



Agenda Date: 9/30/14  
Agenda Item: 9B

**STATE OF NEW JERSEY**  
**Board of Public Utilities**  
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**Post Office Box 350**  
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**MISCELLANEOUS**

IN THE MATTER OF THE NEW JERSEY ENERGY RESILIENCE BANK – INITIAL PROGRAM GUIDE AND BUDGET EXTENSION	)	ORDER
	)	DOCKET NO. QO14060626
IN THE MATTER OF THE NEW JERSEY ENERGY RESILIENCE BANK – WATER AND WASTEWATER TREATMENT FACILITIES FINANCIAL PRODUCT	)	DOCKET NO. QO14091018
	)	

**Party of Record:**

**Michele Brown, Chief Executive Officer, New Jersey Economic Development Authority**

**BY THE BOARD<sup>1</sup>:**

This Order memorializes action taken by the New Jersey Board of Public Utilities ("Board") at its September 30, 2014 public meeting where the Board, pursuant to the Subrecipient Agreement ("SRA") entered into with the New Jersey Economic Development Authority ("EDA") in August 2014 and a stakeholder process, adopted the New Jersey Energy Resilience Bank ("ERB", "Bank" or "Program") Grant and Loan Financing Program Guide ("Guide") and Financing Program ("Product") for the Water and Waste Water Treatment Facilities ("WWWWTF") sector, directed Board Staff to develop a Product application and a second level review process, and extended the time period for Staff to present a budget for the ERB program to the Board.

**BACKGROUND AND PROCEDURAL HISTORY**

Since approximately 2001, in implementing the Electric Discount and Energy Competition Act of 1999, N.J.S.A. 48:3-49 to 109 ("EDECA"), the Board has provided incentive programs to encourage the development of New Jersey Class I renewable energy and energy efficient power systems. These incentive programs are designed in accordance with the mandates of EDECA and the policies and goals of the 2011 New Jersey Energy Master Plan. Following the destruction caused by Superstorm Sandy, Board Staff began working with other State and federal agencies to explore opportunities to mitigate the detrimental effects of prolonged service disruptions by encouraging investment into energy resilience technologies, including renewable energy and energy efficient systems, at critical facilities.

<sup>1</sup> This matter was decided by the Board at its September 30, 2014 agenda meeting. At that time, the only sitting Commissioners were then President Dianne Solomon, Commissioner Joseph L. Fiordaliso, and Commissioner Mary-Anna Holden.

In particular, Board Staff began collaborating with the National Renewable Energy Laboratory ("NREL") to identify opportunities that would enable critical facilities, such as hospitals, W/WWTF and shelters to continue to operate despite a prolonged electric service disruption. See National Renewable Energy Laboratory, *Alternative Energy Generation Opportunities in Critical Infrastructure, New Jersey* (November 2013) ("NREL Report"). The NREL Report examined potential methods for enhancing energy resilience at critical facilities by combining distributed generation ("DG") technologies with microgrid technologies and leveraging funding to support renewable energy ("RE") and energy efficiency ("EE") technologies, including the concept of an energy bank. *Id.* at 17-18.

In the aftermath of Superstorm Sandy, the federal government issued a disaster declaration for the State that enabled New Jersey individuals and certain entities to access specified federal programs. The federal government also enacted the Disaster Relief Appropriations Act of 2013 on January 29, 2013. Public Law 113-2, 42 U.S.C. 5189 (2013). The law appropriated additional funding through the Community Development Block Grant Disaster Recovery ("CDBG-DR") program for communities that experienced natural disasters during 2011, 2012 or 2013. *Id.*

In the course of applying for the federal funding, the New Jersey Department of Community Affairs ("DCA") submitted an Initial Action Plan for the Utilization of CDBG-DR Funds in Response to Superstorm Sandy ("Action Plan") to the U.S. Department of Housing and Urban Development ("HUD"). The Action Plan was submitted on March 12, 2013 and initially approved by HUD on April 29, 2013 for the first round of CDBG-DR funding. Following the release of the second round of CDBG-DR funding allocation issued by HUD on October 13, 2013, DCA on March 25, 2014 submitted to HUD *Action Plan Amendment Number 7, Substantial Amendment for the Second Allocation of CDBG-DR Funds* ("Amendment Number Seven") that proposed the creation and capitalization of the ERB with \$200 Million of CDBG-DR funds. On May 30, 2014, HUD approved Amendment Number Seven to the Action Plan, including funding for the New Jersey ERB.

Amendment Number Seven to the Action Plan outlined two main goals for the ERB: to provide financial and technical assistance for individual projects that will enhance resiliency and to further develop a market that would encourage additional investments in energy resilience projects. To achieve these goals, Amendment Number Seven provided several types of financial instruments that the ERB could offer in order to incentivize critical facilities to install energy resilience improvements, including but not limited to, early stage grants, direct loans, principal forgiveness and loan loss reserve coverage for private lenders. *Id.* at 3-33, 3-34.

Preliminary discussions with Board and EDA Staff, with input from DCA and the Governor's Office of Recovery and Rebuilding, culminated in the development and execution of a Subrecipient Agreement between EDA and BPU, which sets forth the respective duties and responsibilities of each agency in connection with the joint development and implementation of the ERB, including the joint responsibility for the development of ERB program guidelines and financial products guide. The BPU and the EDA approved the Subrecipient Agreement on August 18, 2014 and August 19, 2014, respectively. The decision was made to initially focus on the W/WWTP sector due to the significant direct and indirect impacts the community at large experienced due to disruption of electric service or actual physical damage to these facilities during Superstorm Sandy. In the development of the ERB Guide and Product for W/WWTP, Board Staff and EDA Staff solicited public input on the design and operation of the ERB as well as the type and structure of financial incentives the program should offer to W/WWTP facilities.

To that end, Board Staff and EDA Staff held three public conferences with stakeholders on April 7, 2014, April 11, 2014 and August 27, 2014. The public was notified of each meeting by posting the time, date and purpose of each event on the Board's website. EDA and Board Staff also notified interested stakeholders about the meetings through an email to the Board's Office of Clean Energy, RE and EE e-mailing lists. Each public meeting was open to in-person attendance, by phone participation or by video-conference service accessible through the Internet. Board and EDA Staff were available at each meeting to provide current updates and overviews of the ERB concept and to answer questions and provide clarifications about the Program and the proposed financial offerings of the Bank. Each of the conferences was well attended.

Along with the Board's website notice announcing the August 27, 2014 meeting, the Board provided a link to draft WWWWTF Product and Guide proposals, posted in both English and Spanish, on which the public was invited to provide input and comments at the meeting and through the submission of written comments by mail or email. Interested parties were given until Friday, September 5, 2014, to submit public comments regarding the drafts, with any comments received after that time, to be considered for possible future revisions to the Guide.<sup>2</sup> The notice of the August 27, 2014 meeting and the draft Guide and Product were also emailed to a large and varied assortment of relevant NJCEP list serves including the Energy Efficiency Committee, the Renewable Energy Committee, the Combined Heat and Power ("CHP") / Fuel Cell Work Group, the Biopower Work Group and the Storage Work Group. Additionally, notice of the August 27, 2014 meeting and the draft of the Guide and Product for WWWWTF were sent to the New Jersey Association of Environmental Authorities, the New Jersey Water Environment Association, the New Jersey League of Municipalities, the New Jersey Hospital Association and the New Jersey Association of Counties. The meeting notice and draft Guide and Product were also posted on the NJCEP, NJBPU and NJEDA websites. In all, 143 individuals registered with 61 attending the meeting in person and 82 on line participants.<sup>3</sup>

During the August stakeholder meeting, oral comments and questions were taken by staff and addressed at that time. Participants were instructed to submit all questions and comments on the Guide and Product through the BPU comment email address. Written comments were received from the following entities: Atlantic City Electric, Atlantic City Municipal Utility Authority, Bergen County Utility Authorities, Bloom Energy Corporation, Clean Energy Group, Clean Energy States Alliance, Concord Engineering, Energenic, Energy Management, Inc., Hackensack University Medical Center at Pascack Valley, Jersey Central Power & Light, New Jersey Future, NY/NJ Baykeeper, Ocean County Utility Authority, OnForce Solar, Inc., Passaic Valley Sewage Authority, Public Service Electric and Gas, Shoreline Energy Advisors, LLC, Solar Grid Storage, LLC, Standard Solar, SunEdison, LLC, Township of Middletown Sewerage Authority and Trenton Biogas, LLC.

ERB Staff reviewed, considered and discussed all submitted comments and drafted responses to them. A summary of the comments and the responses is incorporated into this Order as Exhibit C.

The questions and comments were thorough and wide-ranging and several members of the public offered support for various elements of the ERB proposal. The public also offered support for the ERB's attention to solar plus battery storage and its immediate attention to WWWTP.

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<sup>2</sup> The actual comments received can be viewed on the BPU website at:  
<http://www.bpu.state.nj.us/bpu/commercial/erb/index.html>

<sup>3</sup> Note that similar stakeholder processes are anticipated with the rollout of each sector.

There were significant comments on the financial and funding portion of the ERB, specifically on the definition of "unmet need" for funding, the percentage of the grant and loan forgiveness, and the loan portion itself. Several other comments requested an increase to solar plus storage funding caps. There were also questions on the scoring criteria and weighting of the scoring, and comments questioning HUD's Low to Moderate Income ("LMI") requirements, the use of societal impacts for scoring and the volume of customers served by an applicant facility. Comments also addressed how applicant projects would be rated based on the timing of the project, total funding needs and their place in the submission queue. The Electric Distribution Companies ("EDCs") commented on net-metering issues, the legality of the projects and interconnection and impacts to the existing tariffs. There were also a myriad of technical questions regarding critical loads, technology, permitting, and inquiries regarding the ERB's definitions of and allowances for "direct" and "indirect" impact as they relate to Super-storm Sandy and qualifying storm events.

BPU and EDA Staff reviewed and thoughtfully considered all public comments and found valuable suggestions on how to improve and clarify the proposed ERB Guide and WWWTF Product. Staff incorporated many of those useful suggestions into the Guide and WWWTF Product before it was presented the proposals to the Board. Staff also provided clarification and explanation in response to several comments and responded to all. A summary of the Guide and Product changes based on comments received is as follows:

- Clarification on the funding mechanisms; specifically the grant and loan format, and that the ERB will fund 100% of unmet financial needs for eligible projects.
- Inclusion of language requesting applicants to apply for NJDEP permits early in the process.
- Recommending that applicants contact their local EDC for interconnection policy and process.
- Recommending that applicants financially leverage projects as best as possible.
- Increase in caps on the solar plus storage technology.
- Adjustments to scoring category weights to encourage technology efficiency and economic effectiveness.
- Recognizing that the ERB will closely coordinate with the New Jersey Environmental Infrastructure Trust ("EIT") in instances where the ERB may be used to purchase new or retrofit Distributed Energy Resources ("DER") technologies, whereas EIT funding may be used to harden the critical facility in order to better protect the DER technologies obtained through the ERB.
- Inclusion of the NOAA tool for use in determining flood elevations and expected sea-level rise.
- A more detailed discussion of direct versus indirect impacts and the eligibility of indirect impacts under the Program, as determined by HUD.

Upon completion of the comment/response period the Guide and Product were finalized by ERB Staff. The proposed Guide is attached to this Order as Exhibit A. The purpose of the Guide is to present the main goal and structure of the ERB program. A summary of the Guide's contents is as follows:

#### **ELIGIBLE TECHNOLOGY**

One of the primary objectives of the ERB program is the use of DER technologies, including CHP, fuel cells, and renewable energy resources such as solar with energy storage capabilities, for resiliency and continued operation of critical facilities during an emergency event. While the

current facilities being targeted by the ERB program are WWTF facilities, the overall group of facilities will ultimately include hospital and long term care facilities, colleges and universities, state and county correctional facilities, primary and secondary schools, multifamily housing units, community shelters, certain municipal facilities, and transportation and transit infrastructure. Eligible DER equipment may be installed in new systems or as retrofits to existing systems and microgrids. Only the incremental costs of retrofit installations will be eligible for ERB funding. The systems must be capable of "Islanding"<sup>4</sup> and disconnecting from the grid and well as have "blackstart"<sup>5</sup> capability. While the costs for purchasing and installing solar photovoltaic cells are not funded under the program, energy storage and inverters are eligible for ERB funding.

The ERB is funded by the CDBG-DR, a HUD program, and the Societal Benefits Charge (SBC), N.J.S.A. 48:3-60.3. The financial aspect of the ERB is to provide project funding for 100% of the unmet needs of eligible applicants. That is to say, the ERB will provide the remaining funds necessary to complete the project after any insurance, other State grants and/or incentives and any Federal grants or incentives are obtained for the project. The loan term can be up to 20 years. The project costs eligible under the program are detailed in the Guide. Additionally, the disbursement of funds is reviewed in detail.

### **HUD REQUIREMENTS**

HUD funding requirements applicable to ERB funding require that: CDBG-DR funds be spent primarily within the nine Counties most impacted by Sandy (Atlantic, Bergen, Cape May, Essex, Hudson, Middlesex, Monmouth, Ocean, and Union); applicant facilities must have been directly impacted by Sandy or another qualifying storm (indirect impacts to facilities will be considered for the Program on a case-by-case basis and reviewed with HUD)<sup>6</sup>; applicants must be CDBG-DR eligible based on HUD regulations; facilities within the Coastal Barrier Resource Area are generally ineligible, with exemptions; facilities must be operational within two years of the loan/grant closing, with the option of up to two six month extensions, if granted; equipment under the Program must be installed above current FEMA base flood elevations and flood insurance is required; equipment installed under the Program must be resilient to flooding and storm surge; and all projects must comply with applicable federal and State requirements for CDBG-DR funds.

### **GENERAL REQUIREMENTS**

General requirements under the Program are that the equipment must be new, commercially available and stationary or permanently installed on the customer side of the meter; a separate performance meter must be installed that is capable of recording all renewable energy generation; CHP systems must achieve an annual system efficiency of at least 65% based on the lower heating value ("LHV") and electric only generation fuel cells must achieve at least a 50% electrical efficiency; system equipment warranties are required; the DER system must be designed to carry the facility's critical loads during a seven-day grid outage without a delivery of fuel to emergency generators; the system must have a CEEEP DER (Center for Energy,

<sup>4</sup> Islanding is the process in which the facility or equipment can be isolated from the outside electrical infrastructure (grid) and operate under its own generation.

<sup>5</sup> Blackstart refers to a facility's ability to start up generation equipment without the use of external power supply.

<sup>6</sup> Lists of eligible disasters as well as municipalities impacted by Superstorm Sandy are included in the proposed Guide and Product.

Economic and Environmental Policy) cost-benefit ratio greater than 1.0 at all times under full load; and the systems, except for solar off-grid inverter and storage systems, can be sized larger than the facility's electric and thermal loads.

The Guide also discusses the application and process, review, approval process, challenge process, reporting requirements, and quality control.

## **APPLICATION PROCESS**

The application process is specified in Section 5 of the Guide. It is envisioned to encompass several phases. ERB Staff will either solicit or respond to inquiries on behalf of appropriate facilities. Such potential applicants may also complete an on-line In-take application which will be reviewed by ERB Staff. Once the In-take application is reviewed, ERB Staff will contact the applicant and discuss the eligibility of the project for the ERB program. If the project is eligible, the applicant will fill out a full application and submit to the ERB. EDA Staff will review the application from a financial perspective. The BPU will review the application from a technical perspective. Applicants are encouraged to contact permitting agencies and interconnection personnel from the EDCs early in the process to avoid approval and construction delays. Consistent with the Guide and Board direction, ERB Staff will develop the application form.

## **APPROVAL PROCESS**

Once a completed application has been submitted, it will be reviewed for technical and financial feasibility. If the application is determined to have met all criteria and found to be eligible for the ERB program, ERB Staff will recommend approval of the project to the EDA and BPU Boards. Since the program is funded through the use of CDBG-DR and SBC funding, both Boards will be required to approve the project before an award is granted. However, if a project will only utilize SBC or CDBG-DR funds, then approval of the BPU or EDA Board, respectively, will only be required. Approved applications will be subject to all applicable federal and State regulatory reporting requirements. All applicants will be made aware of these reporting requirements during the applicant process and after approval of the project.

The W/WWTP Product is attached to this Order as Exhibit B. The purpose of the Product is to define the Program requirements for the W/WWTP sector as there will be potential changes to the scoring criteria and financial aspects for the individual industries or sectors being targeted by the ERB. A summary of the Product's contents is as follows:

This Product will target financing of W/WWTP facilities. The Product explains the scoring criteria for each project application. The criteria includes a weighted score based on criticality, project resilience, technical feasibility, cost effectiveness, impacted communities, readiness to proceed, and HUD's LMI National objectives. A project must receive a score of at least 55 (out of 100) to be eligible.

The financial terms of the Product are designed to provide 100% of "unmet" needed funding for eligible projects, with the exception of a \$500,000 cap on "solar plus storage" projects and a cap of \$5 million for the total solar plus storage technology within the first round of the ERB. Twenty percent of the unmet needs will be in the form of a grant, an additional twenty percent of the unmet need will be a loan with principal forgiveness based on performance based standards and the remaining sixty percent will be in the form of a low interest loan.

The Product also discusses the loan terms, disbursement policy and includes a list of eligible disasters, as well as a list of municipalities impacted by Superstorm Sandy.

The SRA requires the Board and EDA to jointly develop an annual budget and to determine the use of Program income as part of that budget. Specifically, Board Staff was required to submit the budget for the first year along with the Program Guide and Product. As ERB staffing and planning are still in progress, Staff is requesting an extension of the requirement until the October 22, 2014 Board meeting. At that meeting, Staff will also present the challenge process, required under the SRA and previously directed by the Board, and the facility/developer application.

EDA Staff intends to present the proposed Guide and Product to the EDA Board, for its review and determination, at the October 14, 2014 EDA public agenda meeting. At that time, it is expected that the BPU Board will have already reviewed the proposed Guide and Product along with public comments, and issued its determinations and findings, which will be available for review by the EDA Board. Formal launching of the Program is planned to commence quickly after approval by both the BPU and EDA Boards.

## **DISCUSSION**

The Board is pleased with the attention Staff gave to creating a proposal for the ERB's implementation that is consistent with the HUD Action Plan, the goals of the State recovery plans and the SRA. The Board is also pleased with the level of stakeholder involvement and impressive variety of comments and suggestions received about the proposed Guide and Product. ERB Staff developed the Guide and Product by employing an interactive stakeholder process that included three stakeholder meetings, a comment session, a dedicated ERB sublink on the Board's website providing current updates on the status of the ERB's creation, release of Product information for the current WWTP sector, future updates to the Guide and events sponsored or attended by ERB representatives. It is based in part on those substantial efforts, including the level of notice and opportunity for public participation, that the Board is able to reach this determination.

