Maryland Energy Administration

**Larry Hogan, *Governor***
**Boyd K. Rutherford, *Lt. Governor***
**Mary Beth Tung. *Director***

# October 2018 Notice of Grant Availability for the FY19 Resiliency Hubs Grant Program (Grant Program)

---

**Program Description:**

This program provides funding to partially recompense solar/microgrid developers for costs incurred in the development and construction of solar plus energy storage system of at least 10 kW or larger, to serve as "Resiliency Hubs", within high density, Low and Moderate Income (LMI) neighborhoods in Maryland. During periods of grid outage, the solar plus energy storage system (with or without emergency generator) will be used to provide a no-cost resiliency center for the surrounding community. During grid operation, the solar and energy storage resources may be operated to reduce the cost of electricity to the hosting site. While fossil fuel emergency generators may be included in the final system design, grant funding may not be used for the purchase, installation or integration of a fossil fuel generator system. Although it is assumed that funding will be used to retrofit existing buildings with solar and energy storage systems, new building installation is also allowed. At a minimum, City/County Emergency Planning Departments (or equivalent) will be notified of proposed resiliency hub locations.

**Program Goal:**

The goal of the Program is to encourage development of resiliency hubs within areas of high density LMI populations. The hubs would serve as heating centers and cooling centers when the grid is down. They would allow cell phones and other small battery, rechargeable devices to be recharged to allow for communication during the incident/when the grid is down. They would provide a nucleus of stability within the community during an extended grid outage. Of greatest importance, they will always be within walking distance of the community they serve.

**Program Budget:**

Up to $5,000,000 of funding is available in fiscal year 2019 (July 1, 2018 – June 30, 2019), subject to funding availability.

**Grant Award Amount:**

Approved resiliency hub projects may receive up to $1,300/kW for installation of new solar modules and new energy storage capacity. Additional funding may be available for any added equipment, wiring and breakers as well as a new critical equipment panel (if appropriate**), however the total grant amount may not exceed $2,000/kW. The Grant amount will be increased by up to an additional $1,000 to reimburse a grantee if the City/County assesses a charge to the Grantee for review by Emergency Planners and/or integration into the City/County Emergency Management Plan.** (This is not to pay expected permitting fees).

**Eligible Applicants:**

An individual who is both the system developer and the property owner of the proposed site, or a system developer partnering with the owner of the proposed site (if different) are eligible to apply for a resiliency hub grant. Please note that the property owner of the proposed site must be included on the application and any subsequent grant agreement.

**Application Deadline:**

**April 15, 2019. Proposals received by March 1, 2019 (the original deadline) will be reviewed before considering proposals received after that date.**

**Type of Grant Program:** Project grants are competitive. All grants are subject to funding availability and funding restrictions.

**Number of Grants:** MEA may fund zero, one, two or multiple grants.

**Definitions:** For the purpose of this program:

- Resiliency Hub: A Resiliency hub is a venue where a solar plus energy storage system is located that is designed to provide electricity to meet important needs, including emergency heating and cooling; refrigeration of temperature sensitive medications, milk from nursing mothers, etc.; plug power for charging of cell phone and computer batteries; ventilation and emergency lighting. A Resiliency Hub may also be identified as a designated location (by the city, county, or state) for the distribution of emergency services during extended grid outages. Resiliency hubs are NOT replacements for emergency shelters as they are not required to be designed to survive extreme weather. Also, they are not required to have food service capabilities, nor are they required to have showers and locker rooms but they must have rest rooms with sinks. Resiliency hubs must meet basic requirements necessary for occupancy, including health and sanitation.
- Walking distance: For the purposes of this Program, the term "walking distance" shall be a distance within a ½ mile along a public conveyance or along a well-established path (i.e. not as the crow flies). Shorter distances may be proposed when appropriate. A geographic barrier (rivers, freeways, etc.) should be considered a limiting barrier, as appropriate. This is not an absolute limit and MEA may modify it, at MEA's discretion, when provided with appropriate justification.
- Maryland Community Solar Pilot Program ("Community Solar"): A virtual net energy metering pilot program authorized by Maryland statute (see Public Utilities Article, §§2-113, 2-121, 7-306, 7-306.1, and 7-306.2 Annotated Code of Maryland) and implemented by the Maryland Public Service Commission and its regulations (COMAR 20.62.01.01 et seq.).
- Low Income: For the purposes of this Program, Low Income means a resident whose gross annual household income is at, or below, 175 percent of the federal poverty level for the year of subscription or who is certified as eligible for any federal, state, or local assistance program that limits participation to households whose income is at, or below, 175 percent of the federal poverty limit:[1]
- Moderate Income: For the purposes of this Program, Moderate Income means a resident whose gross annual household income is at or below 80 percent of the local median income for Maryland (as determined by the latest DHCD "Income Limits" document).[2]

