution grid system reliability, resiliency and efficiency with the use and integration of DER technologies.[6] However, these general statements depend on case specific design details, as well as potential regulatory barriers that may exist which could prevent full value realization of the DER value. A key barrier to developing Town Center DER Microgrids is the availability of detailed data on the costs and benefits of specific projects. BPU is establishing a Town Center DER Microgrid - Feasibility Study Incentive program that will assist in the

Comment [PDH5]: Recommend having a pre-bidders webinar having Rutgers walk prospective applicants through to properly understand the commitment to following this model.

[4] http://www.epri.com/Our-Work/Pages/Integrated-Grid.aspx
[5] http://www.epri.com/abstracts/Pages/ProductAbstract.aspx?ProductId=000000003002005003
[6] http://www.energy.gov/oe/services/technology-development/smart-grid/role-microgrids-helping-advance-nation-senergy-syst-0

development of this case specific data for the evaluation, assessment and demonstration of potentially successful implementation of advance microgrid pilots on a community scale across the state.

The Town Center DER Microgrid Feasibility Study Incentive program is intended to serve as one part of guidance for the BPU in establishing a statewide microgrid policy for connecting multiple customers across multiple rights of ways (ROW) and can include both electric and thermal energy. The focus in this initial program is on critical facilities at the local level. Critical facilities will be classified as:

- A public facility, including any federal, state, county, or municipal facility including transportation fleet assets,
- A non-profit and/or private facility, including any hospital, police station, fire station, water/wastewater treatment facility, school, multifamily building, or similar facility, including transportation assets, that :
    - is determined to be either Tier 1 or critical infrastructure by the Office of Emergency Management or the Office of Homeland Security and Preparedness or
    - could serve as a shelter or enable effective citizen evacuation during a power outage.[7] . They must be able to document the ability to be a shelter during an emergency when there is a major grid outage.

Comment [PDH6]: In terms of what? Safe floor load capacity? Fire safety evacuation occupant numbers? Available water and sewage capacities? Access to and egress from?

Target Market and Eligibility

The Program would be managed by BPU through a Memorandum of Understanding (MOU) between the Town Center DER public partners and the BPU. With its application, the Town Center DER public partners will provide a letter of support from the local electric distribution company (EDC LOS) which details the EDC's willingness to assist in the study. The MOU and the EDC LOS will be part of staff's recommendation in the Board's Order to approve the Town Center DER microgrid feasibility study incentive.

The Program will be managed in two phases one for a feasibility study and the second for detailed engineering design.[8] This application is only for feasibility studies. Initial feasibility evaluations are capped at $200,000. An applicant must have a BPU approved feasibility study or equivalent to be eligible for any subsequent detail engineering design incentives.

[7] A shelter must have the ability to provide food, sleeping arrangements, and other amenities to the public during and after an emergency.

[8] The second detail engineering design incentive is TBD and depends on the Board's approval of the budget allocation and program details.

The applicant must be a government entity including municipal or county agency that owns or manages critical facilities. There must be one lead local government agency but all current local government agency partners will be required to enter into the overall agreement. The BPU seeks applicants that show a high degree of planning and ability to implement all or portions of a micro grid proposal. This will include the ability of the local government entity to enter into agreements with the BPU, its partners and the local electric and gas utility to assist in the feasibility study.

The Town Center DER Microgrid – feasibility study incentive program is initially open to proposed Town Center DER microgrids that include critical facilities identified in the NJIT report or similar Town Centers within the 9 Sandy designated counties that can document that they satisfy the screening criteria set forth in the NJIT report.

The Town Center DER Microgrid – feasibility study incentive program is not open to single-building or campus-setting microgrids that are eligible for other NJCEP incentives. This incentive program is not to evaluate or perform a feasibility study for an individual customer or single building microgrid; or a campus setting microgrid. Public sector, not for profits and colleges/universities single building or campus setting microgrids can obtain a high level assessment of their potential microgrid through the local government energy audit (LGEA) program.