For the following reasons, the Board **HEREBY FINDS** the process utilized in developing the Guide and the Product related to implementation of the ERB was appropriate and provided stakeholders and interested members of the public sufficient notice and the opportunity to comment and participate in the ERB process creation.

The Board has also considered the substantive provisions of the Guide and the nature of the process as it relates to the ERB. The Program Guide and Product were developed after a considerable amount of review of the needed resiliency of critical facilities in the State during major events or crises. During Superstorm Sandy, for example, WWTP facilities in all twenty-one counties lost power, resulting in the release of raw sewage into waterways at some facilities. 267 of the 604 water systems were without power, hospitals and critical care facilities were impacted, and EMS services were interrupted.

Additionally, the Guide and Product follow the intention and goals of the SRA adopted by the BPU and EDA. The Program, as represented in the Guide and Product, was developed after careful consideration of the HUD funding requirements, valuable input from the industries and stakeholders, and analysis by staff of multiple governmental agencies. Comments and input from all stakeholders were utilized to develop these program parameters. The Guide properly incorporates the use of DER technologies to enhance existing facilities and promote new

generation to critical facilities that provide valuable services to the community at large. The main requirements and structure of the program follow the principals envisioned by the State and funding sources. For those reasons, the Board agrees that the W/WWTP industry is the proper place to initiate the program. The Product for the W/WWTP infrastructure provides a basis for the application of the program into the industry.

## **CONCLUSION**

Based on the above, the Board **HEREBY ADOPTS** both the New Jersey Energy Resilience Bank Grant and Loan Financing Program Guide and ERB Funding Round 1: Water and Wastewater Treatment Facilities. Furthermore, the Board **HEREBY DIRECTS** Staff to develop a challenge process for applicants where the technical review leads to a determination that the project is ineligible. The Board **HEREBY DIRECTS** Staff to develop an application process, in conjunction with EDA, for entities that seek to apply to the ERB Funding: Water and Wastewater Treatment Facilities product. The Board **HEREBY DIRECTS** Staff to provide public notice when the application is finalized. The Board also **HEREBY** approves Staff's request for an extension to present the ERB budget and **DIRECTS** Staff to finalize the ERB budget and present it at the October 22, 2014 Board meeting for approval along with the finalized challenge process.

DATED: 10/6/14

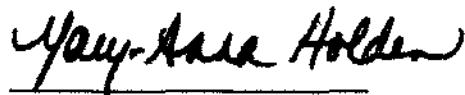
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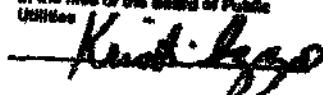
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ATTEST:



KRISTI IZZO  
SECRETARY

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**In the Matter of the New Jersey Energy Resilience Bank –  
Initial Program Guide and Budget Extension  
Docket Numbers QO14060626**

**In the Matter of the New Jersey Energy Resilience Bank –  
Water and Wastewater Treatment Facilities Financial Product  
Docket Number QO14091018**

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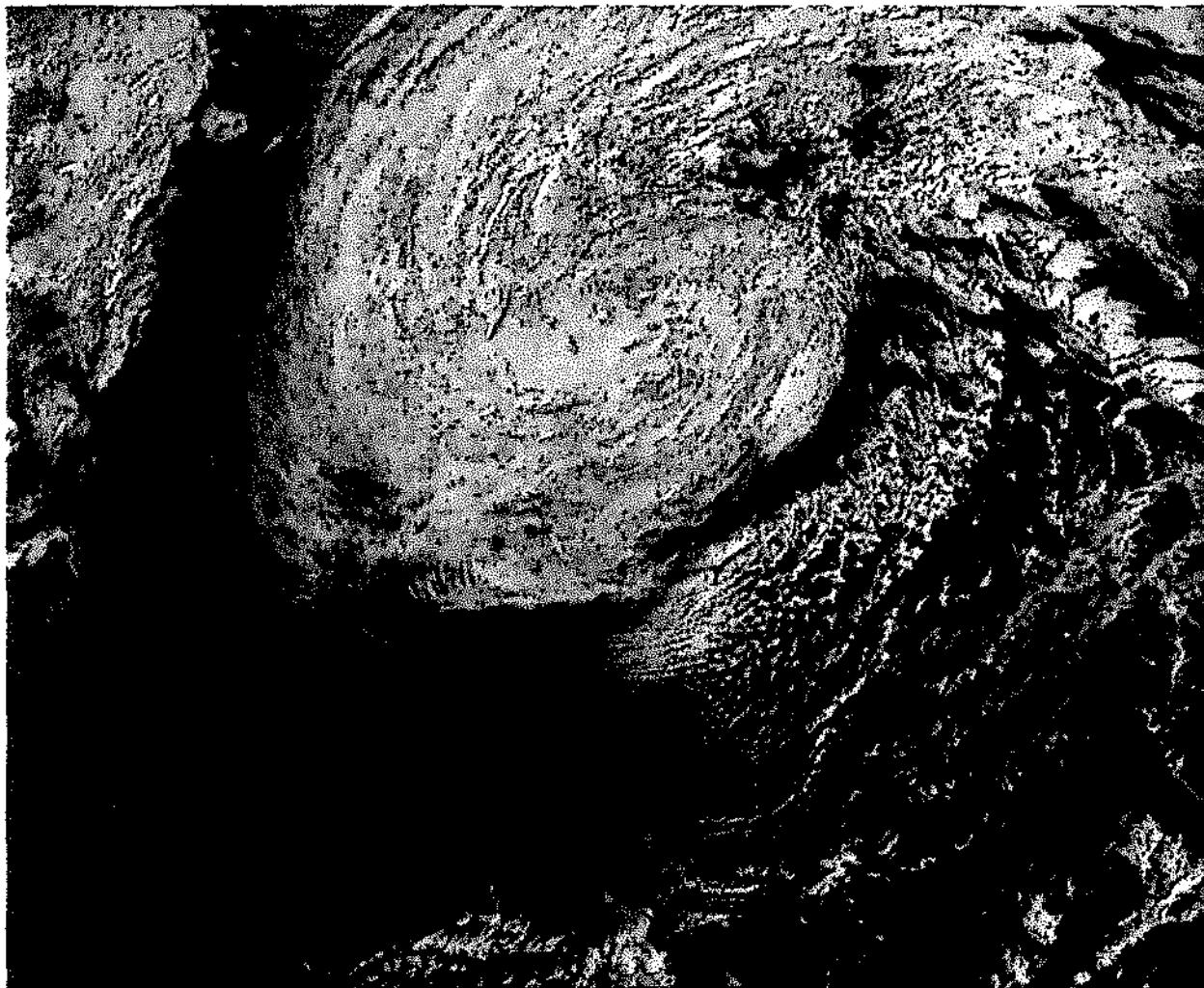
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## **EXHIBIT A: ERB Financing Program Guide**

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### **New Jersey Energy Resilience Bank Grant and Loan Financing Program Guide**



**Date:** October 14, 2014

**Revisions:**

## **EXHIBIT A: ERB Financing Program Guide**

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### **SECTION 1: INTRODUCTION**

As part of New Jersey's ongoing efforts to minimize the potential impacts of future major power outages and increase energy resiliency, the State has established the New Jersey Energy Resilience Bank ("ERB" or the "Bank"), a first-of-its-kind in the nation energy recovery and resilience financing initiative. The Bank is a new, direct and innovative approach to addressing significant energy infrastructure vulnerabilities arising in the aftermath of Superstorm Sandy.

New Jersey took various steps to assess Superstorm Sandy's impact on the State's energy infrastructure in order to develop long-term recovery strategies focused on hardening critical facilities and enhancing energy resilience. As one example, the State partnered with the U.S. Department of Energy (USDOE), the USDOE's National Renewable Energy Laboratory (NREL), and the Federal Emergency Management Agency (FEMA) to study opportunities to expand energy resilience for critical infrastructure and assets. The State also has engaged electric distribution companies regarding their recovery and resiliency plans. Additionally, the State has undertaken a cross-agency initiative to enhance the State's mapping capabilities to more easily identify practical opportunities to incorporate cost-effective resilient energy technologies. New Jersey also partnered with President Obama's Hurricane Sandy Rebuilding Task Force, USDOE, and Sandia National Laboratories to study energy resilience through expanded use of microgrid networks to protect critical facilities in urban centers as well as transportation networks. These and other efforts have directly informed the State's holistic approach to enhancing energy infrastructure resiliency following Superstorm Sandy. The Bank is a central component of that broader effort.

Financing through the Bank will be used to develop or enhance distributed energy resource ("DER") technologies at critical facilities that were directly or indirectly impacted by Superstorm Sandy or other eligible disasters. DER technologies with islanding and blackstart capabilities, described below, proved extremely resilient in the aftermath of Superstorm Sandy, allowing facilities equipped with them to continue to operate despite failures of the larger power grid. By contrast, other facilities not equipped with resilient energy resources could not operate effectively with the larger power grid down for an extended period of time, resulting in various, severe community and environmental impacts. Discharges of untreated wastewater into New Jersey waterways and numerous boil water advisories following Superstorm Sandy are just two examples of these impacts.

While DER technologies are generally more cost effective over time as compared to other resilient power options, the initial costs of installation at critical facilities are considerable. For this reason, many facilities in the past have opted to pursue less expensive diesel-powered generators, despite the fact that DER technologies are less reliant on liquid fuel supply and availability, have longer continuous run times, and have less environmental impacts. The ERB was created to assist eligible facilities with the substantial upfront costs in order to encourage wider adoption of resilient DER technologies. Utilizing \$200 million of second round Community Development Block Grant-Disaster Recovery ("CDBG-DR") funds allocated to New Jersey by the U.S. Department of Housing and Urban Development ("HUD"), ERB funds will allow critical

## **EXHIBIT A: ERB Financing Program Guide**

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facilities to invest in new or retrofitted DER technologies that will allow the facilities to operate when the larger power grid goes down ("islanding") and provide electrical start-up capabilities in the absence of a direct connection to the electric grid ("blackstart").

The Bank will be jointly administered by the New Jersey Board of Public Utilities ("BPU") and the New Jersey Economic Development Authority ("NJEDA"). This arrangement was memorialized in an agreement executed by the Boards of both agencies in July 2014. At the same time, both agencies have been directing resources to effectively develop and administer this initiative.

This Program Guide marks the next step in developing and implementing the ERB. It is intended to:

- Summarize the energy-related vulnerabilities at critical facilities arising after Sandy;
- Provide information about the DER technologies that will be funded through the ERB;
- Set forth eligibility and funding requirements applicable to all ERB financial products across all market sectors, as well as eligible product costs; and
- Describe the ERB project application and funding process.

Additionally, along with this Guide, BPU and NJEDA have provided proposed guidance regarding the first financial product that will be made available through the ERB -- up to \$65 million in funding for public, not-for-profit or certain eligible for-profit water and wastewater treatment plant operators. Current federal regulatory requirements restrict the ERB from offering financial products to critical facilities in certain other market sectors, as explained in detail below. BPU and NJEDA plan to develop products specifically for these sectors as regulatory impediments are addressed, and will roll out additional products in future ERB finance rounds.

## **EXHIBIT A: ERB Financing Program Guide**

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### **SECTION 2: ENERGY INFRASTRUCTURE AND NEW JERSEY CRITICAL FACILITIES**

Following Sandy, the State commissioned a study by Rutgers' Center for Energy, Economics and Environmental Policy ("CEEEP") regarding energy vulnerabilities and resiliency needs. Utilizing New Jersey storm electric outage data from the National Oceanic and Atmospheric Administration ("NOAA") in addition to New Jersey electric distribution companies' annual reports, the study found, among other things, that New Jersey experienced 143 events that caused a sustained power outage (i.e., an outage greater than five minutes) between 1985 and 2013. These events include tropical storms, hurricanes, wind and rain storms, ice storms, tornados, and winter storms/nor'easters. More important, of those 143 sustained outages, 27 qualified as "major outages" (i.e., an outage that impacts more than 100,000 electric customers for a period that extends beyond one day). This equates to almost one "major outage" in New Jersey every calendar year.

Superstorm Sandy was unique for New Jersey in terms of the extent of the damage and challenges resulting from power outages at critical facilities caused by the storm, but major outages are not uncommon for New Jersey. **As a result, it is crucial for the State to assist critical facilities with securing resilient energy technologies that will make them – and, by extension, the communities they serve – less vulnerable to future severe weather events and other emergencies.**

#### **2.1 Superstorm Sandy's Impact on New Jersey Critical Facilities**

Superstorm Sandy caused extensive damage to New Jersey's energy infrastructure. As a result, New Jersey's critical infrastructure and assets experienced significant disruption in service that brought everyday operations to a standstill and had significant and, in some cases, life-threatening community impacts.

Ninety-four wastewater treatment plants across all twenty-one counties lost power and were flooded. Failed pumps allowed salt water intrusion into the systems, destroying electrical equipment. It is estimated that between three and five billion gallons of untreated wastewater were discharged into New Jersey waterways. Two hundred and sixty-seven of the 604 water systems across the State were without power, and thirty-seven of those systems issued boil water advisories following the storm. One month after Sandy made landfall, seven drinking water systems were still subject to boil water advisories.

Hospitals, nursing homes, long-term care facilities, domestic violence shelters, foster homes, mental health facilities, and other critical social service providers throughout the State were forced to contemplate evacuation in light of prolonged power outages. Low-lying facilities in flood hazard areas could not operate pumping stations without power, causing direct and

## **EXHIBIT A: ERB Financing Program Guide**

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significant long-term damage to facilities. Police stations, fire stations, 9-1-1 call centers, and other buildings were also severely hindered in their efforts to provide emergency services.

After Sandy, New Jersey took various steps to assess the storm's impact on the State's energy infrastructure in order to develop long-term recovery strategies focused on hardening critical infrastructure and enhancing energy resilience. Some examples of these efforts include:

- Partnering with USDOE, NREL and FEMA to study opportunities to expand energy resilience for the State's critical infrastructure and assets. As a part of this partnership, NREL conducted a comprehensive analysis of energy needs at various critical facilities and identified opportunities for communities to enhance energy resilience by pursuing innovative and cost-effective energy solutions;
- Increasing funding to the New Jersey Clean Energy Program to provide increased rebates for recovery and resilience projects that incorporate clean energy and Energy Star standards and reduce grid demand in Sandy-affected areas;
- Undertaking a cross-agency initiative to enhance the State's mapping capabilities so the State can more easily identify practical opportunities to incorporate cost-effective distributed generation technologies; and
- Partnering with President Obama's Hurricane Sandy Rebuilding Task Force, the USDOE, and Sandia National Laboratories to study energy resilience through expanded use of microgrid networks to protect critical facilities in urban centers and transportation networks.

The State also has been working actively with electric distribution companies ("EDCs") regarding their plans for hardening energy infrastructure. Most New Jersey EDCs are privately owned, and as a result, by federal regulation are not eligible for a variety of federal recovery assistance grants. Per current HUD regulations, a privately owned utility cannot be an ERB applicant.

Superstorm Sandy also demonstrated the value of having more resilient energy technologies at critical facilities. Despite widespread failure of the electric distribution system, there were several entities throughout New Jersey in storm-impacted areas that maintained full power despite prolonged and diffuse failures of the larger electric grid. These "islands of power" had distributed generation units, which allowed the facilities to operate as microgrids while the electric grid was down. For example, Princeton University's combined heat and power (CHP) microgrid operated for a week when the larger grid failed, saving the University millions in avoided losses of irreplaceable research projects. The College of New Jersey's CHP microgrid provided heat, power, hot food and hot showers to 2,000 mutual aid workers from other states that helped to restore power after the storm. Several medical facilities also were able to maintain power through CHP microgrids, becoming larger shelters as well as accepting patients from other facilities. President Obama's Hurricane Sandy Rebuilding Task Force described the Bergen County Utilities Authority in Little Ferry, New Jersey, as a model for the region and nation because it was able to use a "biogas-powered [combined heat and power] system to

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## **EXHIBIT A: ERB Financing Program Guide**

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keep its sewage treatment facilities working during and after the storm" in the face of a prolonged power outage.

The resilience of these facilities highlighted opportunities to protect certain critical infrastructure by pursuing commercially available technologies that allow facilities to operate independently from the grid. These technologies bring the added benefit of being more cost-effective, energy efficient and cleaner power options. HUD, USDOE, and the U.S. Environmental Protection Agency all have recognized that DER technologies, in addition to providing resilience, can reduce monthly energy costs, reduce emissions, provide stability in the face of uncertain electrical prices and increase overall efficiency.

For some time, New Jersey has encouraged the use and deployment of DER technologies. For example, the Christie Administration's Energy Master Plan calls for a 17% reduction of the electrical energy usage through energy efficiency measures from 2010 levels by 2021, and the development of 1,500 megawatts of new distributed generation resources where net economic and environmental benefits can be demonstrated. The Energy Master Plan also emphasizes the need to develop new, clean, cost-effective sources of electricity that reduce the State's reliance on older plants that have more emissions and environmental impacts. New Jersey's Clean Energy Program offers several incentive programs to advance DER through the use of CHP, fuel cells, and other renewable technologies.

Nevertheless, the up-front costs of installation have kept some critical facilities from pursuing DER technologies despite the longer-term cost effectiveness and enhanced resiliency generated by such investments. Additionally, Sandy highlighted the fact that a significant number of DER systems that are currently installed and operating in New Jersey did not operate during or after the storm because they lacked "islanding" and "blackstart" capabilities. Even the installation of equipment to provide this additional functionality to existing systems (i.e., retrofitting) is generally quite expensive.

ERB financing incentives will help critical facilities overcome this financial hurdle for installing cleaner, more efficient resilient energy technologies. This will make critical facilities, and the communities they serve, more resilient to future severe weather events and other emergencies.