**Proposal Content:** **Project Development Grants**: Interested persons (which may also include cities or counties developing Resiliency Hubs) should apply by submitting an unformatted cover letter, the application spreadsheet, and a detailed proposal that includes the following information:

1. Site justification: Method used to identify the LMI population to be served (that are located within walking distance). Identify base documents used. Describe the limits of the neighborhood expected to be served and an educated estimate of the LMI population to be served (moderate income, low income). Use maps and tables, as needed.

[1] Code of Maryland Regulations 20.62.01.02.B (12)
[2] Code of Maryland Regulations 20.62.01.02. B (13)

2. System Location: Identify the specific building to be used as the resiliency hub. Explain the rational for its selection. Provide documentation that the building owner is interested in hosting a solar plus storage system for daily use and is willing to open the building as a resiliency hub when the grid is down. The commitment to serve as a resiliency hub will be for a period of at least five (5) years. Documentation may be a contract, a letter of intent, a letter of interest, etc.
3. City/County Acceptance: Provide documentation that the city/county where the system will be located (including their office of emergency planning) has been notified of the proposed location of the resiliency hub. If possible, provide documentation that the applicant has opened communication with a representative of the city/county and that it does not reject the concept of a resiliency hub nor the proposed location out of hand. Final approval is not required at the time of submitting a proposal. However, please note that MEA will not provide a grant to a project if the relevant county/city has communicated that it will not approve a necessary permit or other local requirements.
4. System sizing information: Provide a listing of the proposed loads to be provided during grid outage, to include kW and estimated kWh/day. Describe the process used to size the solar system and the energy storage system. Provide a listing of the loads and time of day for each of their use. Provide the size of the solar system (kW) and the energy storage system (kW and kWh).[3] If a fossil fuel generator is included in the system design, provide its maximum power output, its fuel supply (including estimated time of operation available at various power levels), and proposed mode/strategy of operation. Verify and document that sufficient roof/ground space is available to accommodate both the solar system and energy storage system. Indicate what modeling tool was used and provide key system printouts that show loads, system and storage sizing. Tools such as SolarResilient[4], REopt or REopt Lite[5], and System Advisor Model (SAM)[6] should be considered. Other established modeling tools may also be used but must be specified.
5. Provide grant request amount as follows: Multiply the solar system size by $1,300/kW. In addition, up to $700/kW will be allowed to pay for: a critical loads panel and rewiring the critical load into the panel; the added cost of a grid-forming inverter over a grid-tied inverter, a battery charge controller and the additional disconnect switches required to island the system. Unlike the $1,300/kW incentive, the additional costs must be proven, meaning that if it only takes an additional $100/kW for these features, that's all that will be authorized. Finally, if a city/county office of emergency management charges a fee in order to review the project (and integrate it into the city/county emergency response plan), up to $1,000 may be awarded to pay this fee. (This additional $1,000 may NOT be used to pay zoning and permitting fees that are normal development costs.) As such the Grant Amount Request should be listed as three numbers: 1) Solar + Energy Storage amount, 2) Additional equipment amount, and 3) County office of emergency management fee (if charged). **The maximum grant is capped at $501,000.**
6. System design: Provide a one-line diagram of the system showing major equipment, panels, breakers, etc. If a backup or emergency fossil fueled generator will be included, explain how it will be hooked into the system, to include a one-line diagram showing energy flow during generator operation.
7. Provide a statement that the applicant has reviewed the Notice of Grant Availability and

[3] Preliminary designs indicate a ratio of 4 kWh of energy storage per 1 kW of solar PV would provide 50% probability of meeting the 5-day requirement. Proposals must show the actual modeling used to achieve the system sizing.
[4] https://solarresilient.org
[5] https://reopt.nrel.gov/tool
[6] https://sam.nrel.gov

agrees to follow its requirements.

8. Ongoing operation: Provide a plan for the operation of the Resiliency Hub during an extended grid outage. Identify who (which organization) will be responsible for managing access to the resiliency hub during a grid outage, and what the expected costs will be. Provide a plan for the operations and maintenance of the system, including the name of the responsible party and the minimum schedule of inspection and preventive maintenance.
9. Timeline: Provide information showing estimated dates for the project's start, completion, commissioning, Interconnection and Permission to Operate.
10. Total Cost: Provide estimated total project cost, as well as the cost for the minimum necessary equipment (solar modules, inverters, energy storage device, charge controller, system controller).