The feasibility study incentive program is for a project that includes multiple critical facility customers either entirely within a single municipality, or between adjacent municipalities that may have additional opportunities to develop and expand highly efficient shared services that could be developed ~~as~~ form ~~an~~ the advanced microgrid. The advanced microgrid must have a nucleus of critical buildings and customers that can provide essential services and emergency energy services under black sky conditions in a cost effective manner, as well as operate in a cost effective manner 24 – 7 under ”blue sky” conditions.

Applicants must demonstrate an ability to incorporate multiple critical facility stakeholders into the Town Center DER microgrid. Each applicant must identify the proposed stakeholder groups, how they were identified, and level of commitment to participate in the feasibility study program. Applicants must demonstrate a firm understanding of the technical and power infrastructure needs of each critical facility stakeholder. This would include any initial early stage studies of the overall Town Center’s energy needs both electric and thermal, the types of DER technologies, interconnection technologies, utility requirements and any initial microgrid cost/benefit modeling. This feasibility study incentive is not for early stage planning needs and such studies will not be funded.

The applicant’s residents must be serviced by a regulated electric utility that ~~pays~~ collects a societal benefits charge (SBC) from them on their electric bill.

Comment [PDH7]: Where is this defined or delineated? Love the term but should be elaborated – ie just Sandy2 or include cyber threats? Low solar and wind outputs? Governor in a bad mood? ;-)

Comment [PDH8]: This seems like a legal terminology. Maybe “fully engage” or more specifically “systemically interconnect”

Comment [PDH9]: Maybe “their role and function in the core microgrid design”

For the first round of applications the consultant for the local government is limited to one award.

Comment [PDH10]: Unclear of meaning or intent.

Program Technical Requirements

Town Center DER Microgrid applicant must submit a pre-application that includes at a minimum the following:

1. Project Name

2. Project Description including all potential critical facilities with a description of why they are critical facilities within the proposed Town Center DER Microgrid. This should include the following:

    i. approximate size of the project in energy (electrical and thermal);

    ii. approximate electric and thermal load of each building;

    iii. the estimated square footage of each building and the total project;

    iv. the overall boundaries of the proposed project and distance between critical facilities; and

    v. the FEMA Category Classification of each building

3. If applicant is not a Town Center identified in the NJIT report, documentation indicating that it satisfies the screening criteria set forth in the NJIT report is required as follows:

    Criteria were based on a cluster of critical facilities that included the following ranking:

    1. Criticality based on the FEMA Category Classification of Facilities.

    2. Total electric and thermal loads based on Btu's per square foot.

    3. A Town Center should have at least 2 Category III or IV facilities within 0.5 miles and a facility with an energy usage of approximately 90 M Btus per square foot.
    4. A list of all potential partners to be included in the Town Center DER microgrid MOU.
    5. A general description of the technology to be developed within the Town Center DER Microgrid. This should include a description of the proposed connection (electric and/or thermal) of the critical facilities and the DER technologies. This should include a location of the connection to the EDC's facilities/equipment.

6. A general description of the overall cost and potential financing that may be available.
7. A general description of the benefits of the proposed Town Center DER Microgrid as well as the need for the proposed project. Both 6 and 7 should be detailed with any available microgrid modeling efforts that have been performed.
8. Timeframe for the completion of the feasibility study.
9. The specific microgrid modeling to be used in the overall feasibility study.
10. The requested funding amount.
11. Any cost share by the Lead Local Agency or any of the stakeholder partners.
12. An EDC LOS.

Comment [PDH11]: Are communities already identified in the NJIT study exempted from this amount of preparation? Seems like a very strong tilted field.