## **EXHIBIT A: ERB Financing Program Guide**

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### **SECTION 3: DISTRIBUTED ENERGY RESOURCE TECHNOLOGIES**

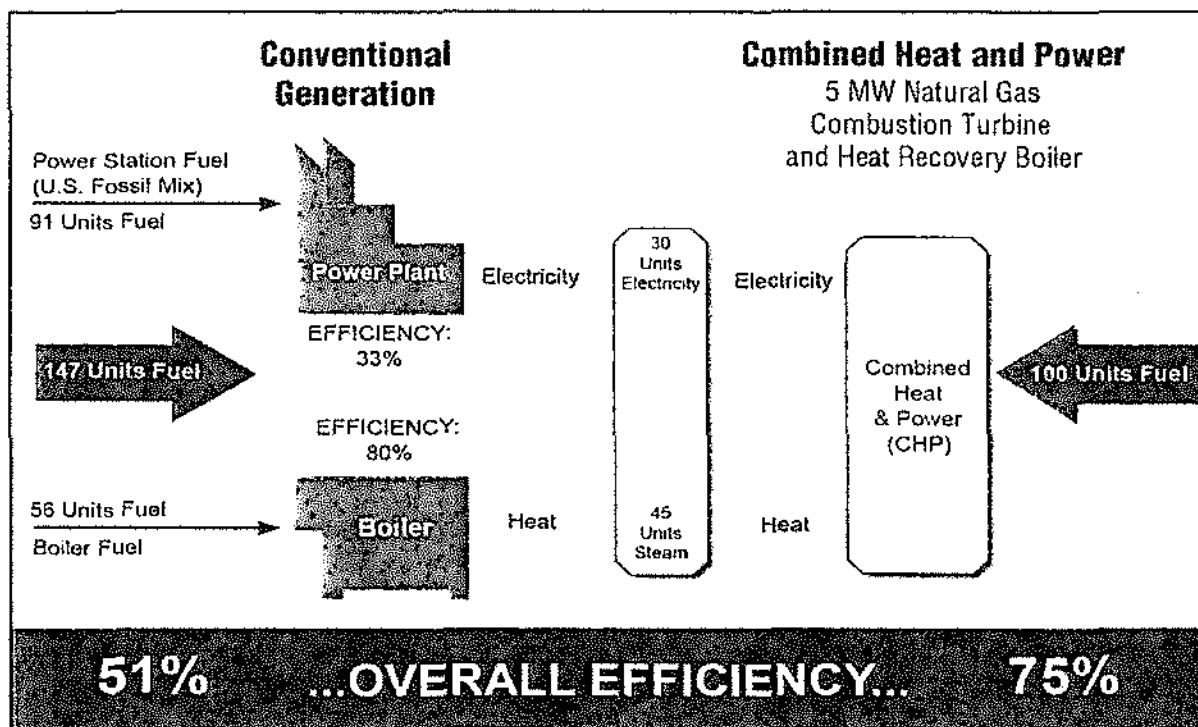
The intent of the ERB is to finance the installation or retrofitting of commercially available and cost effective resilient energy technologies at critical facilities. In this way, the ERB is technology neutral. Presently, the ERB is focusing on existing commercially available and cost effective DER technologies, including combined heat and power, fuel cells, and renewable technologies. However, the ERB can adapt with the emergence of new markets and new technologies that are practical, offer the same or greater resiliency benefits as current DER technologies, and are cost effective.

DER technologies include energy systems, equipment or processes that are small, modular and decentralized, and are either located on-site or very near the location where energy is to be used. A DER system can include, energy efficiency (EE), distributed generation (DG) and technology that allows the facility to voluntarily adjust the amount or timing of its energy consumption ("Demand Response" or "DR"). DER systems can also include engines, turbines, combined heat and power (CHP), fuel cells (FC) and renewables such as solar panels with off-grid inverters and battery storage. DER systems can be designed to function in "island" mode, isolated from the grid during a power outage or other event. During normal, non-island mode, the DER system is operating in synchronization with the grid. A system with islanding capabilities would be defined as a microgrid within the larger electric distribution system if it was capable of starting up without connection to the electric grid. This is typically accomplished through utilizing a small diesel generator or battery system.

DER systems are generally understood to be energy efficient technologies. They generate power at the point of use including both electricity and thermal energy for heating and cooling. Because of this dual operation at the point of use, DER systems are more efficient than the conventional, large, and centralized electric generating facilities. Typically, because the DER generating equipment is more modern than the equipment used in the older centralized power plants, it will also be more efficient. Efficiency also is achieved, in part, by the fact that centralized power plants must transmit power over long distances through transmission and distribution, which results in line losses of the power that those systems generate.

Additionally, DER systems utilize waste heat produced from the electric generation system to heat and cool the facility, including the production of hot water. Compared to larger, centralized power plants – which simply emit this waste heat – the DER system's reuse of this thermal energy adds to the system's overall efficiencies. In other words, facilities receiving their electricity through the transmission and distribution systems associated with centralized power plants must have a separate thermal energy system to provide the same level of heating and cooling provided by DER systems. The efficiencies are reflected in the following graphic, which uses a CHP system as an example:

## EXHIBIT A: ERB Financing Program Guide



In the graphic, the CHP system and the centralized power plant with a separate thermal energy system each produce 75 units of useful energy. However, the centralized power plant and its separate thermal energy system use 147 units of energy (i.e., 91 units for electricity production and 56 units to produce thermal energy heating and cooling), while the CHP system needs only 100 units of energy to produce the same result. Importantly, this efficiency is the same whether or not the CHP system is designed to be a microgrid with islanding capabilities. A CHP unit with islanding capabilities still would be defined as energy efficient equipment.

Fuel cells are a second DER technology that will be eligible for ERB funding. Most fuel cells that generate electricity without utilizing the produced thermal energy are more efficient sources of power than other traditional generation systems. This efficiency increases when line losses from the centralized power plant are taken into account. Moreover, fuel cells are one of the "cleanest" DER systems that use a fossil fuel; it has essentially zero nitrogen oxide (NOx), Sulfur Dioxide (SO<sub>2</sub>) and Mercury (Hg) emissions and generates no waste or wastewater. While there is a certain level of carbon dioxide (CO<sub>2</sub>) emission associated with fuel cells, which varies depending on the fuel source used, CO<sub>2</sub> emissions are low due to the efficiency of the system (i.e., they are approximately equal to CO<sub>2</sub> emissions associated with combustion of methane or natural gas). Moreover, fuel cells present the added benefit of capacity (i.e., the measure of the run-time electric generating equipment). Because fuel cells generate electricity by moving gases through a membrane, the systems essentially contain no moving parts, resulting in a capacity factor of 98% or higher. Finally, fuel cells are an extremely quiet DER system, so they can be placed in locations where other conventional electric generators like turbines or engines would violate noise ordinances.

## **EXHIBIT A: ERB Financing Program Guide**

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Solar photovoltaic (PV) systems equipped with off grid inverters and battery storage represent a third key eligible DER system. Solar PV systems convert sunlight to direct current (DC) electricity, which then must be converted to alternating current (AC) electricity to service a critical facility's equipment. An inverter transforms DC power into AC power and connects the solar PV system to the local distribution grid. Additionally, when equipped with an off grid inverter, the solar PV system can operate when the grid is down by generating power solely for the facility. Coupled with backup battery storage – which permits the facility to store excess power – such a solar PV system constitutes an ERB-eligible DER system.

Due to these higher efficiencies across the different DER technologies, on-site DER systems are defined as energy efficient equipment. The overall on-site DER systems save energy usage to the facility and save on the facility's overall energy costs. In addition, their emissions levels are lower, they generate less waste and wastewater, and they use less water in comparison to traditional centralized power plants. These efficiencies and savings are the same regardless of whether the system is designed to be a microgrid with islanding capabilities or not. Finally, designing an on-site DER does not change its overall efficiencies or definition as energy efficiency equipment.

## **EXHIBIT A: ERB Financing Program Guide**

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### **SECTION 4: ERB PROGRAM & ELIGIBILITY REQUIREMENTS**

#### **4.1 New Jersey's Energy Resilience Bank Overview**

The ERB will finance the design, acquisition, construction, and installation of distributed energy resources that will improve and increase the energy resiliency at certain New Jersey critical facilities. ERB financing will include both grant funding and longer term, low-interest loans with a portion of principal forgiven over time based on satisfying annual operational performance requirements. The grants will be provided for certain project costs incurred early in the development process. The ERB grant funding also may include reimbursement of the cost for feasibility studies related to a project, but only if the applicant proceeds with the DER project and it is funded by the ERB.

The DER technologies to be financed under the ERB include, but are not limited to:

- CHP systems using various sized gas turbines, reciprocating internal combustion (IC) engines, or microturbines and may include thermal storage;
- Fuel cells with and without heat recovery; and
- Upgrades to solar panel systems with off-grid inverters and storage systems. (The ERB will not finance the cost for installation of solar PV panels or for any balance-of-system equipment related to solar PV panels.)

CHP or fuel cells can be fueled with fossil fuel natural gas or renewable fuels such as biogas methane from landfills or digesters or hydrogen generated from a renewable source.

The energy resiliency of the critical facility must include, at a minimum, the ability of the DER technology to operate isolated from the electric utility grid as a microgrid in times when the larger electric grid is down due to extreme weather events, reliability events, security events or other grid failures. The DER technology financed through the ERB also must be capable of starting up without connection to the electric grid.

In addition to energy resiliency, the DER technologies to be financed by the ERB must include designs for flood hardening the facility in which the DER technology will be constructed and installed, as set forth in the State's Comprehensive Risk Analysis, detailed in Substantial Amendment No. 7 to New Jersey's CDBG-DR Action Plan ("Action Plan"). At a minimum, all resilient generation or storage equipment of the project within the facility will be required to be constructed above FEMA's best available data for base flood elevations, plus any additional requirements that may be imposed by federal, state, or local ordinance, statute or regulation.

As further explained in the Action Plan, any pertinent infrastructure vulnerabilities should be identified and evaluated in the feasibility and design stage using, among other tools, the National Oceanic and Atmospheric Administration's (NOAA) Sea Level Rise Tool for Sandy Recovery at <http://www.globalchange.gov/browse/sea-level-rise-tool-sandy-recovery#overlay->

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## **EXHIBIT A: ERB Financing Program Guide**

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context. Another resource that applicants may wish to use is Rutgers University's coastal flooding and sea level rise interactive mapping tool located at <http://slrviewer.rutgers.edu/>. Additionally, to the maximum extent practicable and reasonable, all project designs – including both new constructions, as well as retrofits to existing facilities – should be cost effective and energy efficient. The ERB will require a detailed ASHRAE Level II energy audit be performed for each project prior to an application to the ERB, as described in more detail below. At a minimum, it is anticipated that the goals and requirements of the NJCEP Pay for Performance or Societal Benefits Charge (SBC) Credit program will be applied to each project to be financed by the ERB. Additional financing for the installation of all practicable and reasonable energy efficiency can be developed through the BPU's Energy Saving Improvement Program (ESIP). Details on ESIP are available at <http://www.njcleanenergy.com/commercial-industrial/programs/energy-savings-improvement-program>.

**Federal regulations governing CDBG-DR funds, and the application of the regulations to the ERB, restrict or limit the opening of ERB financing to certain types of critical facilities at this time. The State is working with HUD to address these regulatory issues. As a result, ERB funding will be distributed in discrete funding rounds. The first funding round will be open exclusively to water and wastewater treatment plant operators that are public facilities, not-for-profit (NFP) entities, or for-profit (FP) businesses that meet the U.S. Small Business Administration (SBA) definition of "small business" (and, per HUD regulations, are not privately owned utilities). Federal regulations permitting, additional ERB funding rounds may be announced and made available for other critical facilities.**

### **4.2 ERB Target Market and Financing Product Development**

The ERB will focus on providing capital to those facilities that offer the greatest resilience benefits for the State. While the ERB has not set a schedule for the development and roll out of each market sector financing product, preliminarily (and subject to timely receipt of any required federal regulatory waivers or clarifications), the ERB expects to develop initial financing product for the water treatment plant and wastewater treatment plant market sector, followed by developing a financing product for the hospitals and long-term care facilities market sector. The ERB also projects to develop funding products for the following market sectors, though not necessarily in the following sequence:

- Colleges and Universities, and State and County Correctional Institutions
- Multifamily Housing Units, Primary and Secondary Schools that act as Community Shelters during disasters, Other Facilities operating as Community Shelters during disasters, Certain Municipal Buildings, and Town Centers
- Transportation and Transit Infrastructure

## **EXHIBIT A: ERB Financing Program Guide**

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- Other Tier 1 and Tier 2 Critical Facilities as defined by New Jersey's Office of Homeland Security and Preparedness

Additionally, based on marketplace analytics the ERB may develop individual financial products that benefit multiple market sectors.

ERB financing will not be made available to a specific market sector until the ERB program has developed a grant or loan product for that particular sector. BPU and NJEDA will solicit input from each sector as part of the grant/loan product development process.

Where feasible, the ERB will encourage market sectors to leverage additional federal, state, private and other funding sources to realize critical energy resiliency initiatives. As one example, the ERB will closely coordinate with the New Jersey Environmental Infrastructure Trust (EIT) in instances where the ERB may be used to purchase new or retrofit DER technologies, whereas EIT funding may be used to harden the critical facility in order to better protect the DER technologies obtained through the ERB.

However, it should be noted that, in any instances where ERB and EIT funding may be used for the same energy investment (i.e., funding for DER technologies), projects which have already been approved for funding through the EIT are expected to proceed using EIT funding. Going forward, where new or retrofitted DER technologies can be wholly funded through the ERB, applicants must first seek funding through the ERB. Where the project scope goes beyond ERB eligible project costs, the project may choose whether to pursue EIT-only funding or a combination of EIT and ERB funding.

### **4.3 ERB General Program Requirements**

The following subsections set out ERB eligibility requirements and guidelines that will apply to all financial products offered by the ERB, regardless of market sector. Among other things, this section is responsive to certain applicable HUD regulations implicated by the distribution of CDBG-DR funds through the ERB and describes eligible DER systems and project costs. Importantly, additional requirements may be incorporated, as necessary, into sector-specific funding rounds through the ERB.

#### **4.3.1 HUD Requirements**

The ERB will comply with all applicable federal laws and regulations, including those promulgated by HUD pertaining to the use of CDBG-DR funds. This includes the following:

1. HUD requires that no more than 20% of the overall CDBG-DR funding may be allocated outside the nine most impacted counties as determined by HUD (that is, Atlantic, Bergen, Cape May, Essex, Hudson, Middlesex, Monmouth, Ocean, and Union). In the administration of this program, BPU and NJEDA must remain cognizant of that requirement. Specifically for the ERB, the State has projected that no more than 50% of funding may be used outside the nine most impacted counties, though that projection is subject to change. If and when 50% (or the amended percentage, if changed) is

## **EXHIBIT A: ERB Financing Program Guide**

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reached in CDBG-DR funding commitments, the ERB will not fund additional projects outside the nine most-impacted counties using CDBG-DR funding. This condition does not limit the use of State SBC funds.

2. Applicants must show that the critical facility was either directly or indirectly impacted by Superstorm Sandy or another qualifying disaster listed in Appendix A. Direct impact means physical damage to the facility caused by the eligible disaster in the amount of \$5,000 or more. At this time, to qualify for indirect impact applicants must demonstrate one of the following two circumstances: 1) where area flooding and/or loss of power from a qualifying disaster prevented the facility from being able to treat waste water which caused there to be a release of sewage/storm water into the surrounding waterways, causing environmental damage; and 2) where area flooding and/or loss of power from a qualifying disaster prevented the facility from operating and being able to treat drinking water. Applicants using indirect impact also must demonstrate that the project is supporting revitalization of the community in which it is located. Applicants claiming other indirect impact may qualify, though determination will be made on a case-by-case basis, and will likely involve consultation with HUD. These projects are encouraged to apply even though there is no guarantee that they will be eligible.
3. Applicant facilities must be eligible CDBG-DR recipients pursuant to applicable HUD regulations. At this time, ERB applicant facilities are limited to public facilities, not-for-profit entities, and for-profit entities that meet the SBA definition of a "small business." Per current HUD regulations, a privately owned utility cannot be an ERB applicant. As HUD may provide waivers and/or regulatory clarifications, additional applicant facilities may become eligible for ERB financing. The following link from the SBA website provides information on the small business definition, <http://www.sba.gov/content/small-business-size-standards>. The definition is determined by North American Industrial Classification System (NAICS) code of the applicant facility, their average 3-year annual receipts and/or number of employees. Within the link above is a listing by NAICS codes of the annual receipts and employment maximums, and further small business information.
4. With limited exceptions, per federal regulation, CDBG-DR funding may not be used within the Coastal Barrier Resource Area (CRBA). HUD regulations may potentially bear on the provision of funding to facilities located within the CRBA. Currently, nevertheless, facilities located within the CRBA are encouraged to apply to the ERB, and the ERB will address these regulatory issues with HUD as they arise. (This condition does not limit the use of State SBC funds.) Such a facility's DER microgrid may require appropriately tailored designs to address the impacts of the CRBA. (An illustration of New Jersey's Coastal Barrier Resource System can be found at <http://www.fema.gov/national-flood-insurance-program/coastal-barrier-resource-system-new-jersey>, but this map is not dispositive of whether a facility would be considered within a CRBA.)

## **EXHIBIT A: ERB Financing Program Guide**

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5. Priority, as established through the scoring system discussed in this document and the funding round guide(s), is placed on projects which serve low and moderate income communities or which create low or moderate income (LMI) employment, either part of which is referred to as the LMI National Objective. Employment creation is measured by full-time equivalent (FTE) permanent job creation, not jobs resulting from project construction. For further information regarding LMI National Objectives please see the Chapter 3 link at the following web address,  
[http://portal.hud.gov/hudportal/HUD?src=/program\\_offices/comm\\_planning/communitydevelopment/library/stateguide](http://portal.hud.gov/hudportal/HUD?src=/program_offices/comm_planning/communitydevelopment/library/stateguide).
6. Project equipment must be installed at a facility and be operational within two years of the closing of the ERB grant and loan. Extension of this construction/operation timeframe may be granted for up to two six-month terms if the project documents significant progress has been made to date. The extension of the construction/operation timeframe will only be granted if the project documents that there were unforeseen reasons for the delay that were not known at the time of the award.
  - **All CDBG-DR funds in an approved project must be requested and disbursed by September 30, 2019. Any CDBG-DR funds not disbursed after September 30, 2019 will be rescinded. (This excludes Program Income deployed after this date and does not limit use of SBC funds.)**
7. All resilient generation or storage equipment within the project facility will be required to be constructed above FEMA's best available data for base flood elevations, plus any additional requirements that may be imposed by federal, state or local statutes or regulations.
8. Any entity that applied for and received flood-event-related assistance for damage to the property for which ERB financing is sought from any federal source for any previous Presidential disaster declaration (occurring after September 14, 1984) that required the mandatory purchase and maintenance of flood insurance pursuant to National Flood Insurance Program (NFIP) regulations, must have obtained and maintained flood insurance (unless the federally required period for maintaining flood insurance has lapsed). As a condition of receiving ERB financing, applicant will be required to purchase and maintain flood insurance to the extent required by any applicable federal regulations.
9. Consistent with the State's CDBG-DR Action Plan, any proposed project design must ensure that energy technology will be appropriately resilient to potential future flooding and storm surge. Tools that can help assess these risks include the NOAA Sea Level Rise Tool for Sandy Recovery at <http://www.globalchange.gov/browse/sea-level-rise-tool-sandy-recovery#overlay-context=> and Coastal Vulnerability Index and Mapping Protocol at <http://www.state.nj.us/dep/cmp/docs/ccvamp-final.pdf>. Another resource that

## **EXHIBIT A: ERB Financing Program Guide**

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applicants may wish to use is Rutgers University's coastal flooding and sea level rise interactive mapping tool located at <http://slrviewer.rutgers.edu/>.