**Proposal Submittal:** At time of submittal, a proposal must have completed steps 1 through 7. A project will be considered more favorably for each additional step completed. However, an applicant may list steps 8 through 10 as "tentative" if they have not been completed/finalized. To be considered for funding, a proposal must provide at least completed responses for steps 1 through 7 and at least "tentative" responses for steps 8 through 10.

**Application Evaluation Criteria:** Each proposal meeting the program requirements will initially be ranked based on the ratio of LMI people served divided by the cost of the grant. Subsequently, MEA will rank each of these proposals based on the following criteria: the services rendered (lighting, cell phone recharging capability, refrigeration, … etc.), the likelihood of long term support (city/county operational support, etc.), and the proposal completeness. Please note, a system must be able to achieve the required period of operation. Longer operation will not increase a proposal's initial ranking, but could be the determining factor in the unlikely event of a tie. MEA also reserves the right to select applications that allow for a broader diversity in the project portfolio to achieve geographic diversity.

Due to the complexity of the proposal, MEA may request additional information to provide clarity and to facilitate the evaluation process

**Restrictions and Limitations:**

- Non-governmental applicants selected for an award will be required to submit an IRS Form W-9 to MEA prior to entering into a Grant Agreement. Instructions regarding W-9 submission to MEA will be provided to successful applicants with the notice of grant award.
- To receive grant funding for a project, the successful applicant must enter into a Grant Agreement with MEA by April 22, 2019, unless an extension is given in writing by MEA.
- PV systems that may receive benefit from MEA grant funding must be installed by an installation contractor who employs at least one North American Board of Certified Energy Practitioners (NABCEP) P V Installation Certified person in the design and/or construction of the solar project.
- Non-governmental project developers and owners must be in good standing in the State of Maryland. For a Good Standing Certificate, please see the website for the Comptroller of Maryland.[7]

[7] See https://comptroller.marylandtaxes.gov/Vendor_Services/Accounting_Information/General_Information/Good_Standing_Certificate.shtml

- An authorized representative of the building owner and the project development organization must sign the cover letter (application).
- Only one MEA renewable energy grant may be awarded per project. Each grantee may also submit for, and receive a C&I grant or a Maryland Smart Energy Communities grant, but only to improve building energy efficiency. Developers may use multiple grants from different State or Federal agencies to fund this project.
- The property owner of the building where the project will be located must agree to maintain the building as a resiliency hub for at least 5 years.
- The grant is available, regardless of the ownership structure, provided the site owner, the building owner and the system owner all agree to the installation of the resiliency hub at that site. The grant applicant should include the real property owner AND the system owner (if different than the real property owner).
- Projects should be completed by December 1, 2020. Extensions may be requested from MEA at least one month prior to the expiration of the existing grant.
- Grant funds will be distributed after the solar plus energy storage system is placed in service (i.e. finishes all commissioning tests, has received its Permission to Operate from the local utility, and has passed all permitting inspections). Systems must meet all zoning conditions imposed when zoning was approved by the City/County.
- Energy used at the resiliency hub during a grid outage shall be provided at no cost, although the resiliency hub operator may impose reasonable limits on energy use to ensure the system lasts the required period.
- Projects with solar arrays supplying power under the Maryland Community Solar Pilot Program must be individually coordinated with MEA, who will consider the project as a whole.
- The project must not have an adverse effect as determined by the Maryland Historic Trust.
- No grant funding may be used to support the installation of a fossil fueled generator (with the exception of installing a single breaker in the applicable switchboard).
- Solar systems smaller than 10 kW will not be considered.
- The solar plus storage system may be used to provide solar energy to the facility, as well as peak shaving to reduce demand charges. Attempts to use the system for other purposes (such as frequency regulation) are not precluded by this grant if the system is operating under an authorized utility tariff. Regardless of the routine system use, the battery shall reach and maintain at least a 90% charge prior to any known storm or weather condition that might be expected to cause a power outage (hurricane, ice storm, derechos). Normal operation may resume after the threat to the grid has passed.