Pre-application Review Process

Given the initial limited funding BPU is implementing a quasi-competitive process for the review and approval of the Town Center DER microgrid feasibility study incentive. BPU staff will open a window for pre-applications to be submitted based on the criteria in this application process. The window will be open for 60 days. Based on a review by BPU staff the pre-applications will be ranked based on the below criteria if more pre applications funding requests are received than total funding available:

1. Distribution of feasibility study projects across all electric utilities. The objective of this criterion is to have at least 1 Town Center DER microgrid feasibility study project in each of the PSE&G, JCPL, ACE, and RECo territories. However, staff may select 2 or more feasibility studies in one specific electric distribution company service territories based on criteria 2 and 3 below.
2. Distribution of feasibility study projects across the state. The objective of this criterion is to have Town Center DER microgrid feasibility study projects in different areas of the state based on the qualities of the distribution system, the availability of local services and the proximity of vulnerable communities that would shelter in place.
3. The applicant demonstrates understanding of the technical, financial and power infrastructure needs of each Town Center DER Microgrid stakeholder.
4. The evaluation of the applicant's proposed project based on the criteria identified in the NJIT Report as follows:
    1. The number of FEMA Category III or IV facilities; and
    2. The total electric and thermal loads based on Btu's per square foot.

~~2.~~5. The potential for the project to open up significant pathways to shared services opportunities between adjacent municipalities and/ or local federal joint use land programs.

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Comment [PDH12]: I added this concept here in the "last ditch" section but it might even be appropriate to include to back in the primary considerations language. This is a very hot topic – and one which has much synergy with microgrids (or regional *groups* of "nested" microgrids)

If the total available funding for this program is not allocated after the review of the applications submitted in the 60 day time period, the BPU will make recommendations for awards based on a first come first serve basis and will open subsequent funding request windows.

Incentive

The pre-application submittal must be approved by the Board. The Board will issue a Notice to Proceed to confirm the availability and commitment of funding. Phase 1 funding is capped at a maximum of $200,000. The BPU anticipates between 5 to 10 approved Phase 1 Notice to Proceed letters. The Notice to Proceed will include an MOU between all the Town Center DER public partners, the BPU and the EDC LOS. It will detail the terms of the commitment including timeframes for the completion of the feasibility study.

All payments for the Phase 1 Feasibility Incentive will be made after the completion and acceptance of the final report. A Phase 1 approval is no guarantee of any subsequent incentive nor is it the BPU approval of the DER Town Center Microgrid. Pre-applications can be submitted to TCDERmicrogrid@bpu.nj.gov

Shoreline Energy Advisors, LLC

August 30, 2016

Once again, thank you for the opportunity to provide comments on your proposed Town Center Distributed Energy Resource Microgrid Feasibility Incentive Program.

The program is timely and pertinent to the current energy resilience challenges we face in New Jersey and we have only a few comments on the program design.

- While there seems to be a premise that acquisition of the required Letter of Support from the host LDC will be a fait accompli, one can foresee a situation where some may be less than cooperative and diligent in processing the request, gathering needed load data and completing any analysis that may be required to offer an opinion on a particular sites suitability for interconnection. It is not a stretch to hypothesize that a micro grid that is eventually implemented might represent an existential threat in the view of an LDC's. It is perhaps overly optimistic to believe that all LDC's will be timely and forthcoming in proving the required Letter of Support and subsequent load data as the study gets underway. It's a bit like asking Russia to support a Ukrainian voter referendum on the future governing of the Crimean Peninsula. It might be helpful to:
    - Have the LDC name a specific individual within their company who is responsible for processing these requests with email, cell and office phone numbers, etc. readily available
    - Specify a reasonable time limit (e.g.: 5 business days) for an LDC to get back to any consultant/engineer/developer/government entity/rate payer making a request for the Letter of Support
    - Specify a reasonable time limit (e.g.: 5 business days) for an LDC to provide any requested usage, capacity, tariff or other historical account data for a facility/meter address being considered for inclusion in a proposed micro grid once a customer release has been secured and delivered to the LDC.
    - Specify that the above referenced account data will be made available in electronic format in 15 minute interval periodicity if the customer meter provides for this, or in otherwise monthly periodicity
    - Specify what the BPU considers acceptable rationale for withholding a Letter of Support which presumably would be limited to existing documented instances of interconnection issues such as line congestion or readily recognizable safety issues
    - In the event an LDC does not have specific data on the interconnection or safety issues that might prohibit the development of a micro grid, but suspect that such issues may exist, the LDC should make this reservation known at the time of the request from the engineer/consultant/developer/government entity/rate payer