10. All ERB projects must comply with all applicable federal and state requirements relating to CDBG-DR funds, which may include but not be limited to: Davis Bacon and/or Prevailing Wage requirements as set forth at N.J.S.A. 48:2-29.47 and N.J.S.A. 34:1B-5.1 et seq., Affirmative Action, subcontracting to small and minority-owned enterprises, National Environmental Policy Act (NEPA) environmental review, and National Historic Preservation Act (NHPA) historical review, among others. **No physical construction activity may occur on site until the completion of required federal environmental reviews.** Other work that does not involve on-site physical construction activities (e.g., architectural designs) may proceed prior to completion of federally required environmental reviews.

### **4.3.2 DER System and Equipment Eligibility**

Eligible DER systems may include new resilient DER systems, retrofits to existing DER systems and microgrids as follows:

**New Resilient DER Systems:** The ERB will finance new resilient DER systems that incorporate any, or all, of:

- DER equipment, such as fuel cells without heat recovery, off grid inverters and battery storage associated with solar photovoltaic (PV) panels, and combined heat and power (CHP) systems including fuel cells, turbines or engines;
- DER equipment that is able to disconnect and operate independently of the electricity grid in the event of a blackout to provide continuous electricity supply to a facility (islanding); and
- DER equipment that is capable of starting up without connection to a functioning grid (blackstart).

**Note:** The ERB will not finance the cost or installation of solar photovoltaic (PV) panels, or any balance-of-system equipment related to solar PV panels. However, off grid or dynamic inverters and battery storage related to solar PV panels will be financed. Any solar electricity storage must be paired with other DER technology to meet the resiliency criteria set forth below.

**Retrofits to Existing DER Systems:** The ERB will finance retrofits to existing DER systems that incorporate any, or all, of:

- Incremental distributed generation equipment, such as fuel cells without heat recovery, off grid inverters and batter storage associated with solar PV panels, and CHP systems including fuel cells, turbines or engines to meet the critical load requirement. Only the

## **EXHIBIT A: ERB Financing Program Guide**

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incremental expansion of DER equipment to generate electricity or useful thermal energy is eligible; and

- The addition of islanding and blackstart equipment to meet the minimum resilient and critical load requirement.

For existing DER solar PV panels, this includes upgrades to an off-grid or dynamic inverter and battery storage.

**Note:** The ERB will not finance the cost or installation of solar photovoltaic (PV) panels, or any balance-of-system equipment related to solar PV panels. However, off-grid or dynamic inverters and battery storage related to solar PV panels will be financed. Any solar electricity storage must be paired with other distributed generation technology to meet the resiliency criteria set forth below.

**Microgrids:** The ERB will finance equipment necessary to connect a collection of load centers together to a distributed generation source. This may include demand management and other control technologies to match the electrical supply and demand.

For new DER technologies, retrofits, and microgrids, all electric storage projects must be capable of meeting the below resiliency criteria to operate during a continuous seven-day electric grid outage. For solar storage, this system can be paired with an on-site emergency or back-up generator with fuel storage. The ERB will not finance the cost of emergency back-up generators.

**Note:** Nothing contained in this Program Guide is intended to promote project configurations that are, or may be, inconsistent with existing statutes or regulations. Applicants should consult with appropriate energy and legal advisors and with their local electric distribution company regarding the operational and legal feasibility of proposed project configurations.

### General Requirements:

To qualify for financing to install new resilient DER systems, retrofits to existing DER systems, or microgrids through the ERB, the following general eligibility requirements must be met for all market sectors:

1. DER equipment must be new, commercially available and stationary or permanently installed on the customer side of the meter.
2. For projects incorporating renewable energy technology, in order to verify the renewable energy certificates (REC) for the DER systems (CHP or fuels cells fueled with biogas or renewable hydrogen), or solar REC (SREC) for storage added to existing photovoltaic system, a separate performance meter must be installed that is capable of recording all renewable energy generation.

## **EXHIBIT A: ERB Financing Program Guide**

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3. CHP systems must achieve an annual system efficiency of at least 65% based on the lower heating value (LHV), and electric only generation fuel cells must achieve at least a 50% electrical efficiency. System efficiency is defined as the total useful electrical, thermal and/or mechanical power produced by the system at normal operating rates and expected to be consumed in its normal application divided by the lower heating value of the fuel sources for the system.
4. CHP or Fuel Cell system warranty, service contract, or equivalent must be all inclusive for at least ten years. The warranty must cover all components that are financed under the ERB. The warranty must cover the full cost of repair or replacement of defective components including all labor costs.
5. The DER system must be able to disconnect and operate independently of the electric grid in the event of an emergency that results in a grid outage. In order to prevent back feeding to the distribution system, all DER systems must be able to automatically disconnect from the utility in the event of a substantial congestion, grid interruption or grid power failure.
6. The DER system must be able to start up without connection to the electric grid.
7. The DER system must be designed to provide energy to all designated critical loads during a seven-day grid outage without a delivery of fuel to emergency generators. Over the course of such an outage, facilities could plan on using emergency generators and fuel storage in conjunction with the resilient DER system. The costs associated with emergency generators or fossil fuel storage tanks are not eligible for ERB funding.
8. The DER systems must be sized to supply the facility's critical loads. The critical loads are the sum of the electrical load of the facility equipment required to perform the facility's critical functions. This may result in excess useful thermal energy, which would need to be addressed in the feasibility study, energy audit and final design.
9. The critical function should include any anticipated shelter function to provide a safe and secure facility for displaced employees, customers or residents in the event of a disaster or other emergency. This may include microgrid capabilities to connect additional buildings or facilities.
10. The DER system must operate a minimum number of hours to have a CEEEP DER cost-benefit ratio greater than 1.0 at all times under full load. The facility must document the ability to operate at that capacity during the full year. The CEEP DER Cost Benefit Model is available at <http://ceep.rutgers.edu/combined-heat-and-power-cost-benefit-analysis-materials/>.

## **EXHIBIT A: ERB Financing Program Guide**

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11. DER systems, except for solar off-grid inverter and storage systems as noted below, can be sized larger than the facility's electric and thermal loads provided they have customers for the additional electricity and useful thermal energy that meet the on-site definitions at N.J.S.A. 48:3-51 and 48:3-77.1. However, redundancy measures may not be funded by ERB.
12. Applicants are encouraged, to the extent possible, to make use of technology manufactured in and project construction to be completed by New Jersey-based businesses.

### **4.3.3 Applicant and Finance-Related Requirements**

1. Applicants are responsible for obtaining all appropriate interconnection approval and tariff approval, if required, from their local natural gas and electric utilities.
2. Applicants are responsible for obtaining and maintaining all construction and environmental permits from the appropriate agencies.
3. Applicants must have no outstanding violations with the New Jersey Department of Environmental Protection.
4. For-profit and non-profit applicants must be registered to do business in New Jersey with Dun and Bradstreet, and have a DUNS number. Governmental entities and instrumentalities of governmental entities such as authorities do not need to comply with the business registration requirement. However, all applicants must have a DUNS number.
5. For-profit and non-profit applicants, and any third-party contractors, must be in good standing with the State of New Jersey, and must not be debarred by the federal government or the State. Governmental entities and instrumentalities of governmental entities such as authorities do not need to comply with this requirement.
6. For-profit and non-profit applicants must receive tax clearance from the New Jersey Division of Taxation as evidenced by a tax clearance certificate. Governmental entities and instrumentalities of governmental entities such as authorities do not need to comply with this requirement.
7. In no case should the sum total of any and all grants, incentives, rebates, tax credits or other tax incentives or other financing exceed 100% of the overall system costs.
8. If any SBC funds are used to finance a project, the ERB applicant must be a customer of an electric distribution utility or a gas distribution utility that pays a SBC surcharge for natural gas or electric usage.

## **EXHIBIT A: ERB Financing Program Guide**

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9. Where feasible, applicants are encouraged to leverage federal, state, private and other funding sources with ERB funding to realize critical energy resilience projects.

## **EXHIBIT A: ERB Financing Program Guide**

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### **4.4 Project Costs**

#### **4.4.1 Eligible Project Costs**

Financing is available for total eligible project costs, less any applicable equity contribution, and less other sources of funding (and subject to all applicable CDBG-DR regulations, including those governing duplication of benefits). Eligible project costs include:

1. Reimbursement for feasibility studies. Initial costs for feasibility studies are borne by the applicant. These costs may be eligible for reimbursement if the project is selected for ERB funding and the first disbursement milestone is met.
2. DER system equipment that meets the criteria in 4.3.2 above and all equipment necessary to convert fuel into electricity or electricity and useful thermal energy. This includes all gas cleanup systems.
3. All secondary components located between the existing infrastructures for fuel delivery and the existing infrastructure for power distribution, including equipment and controls for meeting relevant power standards, such as voltage, frequency and power factors.
4. All secondary components connecting thermal energy output to the facility's existing thermal systems.
5. Storage equipment for electricity (e.g., batteries to store on-site renewable electricity production).
6. Storage equipment for fuel produced on-site (e.g., biogas), if it can be demonstrated that more on-site fuel will be produced than can be consumed by the resilient distributed generation system.
7. Incremental additional costs required to make distributed generation equipment islandable, including blackstart equipment and grid isolation equipment.
8. Acquisition of property on which the equipment is being installed and necessary for installation of the equipment, excluding property acquisition associated with solar installation. The applicant will be required to document that there is no reasonable on-site alternative to the acquisition of additional property.
9. Fuel pre-treatment cost such as biogas treatment and compressors for boosting inlet pressure.
10. Installation and construction costs for the above equipment.

## **EXHIBIT A: ERB Financing Program Guide**

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11. Site preparation and other civil work necessary to build a project, including cost to flood harden the facility.
12. Project engineering and project management.
13. Contingency up to a maximum of 10% of total eligible project costs. Contingency is not included in the basis for grant calculations.

### **4.4.2 Ineligible Project Costs**

1. All costs associated with emergency generators or fossil fuel storage tanks or any components of emergency generators.
2. Systems that require fuel deliveries such as diesel or propane.
3. Used, refurbished, temporary, pilot, or demonstration equipment.
4. Solar PV panels, or balance-of-system equipment related to solar PV panels. (However, upgrades to the inverter and storage-system components are eligible costs.)

## **EXHIBIT A: ERB Financing Program Guide**

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### **SECTION 5: APPLICATION, REVIEW AND APPROVAL PROCESS**

The following section describes the two-step application and review process.

#### **5.1 ERB Initial Intake Application and Review**

Prior to applying to the ERB for project financing, each project must have a detailed energy audit performed, which includes the DER system. This may include a previously conducted audit or an updated audit which includes the DER system and must be either a Local Government Energy Audit conducted by the New Jersey Clean Energy Program or an ASHRAE Level II audit conducted by a DPMC classified energy audit professional. Information on energy audits provided free of charge through the New Jersey Clean Energy Program can be obtained at <http://www.njcleanenergy.com/commercial-industrial/programs/local-government-energy-audit/local-government-energy-audit>.

Additionally, prior to applying to the ERB for project funding, each project applicant is strongly encouraged to meet with staff of the Office of Permit Coordination and Environmental Review (DEP's ONE STOP permit coordination) to identify needed permitting for the proposed project. Follow this link <http://www.nj.gov/dep/pcer/> for further information about ONE STOP. Moreover, applicants already aware of projects that may be eligible for funding through the ERB are encouraged to engage DEP to begin the permitting process even before an application for ERB funding is submitted. DEP has taken steps to address increases in permit requests arising in connection with Sandy recovery.

Also, prior to applying or during the design phase, the project applicant is strongly encouraged to meet with its EDC to confirm that the proposed system will be compatible with the EDC's infrastructure, and discuss interconnectivity and other issues that may arise in connection with the project.

An ERB In-Take Application will be made accessible through the BPU and NJEDA websites ([www.bpu.state.nj.us](http://www.bpu.state.nj.us) and [www.njeda.com](http://www.njeda.com)), which will gather general information about the applicant and project. Once completed and submitted, BPU and NJEDA will review the project to determine if it falls within the ERB program general technical and financial requirements, as well as within any other requirements that may be specific to a particular ERB funding round.

If the project is determined to meet all basic requirements of the program, the project applicant will be asked to provide additional information and submit further details regarding the project for review and funding consideration on a detailed Full Application, discussed below.

## **EXHIBIT A: ERB Financing Program Guide**

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### **5.2 ERB Full Application and Review**

A completed Full Application will be reviewed to determine eligibility. If the completed application meets all necessary requirements, it will be scored using the Scoring Criteria applicable to the ERB funding round.

Projects will undergo a technical review that may include, but may not be limited to, equipment selection, equipment layout, site design, operating profile, existing fuel delivery infrastructure and grid interconnection plans. Projects also will undergo an underwriting analysis which may include, but may not be limited to, an assessment of the applicant's ability to repay the loan portion of the funding, a credible funding source(s) to fund any remaining gap between sources and uses and cost overruns, experience and capacity of the applicant to complete the project, creditworthiness of the applicant, and whether the applicant and project meet all federal CDBG-DR funding requirements.

Additional information regarding the Full Application process, including proofs of cost reasonableness, capacity to timely utilize CDBG-DR funding, satisfaction of specific CDBG-DR regulatory requirements including ensuring no duplication of benefits, among other things, will be provided upon development and release of the Full Application. The Full Application may vary slightly across funding rounds to account for certain differences that may arise between projects focused on different types of critical facilities.

In evaluating project applications, the ERB will consider whether the project meets the 15% energy savings goals of the NJCEP Pay for Performance or SBC Credit program. Further details of these program goals can be found at <http://www.njcleanenergy.com/commercial-industrial/programs/pay-performance> and <http://www.njcleanenergy.com/commercial-industrial/programs/societal-benefits-charge-credit-program>.

### **5.3 Project Funding**

Following completion of the Full Application and the scoring of applications according to the scoring criteria applicable to the funding round, projects that meet the minimum scoring requirements will be brought for consideration to the Boards of both BPU and NJEDA (or considered by delegation to staff, if applicable). Scoring criteria may vary slightly by funding round, but generally, projects will be evaluated based on a comprehensive risk analysis framework that incorporates the following principles:

1. Criticality
2. Resilience
3. Technical Feasibility
4. Cost Effectiveness
5. Impacted Communities Served

## **EXHIBIT A: ERB Financing Program Guide**

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6. Readiness to Proceed
7. Meeting HUD Low- to Moderate-Income National Objective

A comprehensive underwriting process also will be incorporated into funding decisions for project applications submitted to the ERB.

Approved projects will be deemed preliminarily eligible for funding, subject to successful completion of a NEPA environmental review, as necessary, and any additional on-site reviews that may be federally required as a precondition of receiving CDBG-DR funding.

Any project qualifying as a "Major Infrastructure Project" pursuant to the HUD Federal Register Notices of November 18, 2013 and March 27, 2014 also will be required to be reviewed by HUD before funding is approved. This review includes publishing a Substantial Amendment to the New Jersey Department of Community Affairs CDBG-DR Action Plan, followed by a public comment period, and then submission of the proposed amendment to HUD for consideration which can take up to 60 days. "Major Infrastructure Projects" are projects that:

- Are physically located in multiple counties (i.e., physical construction activities for the same project will occur in multiple counties);
- Have a total project cost of \$50 million or more, with at least \$10 million of CDBG-DR funding; or
- Involve two or more related projects that combine to have a total project cost of \$50 million or more, with at least \$10 million of CDBG-DR funding.

### **5.4 Appeals**

An applicant will be able to formally appeal final eligibility decisions for ERB funding. Further information on the appeal process will be forthcoming.

### **5.5 Reporting Requirements**

Approved projects will be subject to all applicable federal and state regulatory reporting requirements, which may include, but not be limited to: energy and facility performance, HUD National Objectives, labor requirements, procurement requirements, environmental requirements and employment. To the extent that other reporting requirements may apply, applicants will be made aware of these requirements and will have to provide information sufficient to satisfy the requirements.

Energy and performance reporting may be an online remote reporting system that tracks daily performance.

## **EXHIBIT A: ERB Financing Program Guide**

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### **5.6 Quality Control Provisions**

Prior to closing, the ERB may employ an outside entity or another state agency to review the application file to determine that the closing is appropriate and meets ERB requirements. Additionally, any contract relating to ERB-funded projects where deployment of oversight monitors is mandated, pursuant to N.J.S.A. 52D-15.1 to 15.2, will be required to undergo monitoring in accordance with those requirements.

All grants provided under this program will be subject to the Single Audit Act and the provisions of the Single Audit Policy set forth OMB Circular 04-04-OMB.

# EXHIBIT A: ERB Financing Program Guide

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## APPENDIX A

### ELIGIBLE DISASTERS

To be eligible for funding under the Energy Resilience Bank, according to the Robert T. Stafford Disaster Relief and Emergency Assistance Act (P.L. 93-288), as amended by the Disaster Relief Act of 1974 (P.L. 93-288), projects must demonstrate a tie to one of the listed weather events below or have incurred physical damage from one of the listed storms.

- **Declaration No. 1954** – Severe Winter Storm and Snowstorm (Incident Period: December 26, 2010 to December 27, 2010). Impacted counties: Passaic, Bergen, Morris, Essex, Hudson, Union, Somerset, Middlesex, Mercer, Monmouth, Ocean, Burlington, Atlantic, Cumberland, Cape May.
- **Declaration No. 4021** – Hurricane Irene (Incident Period: August 27, 2011 to September 5, 2011). Impacted counties: all twenty one counties.
- **Declaration No. 4033** – Severe Storms and Flooding (Incident Period: August 13, 2011 to August 15, 2011). Impacted counties: Gloucester, Salem, Cumberland.
- **Declaration No. 4039** – Remnants of Tropical Storm Lee (Incident Period: September 28, 2011 to October 6, 2011). Impacted counties: Passaic, Sussex, Warren, Hunterdon, Mercer.
- **Declaration No. 4048** – Severe Storm (Incident Period: October 29, 2011). Impacted counties: Middlesex, Somerset, Hunterdon, Union, Morris, Warren, Essex, Bergen, Passaic, Sussex, Cape May.
- **Declaration No. 4070** – Severe Storms and Straight-Line Winds (Incident Period: June 30, 2012). Impacted counties: Salem, Cumberland, Atlantic.
- **Declaration No. 4086** – Hurricane Sandy (Incident Period: October 26, 2012 to November 8, 2012). Impacted counties: all 21 counties.

