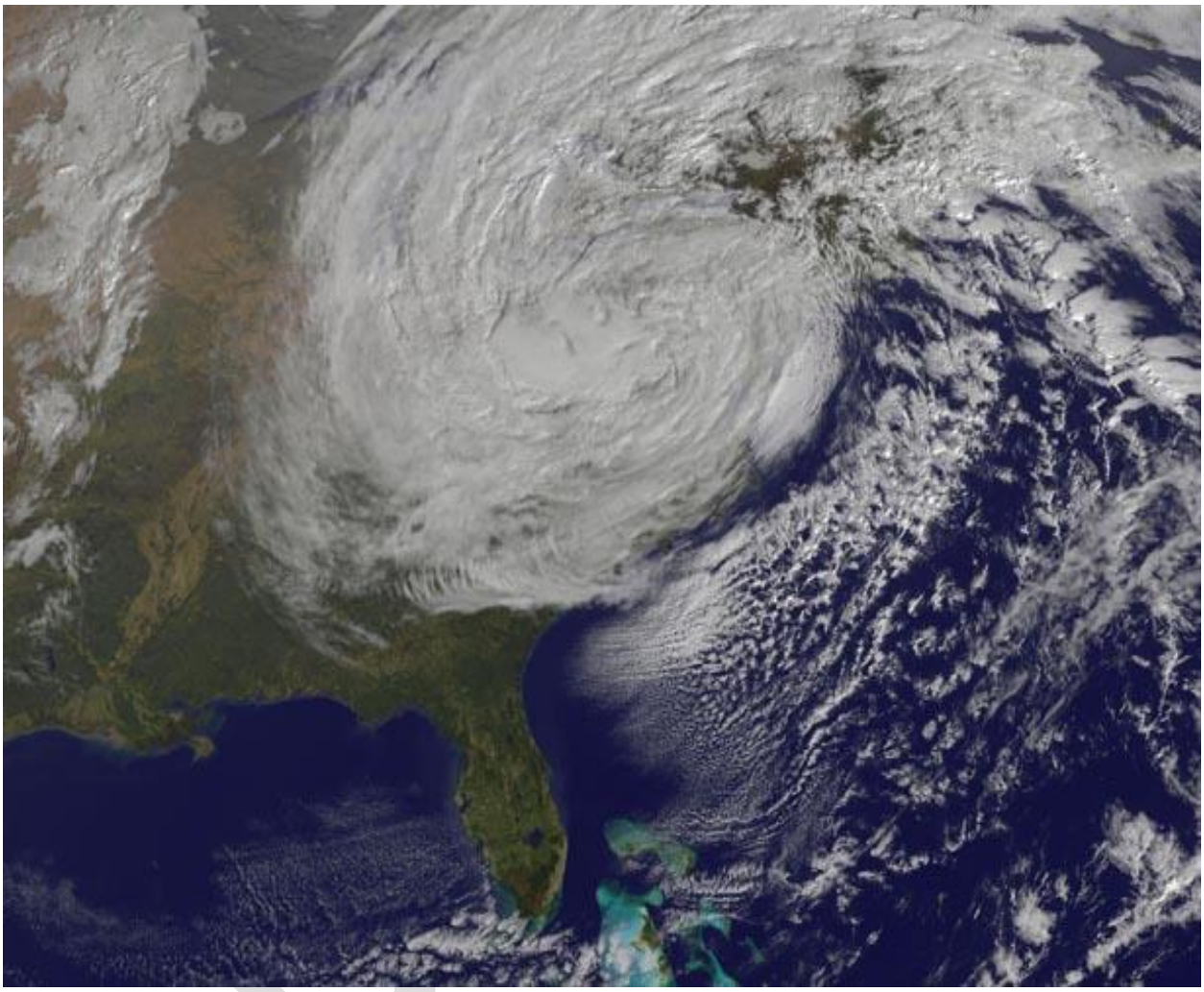
New Jersey Energy Resilience Bank
Grant and Loan Financing Program Guide



NJBPU/NJEDA

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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 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.

Finally, stakeholder comment is a critical component of developing reasonable, practical and cost-effective financing for ERB products across different market sectors. As a result, BPU and NJEDA are distributing a draft of this Guide to critical facilities for their review and comment on the general eligibility requirements to apply across all ERB funding rounds. Simultaneously, comments are being solicited specifically from water and wastewater treatment plant operators that are currently eligible for ERB assistance to ensure the viability of the specific financing product that has been proposed for their market sector. Feedback from stakeholders will be evaluated in connection with finalizing the Guide and presenting it to the Boards of BPU and NJEDA for approval.

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 5 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 3 and 5 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

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

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 which 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.