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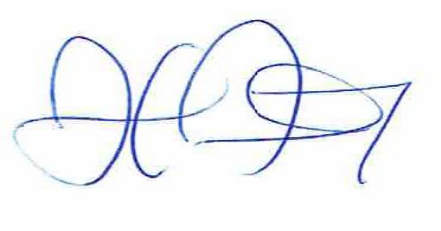
- If more than one town can be incorporated into a micro gird proposal, the BPU should consider lifting the $200,000 cap on each individual study. Presumably the amount of the award for a specific proposal will in part be determined by the number of facilities served and their ability to meet the criteria for "critical facilities" addressed in the initial program design.
- Asking a consultant or engineer to wait for the completion of this type of study until they are to be paid for their work is a bit unreasonable. These studies will admittedly take from 6 to 24 months for completion. We assume there is a recognizable process that the BPU expects to be followed in the completion of these studies and it would seem that there would be identifiable milestones in the pursuit of that process which could be marked by a series of deliverables or the completion of key activities. If the delivery of these deliverables or the accomplishment of these key activities could be specified and progress payments be made as those milestones are reached, the financial burdens would be far less onerous for those conducting the studies. This process might also act as a better project management / quality control approach for the BPU as they would be more involved in the development of these studies and would have less of an occasion for receiving work that does not comport with the intentions of the program. It would also provide a real time learning experience from which the BPU staff could evolve and develop any subsequent incentive programs beyond this phase.

Thank you again for the opportunity to make these comments. If there any questions or a need for clarification, I would be happy to discuss them at your convenience.

Very truly yours,



Frederick Fastiggi, DGCP
SHORELINE ENERGY ADVISORS, LLC.

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EDF
ENVIRONMENTAL DEFENSE FUND
Finding the ways that work

August 30, 2016

Via Electronic Mail

New Jersey Board of Public Utilities
44 South Clinton Avenue
Trenton, NJ 08625

RE: Town Center Distributed Energy Resource Microgrid Feasibility Study Incentive Program

Dear NJBPU Commissioners:

Thank you for the opportunity to comment on the Town Center Microgrid Incentive Program.

As stated in our 2015 Energy Master Plan Update comments, …", microgrids have the potential to integrate clean distributed resources and to contribute to carbon reductions and cleaner air. Additionally, microgrids have the potential to serve as laboratories for innovation." We anticipate that "The Town Center Microgrid Incentive Program" will be one step toward realizing that potential.

We support the BPU's creation of the Town Center Microgrid Program and the intent to collect data and other information on regulatory and technology barriers that will inform new microgrid policies. In order to keep interested stakeholders informed of the program's progress including any barriers that are encountered, we recommend that the BPU establish a stakeholder engagement process. The BPU could establish a "Microgrid Working Group" that would convene regularly at which time Staff could provide updates. In our experience, working groups provide an opportunity for industry and other stakeholders, like EDF, to both be informed and inform programs and processes.

Respectfully submitted,

Mary Barber
New Jersey Director, Clean Energy

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New York, NY / Austin, TX / Bentonville, AR / Boston, MA / Boulder, CO / Raleigh, NC
Sacramento, CA / San Francisco, CA / Washington, DC / Beijing, China / La Paz, Mexico

TO: NJ Board of Public Utilities and New Jersey's Clean Energy Program

RE: NJ Community Resilience Microgrid Program

The U.S. Green Building Council (USGBC), and our affiliated certification body, Green Business Certification Inc. (GBCI), both nonprofit organizations, are committed to a prosperous and sustainable future through cost-efficient and energy-saving infrastructure, including green buildings and microgrids. Our members include over 12,000 organizations, representing local, state, and federal government agencies, private sector businesses, and nonprofit organizations.

As strong and enthusiastic advocates for climate action, clean energy, resource efficiency and resiliency, we support the New Jersey Town Center Distributed Energy Resource Microgrid initiative. We are offering PEER resources (here) for you to reference in your final Program Technical Requirements document. PEER can be utilized by applicants to improve their business case, establish a balanced performance scorecard, and to improve their concept designs to maximize benefits for all stakeholders.