## **Exhibit B: ERB Financing Program Guide**

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Date: October 14, 2014

### **ERB FUNDING ROUND 1: WATER AND WASTEWATER TREATMENT FACILITIES**

A maximum of **\$65 million** may be committed to projects in this first ERB funding round, which will be open to wastewater treatment plant (WWTP) and water treatment plant (WTP) applicants that satisfy the threshold eligibility criteria in Section 4 as well as all requirements for funding set forth below. Capping this funding round at \$65 million is intended to ensure that sufficient funding is available for future funding rounds that may benefit other critical market sectors. Importantly, capping this initial funding round should not be taken to mean that additional ERB funds cannot be made available for WWTP and WTP applicants.

Once the application becomes available, completed applications will be reviewed as received, and the application window will remain open until funds are allocated. Applications will not be accepted once the budget cap is reached, based on submittal of a complete application. However, as mentioned above, the ERB may modify this initial budget cap based on availability of funding, prioritization of other sectors, CDBG-DR funding limitations, or other factors.

#### **1.1 Maximum Award**

There is no maximum project award for this funding round except for a per project cap on electricity storage equipment; however, cost effectiveness, including the amount of CDBG-DR funds sought in relation to the benefit realized from the project, is a critical factor in scoring qualifying projects.

The total available budget in this Funding Round 1 for **electricity storage equipment** such as batteries to store onsite renewable electricity production is **\$5 million**, and each project will be limited to a cap of **\$500,000** for electricity storage equipment.

#### **1.2 Scoring Criteria for Funding Round 1**

**Scoring Criteria** – Projects will be scored on a point system between 0 and 100 based on the following:

1. **LMI National Objective (20 points)** – A project that meets HUD's Low Moderate Income (LMI) National Objective will receive 20 points. A project that does not meet this National Objective will receive 0 points.

## **Exhibit B: ERB Financing Program Guide**

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**2. Readiness To Proceed (Up to 10 points)**

- a. A project will receive 10 points if project completion is reasonably expected within one year from the estimated closing date.
- b. A project will receive 5 points if project completion is reasonably expected more than one year, but less than two years, from estimated closing date.
- c. A project will receive 0 points if project completion is reasonably expected to be more than two years from the estimated closing date.

For purposes of this criterion, project completion will be measured by such factors as scope of the project; status of permitting; if applicable, availability of other funding to complete the project; and reasonableness of proposed project timeline. Importantly, this factor is not measured from the date of application submission, but rather from the date of closing.

**3. Technology Efficiency/Economic Cost Effectiveness (Up to 30 points) – Using the Rutgers Center for Energy, Economics and Environmental Policy Distributed Energy Resource Cost Benefit model:**

- a. A project will receive 30 points for a cost-benefit ratio greater than 3.0.
- b. A project will receive 25 points for a cost-benefit ratio between 2.5 and 3.0 (including 3.0).
- c. A project will receive 20 points for a cost-benefit ratio between 2.0 and 2.5 (including 2.5).
- d. A project will receive 15 points for a cost-benefit ratio between 1.5 and 2.0 (including 2.0).
- e. A project will receive 10 points for a cost-benefit ratio between 1.0 and 1.5 (including 1.5).

***Projects with a Cost-Benefit Ratio less than 1.0 are not eligible for funding.***

**4. Most Impacted Communities (Up to 15 points) – Projects at critical facilities that were directly or indirectly impacted by Superstorm Sandy or other qualifying disaster, as listed in Appendix A:**

- a. Will receive 15 points if the critical facility serves three or more of the municipalities listed in Appendix B.
- b. Will receive 10 points if the critical facility serves one or two of the municipalities listed in Appendix B.

## **Exhibit B: ERB Financing Program Guide**

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- c. Will receive 0 points if the critical facility serves none of the municipalities listed in Appendix B.

The list of communities in Appendix B is based on FEMA data showing municipalities with the largest combined number of primary homes and rental units that sustained at least \$8,000 of physical damage (i.e., "major" damage) as a result of Superstorm Sandy. While facilities impacted by disasters other than Sandy are eligible for ERB funding, the additional emphasis on Sandy derived from this scoring factor is necessary to ensure compliance with regulations governing the use of CDBG-DR monies that fund the ERB, including the requirement regarding the overall percentage of CDBG-DR monies that must be expended within the nine most-impacted counties as determined by HUD.

5. Criticality (10 points) – A facility that is identified as a state level asset in the Office of Homeland Security and Preparedness State Asset database will be awarded 10 points.
6. Microgrid (10 points) – A project that includes more than one free-standing facility interconnection will be awarded 10 points.
7. Facility Energy Efficiency (5 points) – A project that meets or exceeds the performance requirements of Pay for Performance of the Societal Benefits Charge (SBC) Credit program, or project is participating in the Energy Savings Improvement Program (ESIP), will receive 5 points.

In addition to the above scoring criteria, funding determinations also will be based, in part, on the results of a comprehensive credit underwriting analysis.

Finally, all DER system designs, as outlined in Section 4.3.2.7 of the ERB's Program Guide, should be consistent, to the extent possible, with the guidance set forth in NJDEP Auxiliary Power Guidance and Best Practices for Wastewater and Drinking Water Systems (see <http://www.nj.gov/dep/watersupply/pdf/guidance-ap.pdf>).

**Scoring Results** – Projects must score a minimum of 55 points or more to be considered eligible for project financing. Projects that do not score at least 55 points pursuant to these criteria will be deemed ineligible for funding (and may not be resubmitted in the case of future funding rounds open to WWTP and WTP facilities, unless either the circumstances of the project or the parameters of the program change).

### **1.3 Financial Product Terms for ERB Funding Round 1**

The financial product terms for this ERB Funding Round 1 are as follows:

1. Funding – ERB will provide 100% of unmet funding needs for an eligible project, after equity contribution applicable to for-profit owned projects, (i.e., the ERB may finance the entire funding gap, after applicable equity contribution is satisfied.) The amount of unmet need will be established through the federally required duplication of benefits/unmet need analysis. In funding up to the entire unmet need of an eligible

## **Exhibit B: ERB Financing Program Guide**

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project, 40% of the funding gap (remaining after equity is applied, if applicable) will be provided in the form of an incentive and 60% through an amortized loan. The terms of the incentive and loan financing are described below.

a. Incentive

1. Grant – 20% of unmet funding need, after any applicable equity contribution, will be provided as a grant
2. Loan – 20% of unmet funding need, after any applicable equity contribution, will be provided as a loan with principal forgiveness based on performance standards as follows. Principal forgiveness will be provided in equal percentages over five years (4% each year) based on proof of successful operation of equipment and evidence of minimum required performance.
  - a. Performance will be measured through a method of measurement and verification (M&V) to support the claim of achieving minimum run hours and production capacity. M&V requirements may be documented through a real-time remote performance reporting system.
  - b. If a project does not meet the required performance level at the end of any year, the forgivable portion of that year's loan principal will not be forgiven. In the following year, if the performance level is returned to the required level, then the forgivable portion of the current and previous year's principal will be forgiven. However, if the performance level is not attained for two consecutive years or more, and the applicant subsequently meets a required performance level in a year within the five-year principal forgiveness period, only the previous and the current year's forgivable portion of principal will be forgiven. Circumstances of force majeure that cause a project to fail to meet required performance will not affect that year's principal forgiveness.
- b. Amortizing and Forgivable Loan Terms. Any balance on the loan, including the portions to be forgiven until forgiven, will be governed by the following terms:
  1. 2%, fixed interest rate for applicants with bond rating of BBB- or higher at the time of approval; 3% fixed interest rate for applicants with bond rating lower than BBB- or which are not rated at the time of approval.
  2. Collateral – None required.

## **Exhibit B: ERB Financing Program Guide**

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3. Up to 20-year term, based on useful life of majority of assets.
4. Up to 2 years' principal moratorium starting from closing, according to the following:
  - a. Moratorium duration will be the length of the construction period, but will not exceed 2 years, but can be extended as set forth in c. below.
  - b. Moratorium is included in loan term, not in addition.
  - c. Up to two, six-month extensions of the moratorium may be provided based on evidence of significant progress toward project completion, and where delay was unavoidable or unforeseeable. In no event will the moratorium, as extended, exceed three years.
5. Interest charged during the construction period will be based on disbursements of loan capital and will not accrue on undisbursed funds.
6. Debt Service Coverage (DSC) Ratio: The DSC ratio requirement is as follows:
  - a. No DSC ratio requirement for entities with bond ratings of BBB- or better; or
  - b. DSC ratio requirement of 1:1.0 (including loan principal anticipated to be forgiven) for entities with lower rating or that are unrated.
7. Equity Requirements
  - a. No equity contribution for publicly-owned, publicly-controlled or non-profit facilities.
  - b. Equity contribution of at least 10% of total project costs for for-profit facilities.
2. Disbursement – Grant funding for projects will be disbursed before loan capital. Disbursement will be based on the following milestones, with presentation of evidence of cost incurred and site visit to verify:
  - a. Purchase and delivery of equipment in amount of cost of equipment, delivery and feasibility study, if applicable,

## **Exhibit B: ERB Financing Program Guide**

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- b. Up to 3 construction milestones based on development schedule specific to each project construction schedule, and
- c. Completion of equipment commissioning/testing with passing results.
- d. All disbursements to CDBG-DR-funded projects will be subject to meeting all applicable HUD requirements.

# Exhibit B: ERB Financing Program Guide

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## APPENDIX A

### ELIGIBLE DISASTERS

To be eligible for funding under the Energy Resilience Bank, according to the Robert T. Stafford Disaster Relief and Emergency Assistance Act (P.L. 93-288), as amended by the Disaster Relief Act of 1974 (P.L. 93-288), projects must demonstrate a tie to one of the listed weather events below or have incurred physical damage from one of the listed storms.

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- o **Declaration No. 4086** – Hurricane Sandy (Incident Period: October 26, 2012 to November 8, 2012). Impacted counties: all 21 counties.

## Exhibit B: ERB Financing Program Guide

### APPENDIX B

#### LIST OF IMPACTED MUNICIPALITIES\*

Asbury Park	Atlantic City	Atlantic Highlands	Avalon	Avon-by-the-Sea
Barnegat	Bass River	Bay Head	Bayonne	Beach Haven
Belleville	Belmar	Berkeley	Bradley Beach	Brick
Brielle	Brigantine	Camden	Carteret	Downe Township
Eagleswood	East Brunswick	Egg Harbor	Elizabeth	Hackensack
Harrison	Harvey Cedars	Highlands	Hoboken	Jersey City
Keansburg	Kearny	Keyport	Lacey	Lake Como
Lavallette	Linden	Little Egg Harbor	Little Ferry	Little Silver
Long Beach	Long Branch	Longport	Lyndhurst	Manasquan
Mantoloking	Margate	Middle Township	Middletown	Monmouth Beach
Moonachie	Mullica Township	Neptune	Newark	North Bergen
North Wildwood	Ocean City	Ocean Gate	Oceanport	Old Bridge
Penns Grove	Perth Amboy	Pleasantville	Point Pleasant Beach	Point Pleasant Borough
Rahway	Ridgefield Park	Rumson	Sayreville	Sea Bright
Sea Isle City	Seaside Heights	Seaside Park	Secaucus	Ship Bottom
Somers Point	South Amboy	South River	South Toms River	Spring Lake
Stafford	Surf City	Toms River	Tuckerton	Union Beach
Ventnor	Wallington	Weehawken	West Wildwood	Wildwood
Woodbridge				

- \* This list of communities is based on FEMA data showing municipalities with the largest combined number of primary homes and rental units that sustained at least \$8,000 of physical damage (i.e., "major" damage) as a result of Superstorm Sandy.

The Energy Resilience Bank ("ERB" or "Bank") Staff held a stakeholder meeting on August 27, 2014 to review drafts of the New Jersey Energy Resilience Bank Grant and Loan Financing Program Guide ("Guide") and the Water and Wastewater Treatment Facilities ERB Funding Guide ("Product"). Comments were solicited at the meeting during a question-and-answer period, and comments also were submitted in writing and via email to the Board of Public Utilities ("BPU") between August 27, 2014, and September 5, 2014. All comments were reviewed and evaluated by ERB Staff. Summaries of the written comments are set forth below with responses from ERB Staff. A number of comments -- both from the stakeholder meeting and in the written submissions -- resulted in modifications to the Guide and Product.

As market demands evolve, technology advances, and the financial markets change, adjustments to the Guide and financing product documents are anticipated and stakeholder comment will continue to be a critical component to making modifications to the ERB going forward.

**TRENTON BIOGAS**

**1. Requests recognition in the Guide that private-public partnership projects are a necessary component of the ERB program and seeks clarification of inclusion of these projects.**

The ERB recognizes the role that public-private partnerships could play in the development of ERB-funded projects. ERB Staff are engaged in discussion with the US Department of Housing and Urban Development (HUD), which administers the Community Development Block Grant-Disaster Recovery (CDBG-DR) funding that capitalizes the Bank, in an attempt to gain additional project structuring flexibility that may permit the efficient integration of public-private partnerships into ERB projects.

**2. Program criteria should encourage private-public partnerships that allow selection of alternatives.**

Subject to the aforementioned discussion between ERB Staff and HUD regarding public-private partnerships and ERB projects, the Bank will consider whether to allow selection of alternatives as a component of its funding programs.

**3. Requests recognition of the importance of projects outside of the nine most impacted counties.**

In its March 5, 2013 Federal Register Notice, HUD required that no more than 20% of all CDBG-DR funds provided to New Jersey to support recovery may be used outside the nine most-impacted counties as determined by HUD. Because the State has oriented other CDBG-DR funding programs toward the nine most-impacted counties, up to 50% of ERB funds may be used for projects outside the nine most-impacted counties.

**BLOOM ENERGY CORPORATION**

**4. Supports use of DER in resiliency.**

The ERB is appreciative of your support.

**5. Concern that there is no financing available for privately owned facilities that provide a public service and referenced the Federal policy on critical infrastructure and resiliency that focuses on sectors not ownership. Requests a parallel process be developed for the private sector critical facilities that are not constrained by federal requirements.**

The ERB recognizes the challenges posed by the prohibition on ERB participation by privately-owned utilities and the requirement that the US Small Business Administration's (SBA) "small business" definition must be applied to for-profit ERB applicant entities. These are conditions currently imposed by HUD, and the Bank is bound by them.

ERB Staff are engaged in discussion with HUD to try to gain flexibility on these requirements as they apply to ERB projects. Should HUD authorize additional project structuring flexibility, these requirements may be adjusted or removed in accordance with the parameters of HUD's determination.

Any proposed project, if not eligible for financing under the ERB, can apply to New Jersey's Clean Energy Program ("NJCEP"), either under the CHP/Fuel Cell program or the renewable program. While NJCEP approval

is not guaranteed, we encourage all entities that are not eligible for ERB funding to do so since with the federal investment tax credit and accelerated depreciation these private projects can have a significant return on the investment.

Finally, as the Bank grows and may attract private sector and other funding sources, it will continue to consider additional ways to address the needs of critical facilities. However, at this time, the Bank does not have the resources to create a parallel process for private sector critical facilities that will not implicate federal requirements.

**ENERGENIC**

6. Understands "islanding" and gave example of DCO/Energenic's ability to serve facilities during Sandy.
7. Expressed the need to leverage ERB funding with existing NJ OCE funding programs. It does not compete with the current OCE CHP program and resiliency adds costs to the main project. Programs such as this should be blended. Also argues that this will help bring private funding into the mix.

The ERB is considering alternate approaches to funding options, such as avenues for private funding. Its primary function is to provide funding for "unmet" financing for the applicant, consistent with the federal requirements imposed on the use of CDBG-DR funds that capitalize the Bank. Additionally, applicants are encouraged to seek other possible sources of funding, including funding through State-run programs. ERB Staff may direct applicants to such potential additional funding sources as appropriate. However, federal requirements regarding the prohibition on any duplication of benefits when disbursing CDBG-DR funds create challenges for leveraging Bank funds with existing State programs, such as the OCE CHP program.

8. Not in support of the structuring of the 20% performance bonus grant, which eliminates eligibility for principal forgiveness in future years based on failure to meet the performance -based standards in a previous year.

The ERB has considered stakeholder feedback that the proposed loan principal forgiveness terms are too stringent. In response, the ERB has made a minor, but important change to the Guide to allow a project that misses one or more years' performance requirements to gain principal forgiveness in a year that it satisfies performance requirements as well as the prior year, if within the five-year principal forgiveness period.

9. Concern that scoring criteria should be focused more on maximizing coverage of critical facilities and not LMI; State and federal agencies (permitting, etc.) could delay projects and affect "Readiness to proceed" scores; CEEEP cost-benefit ratio should take into account "public health aspects"; "Most Impacted Community" score should attempt to reflect a more regional network goal as another storm would not necessarily impact/affect the same areas; increase the value of the "Criticality' scoring metric.

As a recovery program capitalized with CDBG-DR funds, the ERB's scoring criteria must aggressively target the requirements HUD has imposed on New Jersey for the use of CDBG-DR funds in Sandy recovery. HUD requires that at least 50% of all CDBG-DR funds provided to New Jersey benefit low to moderate income (LMI) households, businesses and communities. As a result, like other CDBG-DR funded recovery programs, the Bank has prioritized LMI projects to be responsive to this federal requirement. Similarly, the federal Sandy Supplemental legislation requires the disbursement of all CDBG-DR funding before September 30, 2019, and threatens recapture of any funding not disbursed by that date. As a result, the Bank, like other Sandy recovery programs, emphasizes readiness to proceed as a relevant factor when scoring projects.

Regarding permitting, the ERB strongly recommends that submissions for such permits needed for projects not wait until an ERB application is approved or potentially even submitted. Potential applicants can meet with the New Jersey Department of Environmental Protection's Office of Permit Coordination and Environmental Review (DEP's ONE STOP permit coordination} for detailed information on all permits and timeframes. Additionally, ERB personnel will assist with shepherding such permits and required authorizations for approved applications.