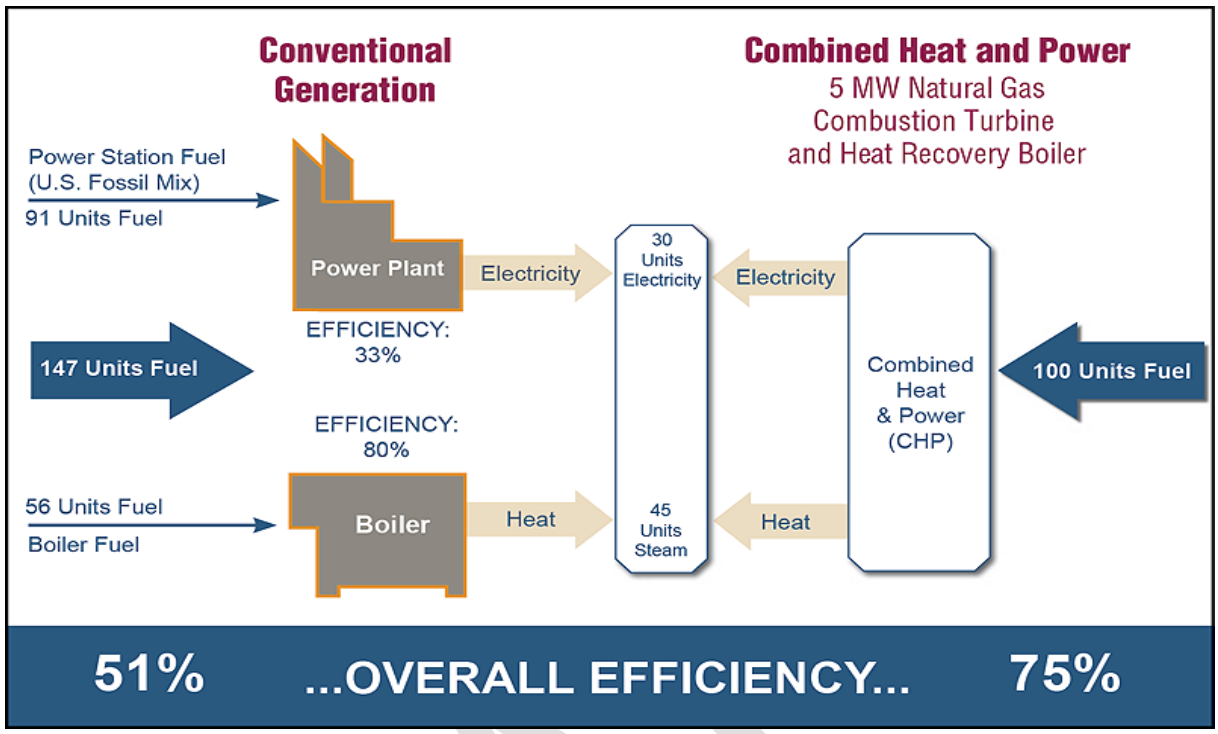
Section 3: DISTRIBUTED ENERGY RESOURCE TECHNOLOGIES

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 agnostic. 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 ("blackstart"). 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:



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_2) and Mercury (Hg) emissions and generates no waste or wastewater. While there is a certain level of carbon dioxide (CO_2) emission associated with fuel cells, which varies depending on the fuel source used, CO_2 emissions are low due to the efficiency of the system (i.e., they are approximately equal to CO_2 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.

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.

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 ("islanding"). The DER technology financed through the ERB also must be capable of starting up without connection to the electric grid ("blackstart").

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"),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. 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-context. 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 III 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'sEnergy Saving Improvement Program (ESIP). Details on ESIP are available athttp://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 maybe 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 financing products for market sectors in the following sequence:

I. Water Treatment Plants and Wastewater Treatment Plants
II. Hospitals and Long Term Care Facilities
III. Colleges and Universities, and State and County Correctional Institutions
IV. 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
V. Transportation and Transit Infrastructure
VI. Other Tier 1 and Tier 2 Critical Facilities as defined by New Jersey's Office of Homeland Security and Preparedness

This sequencing for the development of ERB financing products is subject to change. 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.

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. This condition does not limit the use of State SBC funds.

2. Applicants must show that the critical facility was directly or indirectly impacted by Superstorm Sandy or another qualifying disaster listed in Appendix A. Direct impacts include physical damage to the facility caused by the eligible disaster. Applicants that can show a direct impact likely will be able to proceed more quickly through the funding process. Applicants claiming an indirect impact are encouraged to apply. The determination of an indirect impact will be made on a case-by-case basis and likely will require guidance from HUD.

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.

4. CDBG-DR funding cannot be used to fund critical facilities located within the Coastal Barrier Resource Area (CBRA),unless the critical facility has no reasonable alternate location from which it can provide specific critical services to the community. Such a facility's DER microgrid may require appropriately tailored designs to address the impacts of the CBRA.(An illustration of New Jersey's Coastal Barrier Resource System can be found athttp://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 CBRA.)

5. 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 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.

- **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.**

6. 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.

7. 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 Presidentially declared disaster (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) and, as a condition of receiving ERB financing, will be required to purchase and maintain flood insurance to the extent required by any applicable federal regulations.

8. 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.

9. 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 PVpanels, and CHP systems including fuel cells, turbines or engines to meet the critical load requirement. Only the 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 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.

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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.

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 result in a grid outage ("islanding"). 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 ("blackstart").

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.

   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.

   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.

8. The DER system must operate a minimum number of hours to have a CEEEP DERcost-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.

9. 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.

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 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 this requirement.

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.

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.

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.)

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. Information on energy audits provided free of charge through the New Jersey Clean Energy Program can be obtained athttp://www.njcleanenergy.com/commercial-industrial/programs/local-government-energy-audit/local-government-energy-audit. The NJCEP Local Government Energy Audit (LGEA) is a general audit (ASHRAE Level I) that can assist in determining project feasibility, but is not a substitute for a full detailed energy audit (ASHRAE Level III) that is required for the full application.

An ERB In-Take Application will be made accessible through the BPU and NJEDA websites (www.bpu.state.nj.usandwww.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.

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-performanceandhttp://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
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 decisionsfor 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.

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.

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.