**Grant Process:** Project Development Grants

- An applicant should complete the following steps (as a minimum) before submitting a proposal for a Resiliency Hub Grant.
  - Identify hub location
  - Identify energy load, solar array size, energy storage size, added equipment needed to island from the grid.
  - Identify approximate total project cost and proposed grant amount (using criteria provided in “Proposal Content” above)
  - Identify all permits required and zoning actions needed.
  - Begin coordination with the local planning authority to identify potential zoning concerns. Although not mandatory, it would be preferable that any zoning issues be resolved before submitting a proposal.
  - Begin coordination with the local utility.

- Develop a one-line diagram of the proposed system
- Applicant submit the proposal along with supporting documentation to MEA.
- MEA will rank proposals that meet the minimum requirements using the criteria described above. Projects not meeting the minimum requirements will not be considered.
- MEA will determine the amount of potential grant funds to be awarded to each applicant in the order determined by the competitive ranking until the complete Program funding amount is fully obligated, or there are no more qualified projects. Qualified projects not funded may remain on standby, and may be funded if a higher ranking project drops out before April 22, 2019.
- Upon completion of the project (all zoning requirements met, all permit inspections passed and permits closed, all commissioning tests satisfactorily completed, and permission to operate received from the utility), the developing organization will submit a completion report with all required documentation and will invite MEA to conduct an inspection.
- MEA may conduct an inspection of the project site or may simply accept the project and process for payment. Additionally, the Maryland Energy Administration showcases selected projects to demonstrate how MEA programs are benefiting Maryland residents and businesses. If selected for award, please note that the MEA grant agreement will require participation in project showcasing.
- For projects that are inspected, all major deficiencies (as specified by MEA) must be corrected before MEA provides grant funds. Minor deficiencies must be addressed/corrected, but distribution of grant funds will not be delayed.

**Timeline**

- Notice of Grant Availability Posted – November 1, 2018
- Grant Application Deadline – March 1, 2019
- Grant Agreement Execution Deadline – April 1, 2019
- Construction and Commissioning Deadline – December 1, 2020
- Final Inspection and Document Submission Deadline – January 31, 2021

**Additional Information**

**Historic Review**

In order to comply with the State historic preservation requirements, each building included in a project funded by a Resiliency Hub grant must first be reviewed to assure that the proposed grant project will not have any adverse effects on the historical significance of a historic property. MEA will submit each project details to its in-house historic professional for review in consultation with Maryland Historic Trust, as necessary. As such, **an applicant is strongly encouraged to submit its project to MEA for historic property screening as early in the proposal development project as possible in order to** avoid rejection of a project due to adverse effects on a historic property where alternative options could be available. Please note that a prominent installations of clean energy systems on historic properties or properties within historic areas will be considered an adverse effect and will not qualify for this Program.

**Solar and Energy Storage Installation Certifications**

To be eligible for a Resiliency Hub Grant, solar project installation must be completed by a contractor who assigns at least one North American Board of Certified Energy Practitioners ('NABCEP') certified PV Installation Professional to the design and/or installation of the project.

Energy storage systems must be installed in compliance with all local building, fire, and electrical codes.

**Solar Renewable Energy Certificates (SRECs)**

Projects must be connected to the distribution grid serving Maryland and may register for Solar Renewable Energy Certificates. For information concerning SREC registration, consult the PJM EIS website at https://www.pjm-eis.com/

**Resiliency Hub Equipment**

The applicants are responsible for identifying and purchasing heating, cooling, refrigeration, lighting, and plug load charging equipment. This equipment must be installed and/or available on-site when the solar plus energy storage system is completed. A refrigerator of adequate size to meet the calculated need is required to be available and operating on-site. Resiliency Hub grant funding may NOT be used to pay for this equipment or its installation.

**Reports**

MEA will require quarterly progress reports commencing with the grant award and ending with the Completion Report. Progress reports should be made by e-mail no later than the 10th day of the months of January, April, July, and October. Progress reports are unformatted and should report design and construction progress, as well as any problems that would impede completion of the project.

An additional report will be requested within the first three years of operation describing the actual usage of the solar plus energy system, both during grid operation and during grid outages that may have occurred. Lessons learned and program recommendations are appropriate for this report.

**Program Changes**

This is the first year of the Resiliency Hubs Program. MEA reserves the right to modify or change the grant program and/or incentive as needed for legal, financial or programmatic reasons. Changes will be found on the MEA Resiliency Hub webpage. Changes made after proposals have been submitted will be provided to grantees by letter and/or e-mail.

**For more information or assistance, please visit www.energy.maryland.gov or contact:**

David Comis, Energy Program Manager
David.Comis@Maryland.gov
410-537-4064

Last Modified: April 2015