ERB Staff understand the importance of recognizing public health benefits. However, Rutgers Center for Energy, Economics and Environmental Policy (CEEEP) DER Cost-Benefit Analysis (CBA) model was designed for evaluation of a project based on technical aspects and economics. The "Criticality" and "Most Impacted Communities" scoring metrics are a direct result of why the ERB was created and also reflect the funding mechanisms of the program. Note that the CEEEP CBA does include the value of avoided environmental impacts.

With regard to “Most Impacted Community” scoring, while facilities impacted by disasters other than Sandy are eligible for ERB funding, the additional emphasis on Sandy derived from this scoring factor is necessary to ensure compliance with federal regulations governing the use of CDBG-DR monies that fund the ERB. This includes the requirement regarding the overall percentage of CDBG-DR monies that must be expended within the nine most-impacted counties as determined by HUD and that all projects must have a “tie” to a qualifying disaster event.

**10. Significant front-end costs for design, etc., are required and resiliency design/construction increases the overall project costs.**

The ERB recognizes that there are significant front-end costs associated with resilient DER project development. While the ERB cannot advance funding to pay for eligible costs due to CDGB-DR requirements, it will reimburse such costs if the project is awarded ERB funding, thereby reducing their long-term burden.

**11. No statements of qualifications or requirements for those responsible for maintenance and operation of the facilities over the 20 year loan term.**

In order to reduce the burden of requirements on applicants, the ERB chose not to impose separate standards for those responsible for maintenance and operation of the facilities over the term of the loan. Instead, the ERB offers an incentive in the form of performance-based loan forgiveness to strongly encourage efficient operation.

**CLEAN ENERGY GROUP**

**12. Encourages use of “credit enhancement” to leverage private capital and other financing alternatives.**

The ERB recognizes the value of credit enhancement in funding resilient DER projects. For simplicity, for its first funding product for WTP and WWTPs, the Bank is providing grant, forgivable loan and amortizing loan funding. However, over time the Bank contemplates providing credit enhancements such as loan guarantees to assist projects in securing financing.

**13. Concern over the limitation placed on the ERB program for “solar + storage” technology while other DER is not capped. Specifically, it must be paired with other DERs and capacity may not be larger than the “host” facility. The \$2.5 million and \$250,000 per project cap is too low and “new solar generation” is not eligible for the program.**

A number of commenters raised the issue of the caps placed on off grid inverters and battery storage and that “new” solar is not eligible for the ERB financing. Storage and the off-grid inverters are a relatively new DER technology and do not have the construction and operation track record of CHP and fuel cells. This is particularly the case as it relates to resiliency and operating the storage system as an emergency backup to address critical loads. While this DER technology is commercially available, there are very few operational sites throughout the US and currently no sites in New Jersey. Since the ERB is funded with State and Federal funds it is appropriate to set reasonable limits on the development and implementation of these new DER technologies. As the State gains experience from these installations, the ERB program can revisit this issue based on that track record.

“New” solar generation or new solar panels can be installed at any ERB eligible site. However, since the BPU has transitioned the cost of solar panels from rebates to the solar renewable energy certificate (SREC) financing programs and no longer provides rebates or grants for solar panels, this requirement is consistent with BPU policy for this DER technology. While off-grid inverters and battery storage could be financed through the SREC financing program, because they are a relatively new DER technology, it is appropriate to provide some incentive to assist in developing this market. Future analysis of these costs may result in changes to the ERB program for off-grid inverters and battery storage as that market develops.

With additional analysis of the inverter battery storage costs, the ERB team has increased the off-grid inverter and battery storage caps to \$500,000 per project and \$5 million total budget.

**14. There are no restrictions placed on services such as grid service, renewable integration, ancillary services, load shifting, etc., provided by ERB systems but these services would not be included in the cost-benefit analysis. Please clarify what is included in the CBA calculations and how resiliency benefits are factored in.**

All the assumptions, costs and benefits of the Rutgers DER CBA model are available at <http://ceep.rutgers.edu/combined-heat-and-power-cost-benefit-analysis-materials/>. The model does address some of the PJM revenue streams and can be easily modified to include other PJM revenue streams. Applicants can add these benefits in the analysis including the value of lost load since many of these benefits are market sector and customer specific and do not readily translate in a single assumption. The Guide requires that these potential revenues be described as part of the application.

Battery storage is a relatively new market to the PJM ancillary markets for voltage and VARs regulations and is not currently included in the model. The ERB team is working with Rutgers CEEEP to add this, as well as battery costs and benefits, to the model.

**15. Please confirm that not all connected facilities need be classified as critical under a Microgrid project and what impact such non-critical facilities would have on the CB calculations.**

ERB Staff is working with HUD to assess whether non-critical facilities that happen to be connected to a microgrid project that includes a critical facility have any impact on eligibility for ERB funding. Additional information regarding the topic raised in this comment will be forthcoming.

**16. Please clarify that 100% of unmet needs will be awarded under the program; with the exception of the electric storage.**

For those projects that qualify, up to 100% of unmet needs may be provided by the ERB, with the total amount of unmet needs determined by the federally required duplication of benefits and unmet needs analyses. Forty percent of this funding will be provided as an incentive (20% grant and 20% performance-based loan principal forgiveness) and 60% through an amortized loan. Section 1.3 of "ERB Financing Program Guide, Funding Round 1: Water and Wastewater Treatment Facilities" (Round 1 document) has been amended to clarify these terms.

**17. Loan forgiveness eligibility is removed if performance goals are missed in one year. Can this be adjusted for loan forgiveness as a percentage each year over a set number of years?**

To address feedback received, the ERB has made a minor, but important change to the Guide to allow a project that misses one or more years' performance to gain principal forgiveness in a year that it satisfies performance requirements as well as the prior year, if within the five-year principal forgiveness period.

**18. Include the amount of unmet funding required and/or leveraged funds in the scoring calculation.**

ERB Staff recognize the importance of leveraging other resources in order to realize critical recovery projects and make best use of limited funding. Based on a market analysis, it has been determined that imposing leverage as a scoring criterion for this first funding round focused on water and wastewater treatment facilities would be burdensome and ineffectual. As the ERB undertakes market analyses for other critical facility sectors and rolls out additional funding products, leverage is likely to be an important scoring criterion. To emphasize the ERB's interest in leveraging, language has been amended in Sections 4.2 and 4.3.3 of the Guide.

**19. Please clarify how credits rated below AA or unrated will be tied to the prime interest rate – what will be the spread?**

To better explain how facilities' credit ratings will be used to determine interest rate and to more appropriately distinguish between investment-grade and below investment-grade credit rating, the ERB has clarified the Guide. The 2% fixed interest rate will be offered to BBB- and above rated facilities. Please see "ERB Financing Program Guide, Funding Round 1: Water and Wastewater Treatment Facilities", Section 1.3(1)(b).

**SUNEDISON**

**20. Supports ERB program and the Round One target facilities.**

The ERB is appreciative of this support.

**21. Concern over the funding limitation placed on the ERB program for “solar + storage” technology at \$2.5 million and \$250,000 per project cap. This will hinder the market. Requests that solar/storage be treated neutrally and similar to the other DER technologies eligible for the ERB program. At a minimum, raise the cap to 25% of the Round One funding.**

The ERB recognizes that there is limited funding to the solar and storage portion of the program. In response to this, and similar comments, the aggregate limit for solar and storage for the first round has been increased to \$5 million, with an individual project cap of \$500,000.

**BILL SUCH – OCEAN COUNTY UTILITY AUTHORITY**

**22. Regarding LMI and Readiness to Proceed scoring criteria, is the LMI requirement mandatory under the Robert T. Stafford Disaster Relief and Emergency Assistance Act or can other criteria be considered; what is the estimated timeframe from submission of an application to “closing”?**

In the March 2013 Federal Register Notice, HUD required that at least 50% of all CDBG-DR funds allocated to New Jersey for recovery be used to benefit LMI households, businesses and communities. In Substantial Amendment No. 7 to New Jersey’s CDBG-DR Action Plan, this percentage was raised to target 60% for ERB. It is for this reason that the ERB emphasizes the targeting of program funding to projects qualifying as LMI.

The federal Sandy Supplemental legislation requires the disbursement of all CDBG-DR funding before September 30, 2019, and threatens recapture of any funding not disbursed by that date. As a result, the Bank, like other Sandy recovery programs, emphasizes readiness to proceed as a relevant factor when scoring projects.

The time from application to closing will be dependent on a variety of factors and is anticipated to be different for each applicant. First and foremost, the speed with which a project will progress is highly dependent on the thoroughness of the applicant in completing the application, providing all requested attachments, and responding expediently to any requests for additional information. Other factors such as the sophistication and extent of the project will also affect this timeframe. BPU and EDA expect their review and analysis to take approximately two months with an additional two-month board approval process, once a well-prepared, complete application is submitted. During and after the review and board approval processes, the required environmental reviews will be conducted, which also will impact this timeframe. Formal funding commitment and closing can only occur after environmental reviews are completed pursuant to federal law.

Importantly, the two-year requirement that equipment must be installed and operational stated in Section 4.3.1 of the Guide begins at closing. As noted above, a number of factors will affect when closing occurs.

These timeframes should provide applicants sufficient time to complete their projects. A hypothetical approval, closing and principal forgiveness timeframe is provided below.

**Hypothetical Timeline**

2015 – Application submission, review and board consideration, and permits completed

2015/16 – Funding closing, work starts, equipment purchased, grant and loan disbursement for reimbursement of equipment purchase and capital purposes

2017 - Work continues, interest paid on any loan funding disbursed

2018 - Work completed (within 2 years from closing)

2019 (Sept 30) - HUD funding commitment expires

2019 - 2023 - Assessment of performance for principal forgiveness

202x ~ Loan closeout based on term established at approval

**23. Is there flexibility regarding the ASHRAE Level III audit requirement? Can prior facility audits be compiled and submitted in place?**

There is no flexibility of the requirement of an energy audit prior to application. However, in recognition of the cost of performing an American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Level III audit, the ERB has lowered the level required to Level II. This audit may be performed by a DPMC classified energy audit professional or through the BPU’s Clean Energy Program, Local Government Energy

Audit (LGEA) resources. Information on LGEAs provided free of charge can be obtained at <http://www.nicleanenergy.com/commercial-industrial/programs/local-government-energy-audit/local-government-energy-audit>. The ERB also will accept prior audits, provided that they have been done under the LGEA program or by a DPMC classified energy audit professional. For a prior audit, the ERB will also require updated facility information to confirm that no physical changes have occurred to the buildings/structures.

**24. Is the Section 4.3.1 HUD Requirement regarding equipment installation and operational status within two years in contradiction with the Readiness to Proceed scoring criteria?**

The Section 4.3.1 HUD Requirement is not in direct contradiction with the Readiness to Proceed scoring criterion. As a requirement, all projects must adhere to the two-year timeframe from closing for equipment to be installed and operational, subject to applicable extensions. The Readiness to Proceed scoring criterion is not a threshold requirement, but instead is a way to prioritize projects that demonstrate the ability to be completed earlier.

**25. Consideration should be given to allow other cost-benefit models beyond the CEEEP method defined in the Guide.**

The ERB has determined at this time that the Rutgers CEEEP method is the best fit for NJ modeling. Other programs utilizing different models are based upon "national" information and do not necessarily reflect actual market conditions here in New Jersey. Moreover, it is important to apply a consistent methodology in order to evaluate all projects fairly.

**26. Will the determination of what constitutes a facility's "critical load" be left up to the applicant and their professional staff?**

It will be the applicant's responsibility to provide this information as part of the application and ensure that it is consistent with NJDEP's guidance and regulations. The ERB, as part of the feasibility study and initial discussions with the applicant will work with the applicants to assist the applicant in developing the appropriate sizing of the facility to ensure the full critical load is addressed on a case by case basis.

**27. Regarding 4.4.1 Eligible Project Costs, storage of fuel and biogas, consider modifying the statement to acknowledge that efficiency can be increased based on the fluctuations in production within the digester.**

The storage of renewable biogas is not expressly prohibited by the Guide, as is the case for the storage of fossil fuels. The overall project would have to be technically efficient and cost effective.

**28. The ERB program should acknowledge redundancy for systems to allow full load requirements. The example given is installing two CHP units, each capable of carrying full electrical and thermal load in the event one unit is out of service or fails.**

The ERB will consider whether redundancy of full load requirements and the installation of a typical N+1 system is appropriate, given limitations on available program funding. At this time, funding to install redundant systems is not envisioned by the ERB.

**29. Avoid using ambiguous and indirect benefits, such as reduce greenhouse gas, elimination of water discharge, in the final economic evaluation of a project.**

The CEEEP CBA model does provide for the overall benefit of avoided environmental costs, mainly driven by the avoided air emission costs. These environmental cost analyses are well established and all the assumptions are available on the Rutgers CEEEP website: <http://ceep.rutgers.edu/combined-heat-and-power-cost-benefit-analysis-materials/>.

**SOLAR GRID STORAGE**

**30. Supports ERB program and its inclusion of PV with storage. PV + storage can be quickly deployed, cover critical loads indefinitely, are 100% renewable with no fuel requirements, support the current PV efforts of NJ, and provide other benefits to ratepayers, as DR and grid support services.**

The ERB is appreciative of this support.

**31. Concern over the funding limitation placed on the ERB program for “solar + storage” technology at \$2.5 million and \$250,000 per project cap.**

The ERB recognizes that there is limited funding to the solar and storage portion of the program. In response to this, and similar, comments, the aggregate limit for solar and storage for the first round has been increased to \$5 million, with an individual project cap of \$500,000.

**32. Consider criteria weighting value of a renewable fuel.**

The ERB considered other scoring criteria but decided to focus the final criteria listed in the ERB Guide on key HUD requirements and desired resiliency outcomes.

**33. Keep the application simple and the process transparent and provide timely funding.**

The ERB will strive to keep the application process as simple as possible while requesting the necessary information to allow a complete and thorough review and determination of program eligibility, and to satisfy HUD's regulatory requirements, which will be routinely monitored by HUD. Please note however that a Local Government Energy Audit (LGEA) performed by the Clean Energy Program or ASHRAE Level II energy audit conducted by a DPMC-classified energy audit professional will be required prior to applying to the ERB Program, though a previously-completed LGEA or ASHRAE Level II audit conducted by a DPMC classified energy auditor may be acceptable, as described above.

In addition, applicants are strongly encouraged to meet with the staff of DEP's Office of Permit Coordination and Environmental Review (DEP's One Stop Permit Coordination) Program to identify any required permitting for the proposed project. The applicant will be kept informed as to their status throughout the review process. Funding will be disbursed based on the applicant meeting specified milestones. Please also see the response to Question 22.

Regarding transparency, project approvals are made at public meetings, and project summaries are made public at that time. The ERB contemplates making available a running list of project approvals on its website which may aid prospective applicants to learning from the experience of other projects. Of course, any information will only be made publicly available subject to national and state security concerns being adequately addressed.

**BERGEN COUNTY UTILITIES AUTHORITY**

**34. Suggests including caps for the other technologies similar to the “solar + storage”. Would a \$65 million project take the “solar + storage” funding away?**

Solar plus storage caps were imposed because of the uncertainty of the types of projects and limitations of the current technology. The ERB currently envisions the solar/battery systems as being coupled with another DER. As such, the ERB does not envision that most projects will be solar/storage only. Additionally, there are several other funding programs in the State for solar. As to a single project absorbing all available funding for this sector, the ERB does not expect this to occur. ERB has not imposed a general per project limit to avoid placing artificial limitations on projects that may need 100% “unmet need” funding from the ERB.

**35. Concern over the funding limitation placed on the ERB program for “solar + storage” technology at \$2.5 million and \$250,000 per project cap.**

Please see response to the Clean Energy Group in Question 13.

**36. What is the HUD LMI objective and does it apply to WWPCPs?**

In the March 2013 Federal Register Notice, HUD required that at least 50% of all CDBG-DR funds allocated to New Jersey for recovery be used to benefit LMI households, businesses and communities. It is for this reason that the ERB emphasizes the targeting of program funding to projects qualifying as LMI.

The LMI National Objective has two components applicable to ERB, area benefit and employment creation, only one of which must be satisfied to meet the National Objective. For an ERB project to satisfy the LMI National Objective for area benefit, 51% or greater of its service area must cover LMI areas. (In certain instances, a lower percentage may be applied.) For employment creation, 51% of new permanent full-time equivalent (FTE) jobs must be created, not jobs resulting from project construction. For further information regarding LMI National Objectives please see the Chapter 3 link at the following web address:

[http://portal.hud.gov/hudportal/HUD?src=/program\\_offices/comm\\_planning/communitydevelopment/library/stateguide](http://portal.hud.gov/hudportal/HUD?src=/program_offices/comm_planning/communitydevelopment/library/stateguide). Section 4.3.1 of the Program Guide has been amended to include this web link.

There is no exemption of the requirement that all CDBG-DR-funded projects must meet a National Objective. This includes water and wastewater treatment plants. However, an ERB project that does not meet one of the components of the LMI National Objective may satisfy this requirement by meeting the urgent need National Objective, and information about that objective is available on HUD's website. Disaster recovery-related urgent need equates to physical damage to the facility. Together, these documents the ERB goal is to provide 60% of its \$200 million of CDBG-DR funds to benefit LMI communities and individuals.

Although the ERB has latitude to add additional requirements, it is prohibited from removing these criteria from the program. Therefore, while incorporation of an LMI scoring criterion was at ERB's discretion, it is tied to federal requirements to which the State must adhere. For this reason, the LMI Objective is applicable to water and wastewater treatment facilities under the ERB Program.

**37. Please define "indirect impacts" for the purposes of evaluation?**

As a result of recent clarification from HUD, indirect impact may include the following two circumstances: (1) where area flooding and/or loss of power from a qualifying disaster prevented facilities from being able to treat wastewater which caused there to be a release of sewage/storm water into the surrounding waterways, causing environmental damage; and (2) where area flooding and/or loss of power from a qualifying disaster prevented facilities from operating and being able to treat drinking water. Applicants seeking an acknowledgment of an indirect impact also must demonstrate that the project is supporting revitalization of the community in which it is located.

Applicants claiming other indirect impacts may qualify, though determination will be made on a case-by-case basis, and will likely involve consultation with HUD. While there is no guarantee that they will be eligible, applicants proposing these projects are encouraged to apply.

**38. It appears that the ERB only funds 40% of a project and the remaining 60% is funded by the applicant. Is that correct?**

No. For publicly owned facilities, the ERB can fund a total of 100% of the applicant's unmet funding need. Please see response to Clean Energy Program in Question 16, for more information.

**39. Can the 40% funded be combined with other BPU/state funding or other sources of public funding?**

To clarify, for publicly owned facilities, 100% of the applicant's unmet need will be funded. Applicants may be permitted to utilize other sources of public funding, subject to the federally required duplication of benefits/unmet need analysis.