USGBC and GBCI now offer PEER, which stands for Performance Excellence in Electricity Renewal (PEER). PEER is an analogous, market-focused rating and certification system for electric power systems including microgrids, and will be a powerful tool to increase the breadth and speed of positive change in the power industry. Providing a system of strategies, PEER helps electricity leaders, professionals, and operators:

- Reduce energy costs and cut economic losses caused by supply contract inefficiencies, poor energy reliability, poor power quality, and energy inefficiency
- Define key performance metrics, benchmark to industry standards, and verify measureable outcomes
- Quantify the value produced to date, identify sources of customer value, and make the case for investment by revealing waste and performance gaps
- Rigorously assess projects based on a comprehensive, balanced scorecard of sustainable performance criteria
- Demonstrate competitive advantage and comparative differentiation
- Build a comprehensive continuous improvement process based on industry best practices to maximize returns and minimize risks
- Build trust, credibility, and customer satisfaction
- Establish a common language for stakeholders by facilitating education and collaboration

PEER provides a valuable framework that can be used to assess new designs and developments, long-term improvement plans, and existing project performance. For example, the Chattanooga Electric Power Board (EPB) team used PEER to inform system changes, and with a DOE grant achieved a 60 percent increase in reliability. PEER enabled the Chattanooga project team to assess their current state, develop strategies for improvement, improve the business case and verify the value of system changes. Using next-generation utility benchmarks, EPB's assessment supported deployment of an advanced fiber-optic communications backbone; self-healing automation; state-of-the-art data management system; advanced metering infrastructure; and customer-focused tools, programs and policies.

The USGBC and GBCI strongly encourage the uniform measurement and reporting of electric power system attributes via certifications systems like PEER. Specifically, we encourage the use of the PEER screening process in combination with the "initial assessment through the Rutgers DER Cost Benefit analysis model."

Sincerely,

Ryan Franks

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Comments

Town Center Distributed Energy Resource Microgrid Feasibility Study Incentive Program

Submitted by Gabel Associates
August 30, 2016

On August 5, 2016, the Office of Clean Energy posted a draft incentive program application for the Town Center Distributed Resource Microgrid Feasibility Study Incentive Program ("the Program"). Staff held a stakeholder meeting on August 23, 2016 and has requested stakeholder input on its draft program application by August 30, 2016.

Gabel Associates ("GA") herewith submits its comments on the draft program application.

GA recognizes the importance of microgrid architecture as one strategy to achieve greater grid resiliency and other benefits, as articulated in the recent update to the Energy Master Plan. Notably, State investment in feasibility studies will help support the ultimate development of the first generation of Town Center Distributed Resource Microgrids. These pioneer projects will establish a foundation for further market development of microgrid solutions in New Jersey. There is much to be learned from these first projects.

As such, it will be important for BPU to choose the study proposals that will have the greatest likelihood of success, and which do the most to develop the market. Focus should be on projects might really get built (as opposed to more theoretical studies), and which provide the greatest learning from these first generation microgrid projects.

Given this consideration, we recommend that the BPU consider additional flexibility regarding the condition, appearing on page 5, that: ***For the first round of applications the consultant for the local government is limited to one award.***

This condition would tie the BPU's hands, potentially limiting its ability to select the strongest projects for this first round.

We also recognize that it would be unfair for one entity to dominate the first round of studies, however a fair balance of these considerations would cap the energy consultant to no more than three awards in this first round. The BPU really hasn't lost anything by

increasing the cap slightly, since it still has discretion in all award decisions. Retaining a cap, but at a higher limit, creates certainty for potential respondents, avoids the risk of domination of the solicitation by any one entity, but still allows the BPU flexibility in award decision making.

We believe it will be important for the BPU to have an opportunity to consider a broader sample of strong project proposals, and the associated opportunity to choose among the strongest and most impactful projects.

We appreciate the opportunity to provide comments.