**40. Is the ASHRAE Level III audit a condition of funding instead of a pre-application requirement for funding since many authorities already have efficiency and performance studies – but not to that level?**

The ERB now requires an ASHRAE Level II audit. Please see response to Ocean County Utility Authority in Question 23 and Solar Grid Storage in Question 33.

**41. The NJDEP requirement for SCR use with Biogas could impact annual performance goals of units due to maintenance and downtime. It could also hinder the use of anaerobic digesters.**

The minimum annual performance necessary for loan forgiveness will be determined by the project's design and proposed operation. The design and operation of the equipment must comply with all applicable statutory and regulatory requirements, including air pollution control. As part of the air permitting process, DEP requires all new and modified sources of air pollution to document that the equipment is equipped and operated with advances in the art of air pollution control. Part of this analysis should include anticipated operating and maintenance of the equipment, including downtime, which in turn should be included as part of the design specification.

**42. Would facilities that took in extra sludge to compensate for other facilities that were impacted by Sandy be considered for the program?**

Under the current federal regulatory framework, determination of whether these types of "indirect impacts" would render an applicant eligible to receive CDBG-DR funding will need to be made on a case-by-case basis, and would likely involve direct consultation with HUD. These projects are encouraged to apply even though there is no guarantee that they will be deemed eligible.

**43. Concern over how a facility is determined to have been directly or indirectly impacted by Sandy.**

Please see the response to Question 37. For a facility to be deemed to have been "directly impacted" by Sandy, the applicant would need to demonstrate that the facility was physically damaged by Sandy, or another qualifying disaster. There is a minimum damage threshold of \$5,000.

**44. The two-year completion requirement after 'closing' may be too restrictive as permitting, approvals and force majeure events may impact the projects.**

Please note that the two-year requirement that equipment must be installed and operational stated in Section 4.3.1 of the Guide, begins at closing. The formal funding commitment and closing will not occur until all environmental reviews have been completed. As noted in the response to Question 22 above, a number of factors will affect when closing occurs, and as a result, closing may take place sometime from the date of application. These timeframes should provide applicants sufficient time to complete their projects.

The ERB has incorporated two possible six-month extensions of the two-year timeframe under circumstances where the project documents that significant progress has been made to date and that there were unforeseen reasons for the delay that were not known at the time of the award. The extension of the principal deferral will only be granted if the project documents that there were unforeseen reasons for the delay that were not known at the time of the award.

**45. Support the inclusion of retrofit projects for existing DER systems.**

The ERB is appreciative of this support.

**46. Add "once fully constructed and operational" after "of any year" to the language of section 1.3 Financial Product Terms. (1.b.i.2, page 3)**

Thank you for the comment. This edit has been incorporated into the Guide.

**47. Concerned that 1<sup>st</sup> year performance goal failures will impact over 5 years. Suggest using several years in a rolling average of data in determining the amount of principal forgiveness.**

Please see response to Energenic in Question 8.

**48. The BCUA should receive the highest weight for impacted communities as it serves all impacted communities in Appendix B.**

Such a determination would be made by ERB Staff at the time of the application and based on the Guide and Product evaluation process.

**49. It would be beneficial to certain types of facilities, like the BCUA, to add more weight to the scoring base on impacted communities since these types of facilities may not achieve the required score of 55 or higher.**

The scoring criteria for the ERB products must take into consideration the broadest needs of the types of facilities it anticipates serving. Accordingly, ERB Staff has carefully considered many factors in establishing the scoring system and does not believe at this time that this criterion should be changed.

**50. It is too restrictive to deny applications that did not meet the minimum score of 55 a chance to resubmit an application in future rounds.**

The text in section 1.2 of the Round 1 funding document has been modified to acknowledge that future changes to the program could affect scoring of a previously-rejected project and to acknowledge changed circumstances of a project which also could affect its score.

**PASSAIC VALLEY SEWERAGE COMMISSION**

**51. Can the 5 year principal forgiveness performance measure be modified to address the forfeiture of forgiveness for all years following the missed goal?**

Please see response to Energenic in Question 8.

**52. Can the 2% fixed rate be expanded to A rated or better applicants? If not, could credit enhancements be offered at the 2% rate?**

Please see response to Clean Energy Group in Question 19 regarding how credit ratings affect interest rates. As to credit enhancements, the ERB recognizes the value of credit enhancement in funding resilient DER projects, and contemplates in the future providing such facilities as loan guarantees to assist projects in securing financing.

**53. The two year completion requirement after ‘closing’ may be too restrictive as permitting, approvals and design may impact the project timelines. Can special consideration be given to projects over a scope threshold such as \$10 million?**

Please see response to SunEdison in Question 22. With regard to special consideration for projects over \$10 million, based on the explanation provided in Question 22, at this time, the ERB does not foresee a need to offer special consideration for projects exceeding a certain threshold.

**54. Will there be time extensions granted for the completion of the ASHRAE Level III audits?**

The audit requirement is now for an ASHRAE level II audit. Please see response to Ocean County Utility Authority in Question 23 for more information. The energy audit should be completed before a project submits an application, so completion of the audit does not implicate post-application timeframes in the Guide or Product.

**55. What opportunities will be given for first round projects that could not be completed in the 2 year timeframe due to permitting, approvals, regulatory issues, etc.? Will they be given 2<sup>nd</sup> chance before the program is expanded to other critical facilities?**

Please note that the two-year requirement that equipment must be installed and operational stated in Section 4.3.1 of the Guide, begins at closing. The formal funding commitment and closing will not occur until all environmental reviews have been completed. As noted in Question 22 above, a number of factors will affect when closing occurs, and as a result, closing may take place sometime from the date of application. These timeframes should provide applicants sufficient time to complete their projects.

Additionally, it is the goal of the ERB to develop a revolving loan fund that will provide financing for more than just one round in each market sector. In addition to the \$200 million in CDBG-DR funding, the BPU has committed \$150 million for ERB financing over the next 4 years to assist in recapitalizing the ERB funds. The ERB is also looking to provide credit enhancement as the bank develops, which will allow for stretching the initial funding for more projects, and ERB Staff are evaluating other potential funding streams to capitalize the Bank.

**NJ LEAGUE OF MUNICIPALITIES**

**56. The proposed scoring system is appropriate.**

Thank you for your comment.

**57. Please clarify the language regarding unmet funding needs and any duplication of benefits analysis.**

The ERB will examine all the funding sources for each project as compared to the total project cost and determine if there is an unmet funding need in accordance with HUD rules and guidance. It will also determine if there are certain types of funding sources such as State-provided funding, other federal funding and insurance which have or are supporting the recovery needs of the project to determine if the ERB funding is duplicating the benefits of any of these other sources. The ERB will reduce its funding until any duplication of benefits is eliminated and until only the unmet need is funded, subject to the other terms of the program. The ERB will fund up to 100% of this unmet need. Please see response to Clean Energy Group in Question 16 for more information.

For further information on the calculation of unmet needs consistent with federal requirements, please see HUD's Federal Register Notice dated November 16, 2011.

**58. Believe that the 20 year loan based on useful life of the major assets is appropriate and they cite NJSA and municipal law to support this decision.**

Thank you for your comment.

**59. This will benefit municipalities with low income housing and town centers. But the league is concerned about the funds available for such tier IV projects and therefore urges the ERB to solicit applications for such projects as soon as possible.**

The ERB is mindful of the concern for "running out" of funding and is doing all that it can to ensure that the intended sectors receive appropriate funding, regardless of what order funding products are offered. Notably, additional state funding, in the form of SBC funds, is also committed to the Bank, the Bank is working to garner private sector support. ERB funding also is intended to revolve so it can be used for future projects.

**ENERGY MANAGEMENT, INC**

**60. Extension of ERB goals should be to prioritize those critical facilities which make the greatest contribution to statewide response capability.**

ERB Staff agree with this comment. By selecting water and wastewater treatment facilities as the first sectors to be funded through the ERB, and by including hospitals in the next funding product, the ERB is addressing the immediate health and safety needs of a broad number of New Jersey's residents.

**61. Do projects on federal facilities qualify for ERB funds?**

Due to the current regulatory framework, it is currently not clear whether ERB funding can be used to assist federal facilities to recover from a qualified disaster and make resilient DER improvements. Projects to be undertaken on such facilities will need to be considered on a case-by-case basis, with direct input from HUD.

**62. Allow projects which would impact several of the key ERB target markets in a single application in the first round of funding.**

Extensive economic analysis was conducted on the costs of installing the resilient DER system improvements at water and wastewater facilities in order to determine the size of the incentive needed for this sector's product. Similar analyses will need to be conducted to determine the size of other sectors' funding product(s).

**63. Expand the list of impacted communities listed in Appendix B to include those municipalities with "major damage" sustained in other eligible disasters listed in Appendix A.**

While facilities impacted by disasters other than Sandy are eligible for ERB funding, the additional emphasis on Sandy derived from this scoring factor is necessary to ensure compliance with federal regulations governing the use of CDBG-DR monies, including the requirement regarding the overall percentage of CDBG-DR monies that must be expended within the nine most-impacted counties as determined by HUD.

**64. Clarify the criteria for "Most Impacted Communities" set forth in Section 1.2 No. 4 of the Scoring Criteria.**

The criteria for determining the score for Most Impacted Communities is based on whether the facility serves municipalities listed in Appendix B. This appendix lists the communities that, based on FEMA data, had the largest combined number of primary homes and rental units that sustained at least \$8,000 of physical damage (i.e., "major" damage).

As stated above, while the program is open to critical facilities that were damaged in certain storms other than Sandy, targeting a scoring criterion toward Sandy damage is responsive to other requirements governing the use of CDBG-DR funds that capitalize the Bank, including the requirement that at least 80% of all CDBG-DR funds provided to New Jersey for recovery must be expended within the nine counties "most-impacted" by Sandy, as determined by HUD.

**65. Clarify the eligibility of reciprocating engine or microturbine installations for which there is no steam host and thus CHP is not applicable.**

If these types of units are being used solely as an emergency backup system and stand-alone then they do not qualify for the program.

**MORGAN LEWIS (ON BEHALF OF EDCS)**

**66. EDCs believe it is important to all participants in the ERB program to understand and follow each EDC's interconnection process. Customer should submit its application early in the design phase of the project, to confirm that the proposed system will be compatible with the EDC's infrastructure.**

ERB Staff agree with this comment and encourage applicants to start this process as early as possible. This coordination can be done in the early stages of the project design. Section 5.1 of the Program Guide has been amended to request that applicants meet with their EDC prior to applying to ERB for funding.

**67. The value of the Program Guide could be enhanced by encouraging applicants to consult with their local EDC early in the application process.**

Please see response to Question 66.

**68. The EDCs are concerned about the leap taken in the Program Guide, when discussing microgrids, to using imprecise descriptions of potential configurations that may be eligible for ERB funding- but may not be consistent with existing law or regulation.**

ERB Staff disagree that there is a "leap" taken in the Guide when discussing microgrids. The specific configuration of a planned DER microgrid will vary from project to project on a case-by-case basis. A microgrid can have three basic configurations as follows:

1. The DER microgrid facility itself as one building with one meter or in a campus-type setting that may be served by one meter;
2. The DER microgrid facility is a net metering configuration that is also defined as behind the meter (BTM); or
3. An advanced microgrid is where more than one building/facility with more than one meter is connected to the DER Technology.

The DER microgrid can be developed for continuous operation 24 hours a day and seven days a week or limited to supplying power when there is a grid outage. The microgrid can supply either solely electricity or solely thermal energy as steam and chilled water or both thermal energy and electricity. The Guide described a DER microgrid but not the microgrid configuration or the energy supplied by the DER microgrid. That would be the applicant's decision as the project is designed. All such projects or DER microgrid configurations and their overall energy supply, must be consistent with all applicable federal, State and local statutes and regulations.

It will be the applicant's responsibility to ensure that all permits and approvals are acquired and all applicable permit requirements are met.

**69. Disclaimer should be added: "*Nothing contained in this Program Guide is intended to promote project configurations that are, or may be, inconsistent with existing law or regulation. Applicants should consult with appropriate energy and legal advisors and with their local EDC regarding the operational and legal feasibility of proposed project configurations.*"**

BPU and EDA as public entities are prohibited from funding projects which are illegal or violate any existing law or regulation. While this requirement was expressed in the Guide, an additional disclaimer has been added to Section 4.3.2.

**70. Clarify that applicants must adhere to applicable EDC tariffs and work with EDCs on other important project components such as interconnectivity. Raised concerns regarding net metering and potential loss of revenues from incorporation of DER technologies at critical facilities.**

All applicants will be required to adhere to applicable EDC tariffs and will be encouraged to contact the EDCs early in the application process to fully understand the requirements for interconnection and charges. The existing tariff and specific guidelines for each EDC must be followed by the applicant, especially on interconnection matters. Net-metering concerns must be addressed by the Board and the EDCs if concerns arise. Regarding the concern over erosion of revenue, such concerns can be brought to the attention of the BPU in the form of a rate case.

**71. EDCs believe more DER behind-the-meter based would lead to further EDC revenue erosion which will eventually need to be recovered from the EDC's remaining ratepayers.**

Under the proposal, these facilities will continue to pay capacity and standby charges and will therefore contribute to upkeep of the distribution system while reducing the need for additional investment in infrastructure that might otherwise be required to service this load. ERB Staff will monitor this issue on an ongoing basis.

**CLEAN ENERGY STATES ALLIANCE**

**72. Credit enhancement would be a good way to leverage more private capital. CESA encourages the inclusion of this and other alternative financing strategies in the ERB.**

Please see response to Clean Energy Group in Question 12.

**73. Solar+ storage systems are limited in a number of ways. CESA sees no advantage in preemptively limiting its use, capping its eligibility for awards, and applying other restrictions that are not likewise applied to other technologies. ERB should allow the market to decide which technologies and combinations provide the best solution for each eligible facility.**

Please see response to Clean Energy Group in Question 13.

**74. It would be helpful if the Program Guide were more explicit about what will be included in cost effectiveness calculations, and how resiliency benefits will be determined.**

The details on the assumptions in the Rutgers CEEEP DER CBA can be found at <http://ceep.rutgers.edu/combined-heat-and-power-cost-benefit-analysis-materials>. Among other things, the model provides for both the additional cost of the DER microgrid resiliency components and the benefits of the avoided cost of lost load as an input by the applicant.

**75. Would a microgrid connecting two eligible critical facilities be considered the same as a microgrid connecting two eligible facilities and a third non-eligible facility?**

Please see response to Clean Energy Group in Question 15.

**76. Clarify in the Program Guide that awards will meet 100% of unmet need.**

Please see response to Clean Energy Group in Question 16.

**77. Loan forgiveness should be based on percentages and performance goals.**

ERB Staff agree with this comment, and 20% of any award is provided in the form of performance-based loan forgiveness. Please see response to Clean Energy Group in Question 17.

**78. It would be helpful to include the amount of unmet need, the amount of leveraged funds, or both as elements of the scoring process.**

Please see response to Clean Energy Group in Question 18.

**79. Clarification is needed as to what is expected to be the anticipated spread over or under prime.**

Please see response to Clean Energy Group in Question 19.

**NEW JERSEY FUTURE**

**80. Endorses the ERB program goals.**

Thank you for the comment and for your support for the program and its goals.

**81. The program, as designed, will not meet its goals of making energy infrastructure more resilient to future storms and other emergencies.**

Thank you for this comment, but the ERB Staff disagrees. Based on extensive analysis and discussion that took place during the design of this program, this program represents an effective means of achieving the State's resiliency goals as outlined in Substantial Amendment No. 7 to New Jersey's CDBG-DR Action Plan. Moreover, ERB projects must comply with applicable federal requirements in HUD's November 2013 Federal Register

Notice, which focus on resiliency, among other things. The resilience of the actual infrastructure was, and is, being addressed by the EDCs under separate filings to the Board.

**82. NJ Future does not find that the Program Guide meets the claims set forth in the State Action Plan.**

Thank you for your comment, but the ERB Staff disagrees. The Guide is consistent with Substantial Amendment No. 7 to New Jersey's CDBG-DR Action Plan.

**83. The Guide lacks adequate guidance for applicants on resiliency standards.**

As stated in Section 4.3.2 of the Guide, the eligible project must be black start capable, islandable from the grid and should be capable of sustaining the critical load for 24 hours per day over a seven-day period.

**84. The guidelines do not specify which of the four sea-level-rise scenarios in the NOAA tool to use, nor do they reconcile the NOAA projections with those of the Rutgers Climate Institute.**

The NOAA tool is not intended to be regulatory but instead a tool to assist in planning and design. It is the intention of the ERB to work with the applicant to aid in their development of the most effective and efficient project design. Setting one scenario in the face of changing conditions, data and models would not be responsible. As such, the model, calculators and maps are designed to help decision makers in scenario planning, not to replace that process by referencing one exclusive set of preferences. Consistently, as stated in Substantial Amendment No. 7 to New Jersey's CDBG-DR Action Plan, in selecting projects the ERB will consider efficacy and cost-effectiveness by assessing multiple flood and sea-level rise scenarios.

NOAA, FEMA and the Army Corps, as well as other federal and state agencies that helped develop the maps and calculator recommend that the tools be considered in long-term planning related to the siting and construction of long lived critical infrastructure, but state that the use of the tools is not required. Notably, NOAA states that lower rise scenarios may be appropriate where there is a high tolerance for risk and that high risk scenarios should be considered in situations where there is little tolerance for risk. The DER technologies, location and risk profile of a project cannot be determined before a project is in the feasibility stage. At that point, the ERB will work with the applicant on the specific project.

**85. The guidelines require applicants to construct projects "above FEMA's best available data for base flood elevations plus any additional requirements that may be imposed by federal, state, or local ordinance, statute or regulation," but do not specify what these might be.**

The ERB will work with applicants to ensure that the most up-to-date FEMA base flood elevation maps are used in the design, construction and operation of a given project at the time of the application. FEMA BFE levels may change in the future and the ERB will address those changes with the applicant at the time an application is submitted. In addition, the design requirements for any project are based on the overall life cycle of the project.

Each type of DER project will have a different overall lifecycle and therefore a different risk threshold that will dictate the overall design to specifically address this provision. The Guide has been revised to clarify this point. Among other things, as stated in Substantial Amendment No. 7 to New Jersey's CDBG-DR Action Plan, in selecting projects the State will consider efficacy and cost-effectiveness by assessing multiple flood and sea-level rise scenarios.

**86. The guidelines do not specify the planning horizon to use when considering future risks from sea level rise and storm surge.**

Please see response to Question 85.

**87. The Program Guide offers no guidance on how an applicant should integrate the risk of flooding from storm surge with sea-level-rise projections and maps.**

Please see response to Questions 84 and 85.

**88. The draft Program Guide falls behind state of the art efforts to assure resilience in the face of flooding.**

Please see response to Question 84 and 85.

**89. Program Guide should be revised before adoption in order to:**

- a. Require, as an interim step, that all project applications use a minimum design standard of BFE+3 for tidally influenced areas, and of BFE+2 for non-tidally influenced areas. (Note that Base Flood Elevations are a shorthand means of integrating risks from storm surge and sea-level rise.) Define, as an interim step, "major installations" to include new power plants, including CHP plants, and require for such major installations a more detailed site-specific analysis that considers likely storm surge and a range of design elevations from BFE+3 to BFE+5.

Initially, all ERB projects must meet applicable resiliency standards set forth in HUD's November 2013 Federal Register Notice, as incorporated in Substantial Amendment No. 7 to New Jersey's CDBG-DR Action Plan.

The ERB will work with applicants during the feasibility stage to determine the most appropriate design standards at the time consistent with the requirements imposed by HUD. It also should be noted that this program is not a state regulatory program in which the state sets a standard and expects the applicant or permittee to meet the standard at their costs. If the facility is required to build to BFE+3 or BFE+5, that will be reflected in the total cost of the project and will be built into the overall grant, principal loan forgiveness and low interest long term loan.

- b. Establish a climate hardening advisory group that would include members from the NJDEP, the Rutgers Climate Institute, the Columbia Climate Change Law Center, the New Jersey Association of Floodplain Managers and appropriate engineering professionals, to establish more robust and thorough risk assessment guidelines for applicants and to review criteria for ERB staff, both to ensure resilience and increase certainty in the application process. The State of New Jersey should incorporate the refined guidelines into the program guide by December 2014.

Thank you for your comment. However, this is beyond the scope of this program.

**c. To commit to reviewing and updating the risk assessment guidelines on a five-year timeframe.**

Thank you for your comment. However, this is beyond the scope of this program. The ERB will continue to evaluate the available data to update the Guide as needed. As noted above in Question 89a, it is in the best interest of the program to ensure that facilities operate over the long term.

**SHORELINE ENERGY ADVISORS, LLC**

**90. If resiliency is the primary objective, and funds for the program are limited, a natural gas fueled reciprocating engine or combustion turbine, with storable liquid fuel such as diesel or propane, is the simplest, cheapest and certainly the most commercially proven alternative available to achieve those objectives.**

Thank you for the comment. However, the goal of the ERB is to utilize renewable and/or efficient generation to support resilience and sustainability. Backup generators are specifically not included under the program guidelines. Such resources may be available through other State or local programs.

**91. Although the environmental aspects of these alternatives are valuable policy objectives, we would question whether they should be included in this program, whose stated objective seems to be fail-safe power at all times for facilities that are deemed to be critical to the public good.**

As stated above, the goal of the ERB is to utilize renewable generation to support resilience and sustainability. The criteria are also responsive to the various federal regulations and requirements governing CDBG-DR funding, and coincide with the State's Energy Master Plan.

**92. The program seems to be silent on whether the infrastructure installed under the program is to cover power needs 24/7/365 or only a component of loads.**

As stated in General Requirements of the Guide, the eligible projects must be capable of sustaining "critical load" for 24 hours per day over a seven day period. It will be the applicant's responsibility to provide this information as part of the application and ensure that it is consistent with NJDEP's guidance and regulations. The ERB, as part of the feasibility study and initial discussions with the applicant will work with the applicants to assist the applicant in developing the appropriate sizing of the facility to ensure the full critical load is addressed on a case by case basis..

**93. May want to consider ways of lowering the "capacity" component of these plants, perhaps by using excess electric generating capacity to service related non-critical loads which can be curtailed in periods of emergency.**

The capacity requirements under the program speak to maintaining critical load, but do not limit the capacity of the new equipment to only this function, with the exception of the solar + storage installations. The applicant will determine the capacity requirements which will be reviewed by ERB Staff.

**94. Should generation assets be included in the program at all or should dollars from the program be limited to distribution related investments to provide islanding and black start?**

The goal of the ERB is to foster DER in the form of renewable generation alternatives that would sustain critical facilities during an extended outage or emergency event, as was the case in Superstorm Sandy. The program focus on islanding and black-start furthers this goal.

**95. If resiliency and speed to development are objectives of the program, the EDA and BPU may want to consider offering priority to projects which provide the sought after level of resiliency without having to make investment in generation.**

The primary objective of the ERB is to foster DER in the form of renewable and/ or efficient generation alternatives that would sustain critical facilities during an extended outage or emergency event, as was the case in Superstorm Sandy.

**96. The EDA and BPU should reconsider its discouragement of storable fuel, perhaps accepting some percentage of generation as diesel or propane.**

Thank you for the comment. However, diesel and propane generation sources in the form of emergency backup are not eligible under this program at this time.

**97. ERB should reconsider the definition of facilities that are deemed to be critical, particularly those dealing with the colleges and universities or multi-family housing unless those facilities can truly be used as emergency shelters.**

While the priority and consideration of facilities targeted under this program are always under consideration, based on extensive market analysis, it is the view of ERB Staff that the current listing of eligible facilities is a reasonable starting point and follows the goals and objectives of the program.

**TOWNSHIP OF MIDDLETOWN SEWERAGE AUTHORITY**

**98. It is the Authority's understanding that the BPU/utility companies prohibit interconnections between bio-gas generated from a wastewater digester and natural gas piping. Has the Energy Resiliency Bank worked with the BPU to address this?**

Yes, the ERB, in conjunction with both BPU and NJEDA, continues to work to seek out innovative solutions to the various regulatory challenges that may potentially impact some ERB applicants.

**99. Air permitting of a co-gen system through NJDEP is generally onerous and time consuming. In consideration of ERB project deadlines and possibility of losing funds, does the ERB have any indication from DEP about streamlining the permitting process or making it more compatible with ERB goals?**

DEP is working to coordinate expeditious permit review for the ERB. Currently, there is a general permit for CHP technology less than or equal to 65 MMBTU/hr combusting gaseous or liquid fuels that can be obtained online.

Further, there is nothing that precludes a potential ERB customer from submitting an air permit application or having an air permit pre-application meeting with DEP's ONE STOP permit coordination office prior to submitting an ERB application. The timeframe for design, construction and installation including acquisition of all permits will be part of the evaluation to finance a project.

**100. Section 1.3, Part 1.b(i) provides 20% principal forgiveness for projects that meet performance goals over a five year period. How will the goals be developed for a given project?**

The performance for each project will be based on the design submitted and the project that is approved for financing by the ERB.

**101. Other State financing programs (i.e. NJ Environmental Infrastructure Trust) have provided non-performance**

**based grants/principal forgiveness for projects. Although the grant and principal forgiveness are each proposed to be 20%, the grant has greater value than principal forgiveness. Principal forgiveness conditional on performance creates uncertainty on the Applicant's end.**

It is important that the projects financed with state and federal funds actually perform and operate to the level committed to in the applicant's design. This principal forgiveness financing structure is similar to a number of BPU performance-based incentive programs.

**102. Can ERB financing/grants be used in combination with other financing/grant programs such as the NJ Environmental Infrastructure Trust, FEMA Hazard Mitigation Grant Program and NJ Clean Energy Program?**

The NJBPU has approved the recapitalization of the ERB with societal benefits charge (SBC) Clean Energy Trust Funds of up to \$150 million over four years, in accordance with statutory requirements. Since the BPU funds will be used to incentivize combined heat and power (CHP), fuel cells (FC) and storage projects the NJBPU Clean Energy Program CHP/FC, Renewable Energy Incentive Program (REIP) for biogas and storage are not available to be combined with the ERB grant and loan since in some cases the NJBPU SBC Clean Energy Trust funds may be the majority of funds in a project.

Other NJBPU Clean Energy program rebates for energy efficiency including the Local Government Energy Audit, Direct Install, Pay for Performance, Large Energy Users Program or Smart Start can be combined with the ERB grants and loan. The ERB strongly encourages any potential facility to implement the maximum amount of energy efficiency. In addition, the applicant may decide to combine the ERB grants and loan with an Energy Saving Investment Program (ESIP) financing for the larger energy efficiency projects at a facility.

The grants and financing from the NJ Environmental Infrastructure Trust or FEMA Hazard Mitigation Grant Program may be available on a case-by-case basis depending on their uses within a project. It should be noted that the HUD ERB funds are available for the unmet needs of a projects and the availability of other funds may reduce the HUD financing portion of a project pursuant to the federally required duplication of benefits analysis.

**103. If a proposed bio-gas fueled co-gen system can generate 50%-75% of a facility's critical load, can a fossil fueled emergency generator be used to generate the remaining critical load and address ERB's requirement for a system that provides full resiliency?**

Yes, but emergency standby or back-up generator would not be part of the ERB program and would not be available to receive any grant or loan from the ERB. Nevertheless, such standby or back-up generation could be used to calculate the requirement to supply all critical load for a seven-day period.

**STANDARD SOLAR**

**104. I am curious if some clarification could be made about solar PV systems. If I understood some points correctly, it seems that solar PV is an eligible technology for the funding program but only the microgrid-specific components would be eligible for funding. Exactly what components/equipment and scopes of installation would be eligible for this program? My understanding so far, although I need to read the program guide closely is the following:**

**Funded:** materials and labor related to microgrid capable inverters, battery storage system, battery management system, SCADA system, critical load panels, interconnection and integration of microgrid system.

**Not Funded:** materials and labor related to solar panels, racking structure, sub-array combiner boxes

Please see response to Clean Energy Group in Question 13 and the components that are eligible for the ERB grant/loan under section 4.4.1 Eligible Project Costs.

**105. What is the reason for parsing out only the micro-grid components of solar PV systems for funds? Is it due to other funding opportunities available to solar such as SRECs, ITC, accelerated depreciation that are not available to other technologies? Please let me know if I am misunderstanding this program or any of the details. I am also unclear about overall project costs such as permitting, site work, civil engineering work,**

**construction mobilization costs. Would these need to be separated as well so that only the proportion of those costs related to micro-grid components would be funded?**

Please see response to Clean Energy Group in Question 13 and the components that are eligible for the ERB grant and loan under section 4.4.1 Eligible Project Costs.

**HACKENSACK UMC AT PASCACK VALLEY**

**106. Can you tell me what defines a small business? We are interested in participating in this initiative but I am not sure if we are eligible as we are a for profit institution.**

The definition of a "small business" is governed by the US Small Business Administration (SBA) through a detailed size standard using the North American Industrial Classification System (NAICS), average three-year annual receipts and/or number of employees. To find the standard applicable to a particular facility by its NAICS, and other information regarding the small business definition, the applicant should visit the following webpage on the SBA website, <http://www.sba.gov/content/small-business-size-standards>. Section 4.3.1 of the Program Guide has been amended to provide this information.

**ATLANTIC CITY MUNICIPAL UTILITY AUTHORITY**

**107. We are proceeding with a project that wishes to apply for ERB support for battery storage and inverter components to enable a solar array to "blackstart." Can our project receive a waiver of the energy audit requirement to apply for these ancillary components?**

No, ensuring that applicant facilities are fully energy efficient is an important component of providing financing through the ERB.

**ONFORCE SOLAR**

**108. While I applaud the mission of the ERB, it seems that the inability of facilities to gain funding for PV components as part of an islanding power production system (PV + battery backup) is very restrictive. This term restricts the PV/battery backup solution to only those facilities which currently have solar PV.**

The ERB program requirements do not restrict the grant and loan to facilities that currently have solar. A facility can install a new solar system financed through other means which could include the New Jersey SREC financing program. The ERB would provide a grant and loan for that portion of the solar projects that includes the off-grid inverter and battery storage consistent with the cost categories listed in Section 4.4.1 Eligible Project Costs.

**109. Can you explain the reasoning behind this ruling?**

Please see response to Clean Energy Group in Question 13.

**110. Also, what if any alternatives did the ERB team discuss for those facilities which want to combine solar with battery backup, but do not currently have a PV system in place? – Would the answer be a separate agreement for a PV PPA with the facility coupled with ERB funding for the battery/microgrid components?**

There is an existing financing system for PV. The ERB would fund the incremental additional cost (which is more costly) of the resiliency components.

**CONCORD ENGINEERING**

**111. The Energy Resiliency Bank should focus on the total financial need of the host site for developing resilient power. The proposed structure does address the single largest obstacle that projects face by offering not just a grant or forgivable loan but the balance of the necessary financing. The proposed 20 year term and 2% financing will enable projects to achieve positive cash flow from the beginning of commercial operation and through the life of the project.**

Thank you for your comment. In addition, the ERB wishes to clarify that the referenced term is the useful life of the majority of assets up to 20 years, and a higher interest rate for projects that either have a lower bond rating or are unrated.

**112. We would recommend that the ERB provide 100% grants to upgrade facilities existing onsite generation to**

**meet resiliency islanding and black start capabilities. This would be equitable considering that those facilities have already made the investment in their plants for onsite generation. These projects can be in the \$3 to \$30 million dollar cost range which could rapidly deplete the available funds.**

Thank you for the comment, but the ERB has decided to develop a revolving loan structure that provides for more use of these limited funds. A simple grant program would be limited in scope and effect and not meet the goals set forth in Substantial Amendment No. 7 to New Jersey's CDBG-DR Action Plan.

**113. Similarly the potential to coordinate with the Environmental Infrastructure Trust (EIT) funds could also expand the reach of the ERB. In the case of the EIT the ERB could provide grant and forgivable loans and use the EIT to provide the balance of project funding. The EIT itself may need modest support if it would be necessary to buy down their interest rate to be equal to that offered by the ERB.**

As noted in the Guide, the ERB will closely coordinate with EIT in evaluating projects. Where the project scope goes beyond ERB eligible costs, the project may consider whether to pursue EIT-only funding or a combination of EIT and ERB funding.

**114. Water treatment facilities typically have no significant thermal energy needs so excluding distributed generation makes it unlikely they will be able to meet the efficiency requirement which then limits them to storage and possibly fuel cells. In these cases natural gas I.C. engines with emissions controls and linked to PJM DR can be economically attractive and still improve overall efficiency as they would only operate when the grid is on peak and suffering higher than normal transmission losses 10-20% on top of running the most inefficient peaking units.**

The ERB will continue to review this issue, but the current program is for CHP, fuel cell and battery storage. While resiliency is the major objective of the ERB, the provision for a backup or standby generator is a requirement of an applicant's DEP permits, and the ERB will not be funding the implementation of permit requirements. The resiliency that ERB projects will be designed to achieve exceeds the requirements set forth in the DEP permits.

**115. Regarding storage we would recommend that this include a requirement for sufficient MWh to operate the facility for sufficient time to contribute to real resiliency. In most cases to approach enough MWh to be significant would be enormously costly. If instead the storage project could be defined to provide limited MWh but would coordinate with onsite generation it would enable the site PV to contribute power without being disruptive to operating stability and thereby extend the fuel resources needed to operate in the event of a power failure. This would require more sophisticated controls but provide a significant benefit. Allowing the necessary controls and integration to be included in the ERB funded project would enable the adoption of this technology.**

The Guide provides for storage systems to be combined with other backup or standby generation. It is also recognized that just relying on battery storage for the facility's full resiliency requirement would be exceedingly cost prohibitive at present. In addition it is a relatively new technology which is why the ERB has established a reasonable per project cap and total budget.

**116. To enable multi user applications the BPU should adopt rules that define the provision of emergency power as being exempt from utility franchise restrictions and allowing a direct wire connection from an onsite generator to nearby critical facilities. This would need to include appropriate safeguards similar to emergency generator transfer trip devices to prevent back feeding power onto utility lines which would be a safety hazard.**

The issues raised by this comment are beyond the scope of the ERB Guide and Product; further, the rules recommended by the commenter may be outside the authority granted to the Board. Staff will recommend that the Board direct staff to initiate a stakeholder process on issues related to the provision of emergency power, including power to critical facilities, and report back to the Board on whether statutory and/or regulatory changes are necessary and, if so, with recommended statutory and/or regulatory provisions.

**NY/NJ BAYKEEPER**

**117. The plan briefly states on pages 10 and 13 that the facility must include an evaluation of its vulnerabilities to**

**sea level rise and suggests the use of the NOAA sea level rise tool. This requirement should be more highly emphasized and must be enforced.**

Thank you for the comment, but with regard to the emphasis of sea level rise considerations in the Guide, in the view of ERB Staff the Guide, as worded, is sufficient. Sea Level Rise (SLR) and Storm Surge (SS) components are incorporated into the Guide in two places, Sections 4.1 ERB Program & Eligibility Requirements and 4.3.1 HUD Requirements. Section 4.1 states that the risks of SLR should be addressed at a project's design and feasibility stage. Section 4.3.1 sets forth that projects must be designed to be appropriately resilient to potential flooding and SS.

With regard to the enforcement of measures to mitigate sea level rise, all projects must conform to the FEMA requirements in place at the time ERB projects are undertaken. However, the Guide recognizes that flood elevation maps and corresponding construction heights have been in a state of fluctuation following Superstorm Sandy. As such, the ERB directs applicants on appropriate project design. The program also balances the uncertainty in this field by providing operational flexibility so that the program and applicants can adjust to potential, future changes to flood, sea level rise, storm surge and construction requirements issued by federal, state or local authorities.

- 118. Also, the program should include more detailed requirements such as the level of sea level rise evaluated and the inclusion of storm surge analysis along with sea level rise. The applicant should be required to evaluate their vulnerability at the level of sea rise anticipated for the entire life of the facility. In addition to the NOAA sea level rise tool, NJ Flood Mapper should also be recommended as it includes storm surge impact predictions (<http://njfloodmapper.org/>).**

Please see response to New Jersey Future in Questions 84 and 85.

- 119. The ERB would benefit from creating a data sharing site where prospective applicants could share information on what has and hasn't worked for them. This site should showcase innovative technologies, such as the biogas powered generators used by Bergen County Utilities Authority. In this way best practices can be promoted and mistakes that were made in the past can be avoided.**

Project approvals are made at public meetings, and accordingly project summaries are made public at that time. The ERB contemplates making available a running list of project approvals on its website which may aid prospective applicants to learning from the experience of other projects. Of course, any information will only be made publicly available subject to national and state security concerns being adequately addressed.

Additionally, ERB Staff plan to provide significant technical assistance to program applicants, and expect that that technical assistance will also be an important mechanism in identifying and utilizing best practices.