

DEMEC

Delaware Municipal Electric Corporation



Sustainability & Development

GRIP Grant Funding Opportunities

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Federal Funds: Grid Resilience and Innovation Partnerships (GRIP) Program

Part of the Bipartisan Infrastructure Law (BIL) and funds projects that:

- Enhance grid flexibility and resilience against growing threats of extreme weather
- Accelerate the deployment of transformative projects that will help to ensure the reliability of grid infrastructure

The program has three topic areas. Topic areas 1 & 2 are most applicable to your community.

Topic Area 1: Grid Resilience Utility & Industry Grants

- Supports hardening infrastructure with digitization and automation
- Improving tools to restore power to the grid during outages
- Investing in technologies to improve the efficiency of the grid, such as advanced conductoring and reconductoring

Topic Area 2: Smart Grid Grants

- Supports increasing capacity of the transmission system
- Improving interconnection processes to accelerate clean energy build out
- Integrating renewable energy at the transmission and distribution levels
- Facilitating the electrification of vehicles, buildings, and other grid-edge devices.

GRIP Grant Funding **Topic Area 1**

(Grid Modernization)

GRIP Grant Funding: **Topic Area 1** (*Grid Modernization*)

Summary:

- **DEMEC submitted a list of projects to AMP** for consideration for GRIP Topic Area 1 funding to modernize the electric grid and reduce impacts due to extreme weather and natural disasters, and any other event that can cause a disruption to the power system.
 - The list was *non-binding* (only submitted to vet projects and show interest)
 - A project area submitted by DEMEC for the Lewes BPW included battery storage

Member	Project Type	Size	Total Project Cost	Potential Grant Savings
Lewes BPW	Battery Storage	Up to 10 MW	\$20,000,000	\$10,000,000
TOTAL			\$20,000,000	\$10,000,000

GRIP Grant Funding: Topic Area 1 (*Grid Modernization*) cont.

Funding Eligibility:

The funding award request must not exceed the total of the applicant's last three (3) years on efforts to reduce the likelihood and consequences of disruptive events. DOE will interpret "efforts to reduce the likelihood and consequences of disruptive events" as those activities, technologies, equipment, and hardening measures that are eligible for grants under this provision.

Example: If Utility (A) allocated \$1M a year over the last three years to projects that improve reliability, then that utility would have up to \$3M of eligibility for funding.

Impact of this requirement considering project cost:

1. Example 1: Project cost is **\$6M**. Eligible funding is \$3M due to utility hardening. If approved, the project would receive maximum eligible incentive of \$3M or **50%** (**\$3M/\$6M**) for the project.
2. Example 2: Project cost is **\$20M**. Eligible funding is \$3M due to utility hardening. If approved, the project would receive maximum eligible incentive of \$3M or **15%** (**\$3M/\$20M**) for the project.

GRIP Grant Funding: Topic Area 1 (Grid Modernization) cont.

Lewes BPW Impact:

- For this funding request, the Lewes BPW would need to provide details on the investment in system hardening over the last three (3) years
 - *Investments should meet or exceeded \$10M to maximize the potential incentive and cost effectiveness*
 - *If at least 50% of the project cost will be funding eligible, grant application has greatest benefit*
 - *Examples of hardening include:*
 - Substation upgrades or additions
 - Distribution line and pole hardening
 - Distribution line burial
 - Distribution transformer and recloser upgrades
 - Vegetation management

Member	Project Type	Size	Total Project Cost	Potential Grant Savings
Lewes BPW	Battery Storage	Up to 10 MW	\$20,000,000	\$10,000,000
TOTAL			\$20,000,000	\$10,000,000

GRIP Grant Funding: **Topic Area 1** (*Grid Modernization*) cont.

DEMEC conducted the following preliminary benefit/cost analysis to detail the best-case scenario of a DEMEC-owned battery in Lewes BPW territory as of the current available data and federal grant requirements.

Lewes BPW Analysis	Cost
20 Year Battery	\$10M
Annual Payment @7% interest	~ \$930K
Annual Savings	~ \$690K
Net Annual Savings <i>Capacity & Transmission Value Only</i>	- \$240K
Additional Value Streams	TBD

Initial cost projections for the battery project

GRIP Grant **Topic Area 1** - *Application Schedule*



* A letter of commitment is required to move forward with submitting a GRIP grant application on behalf of your community. DEMEC staff will be requesting time in front of member councils/boards for February/March. Some communities may require more than one approval for various projects submitted.

Anticipated Approval Timeline

April 17, 2024 - Full Topic Area 1 grant application due to DOE

Anticipated DOE Response Timeline:

- Summer/Fall 2024 – DOE Selection Notification
- Winter 2024/2025 – DOE Award negotiations
- Spring 2025 - DEMEC contract negotiations with member
- Fall 2025 – GRIP approved project can begin initial contracting/purchasing

Next Steps

Initial Process

- ✓ Presentation to the Lewes BPW 2/28
 - Is the Lewes BPW interested in moving forward with Topic Area 1?
 - If so, request board to issue a resolution committing to participate in the GRIP program and issue a letter of commitment by ~March 25, 2024
- Continued Discussion with the Lewes BPW in March (*if needed*)
- DEMEC to email AMP by ~April 1, 2024
 - Letter of commitment
 - Any required data (*3-Year hardening investment data, at minimum*)

Development Process

- DEMEC & Lewes BPW
 - Discuss financing options if the Lewes BPW would like to finance the project through DEMEC if Lewes purchases battery
 - Execute a contract and project purchase agreement with DEMEC as needed

Project Deployment Planning & Kickoff

GRIP Grant Funding: Topic Area 2 (DEMEC/AMP *AMI Solution* Program)

GRIP 2023 Recap

- **Mid March 2023** - Full GRIP application submitted
- **October 2023** – DOE Selection Notification confirmed AMP/DEMEC projects were not selected and DEMEC applying members were notified
- **November – December 2023** – AMP meets with DOE to discuss their application and AMP compiles lessons learned
- **November 2023** – DOE reopens GRIP Application period

GRIP Application 2024 – *What Changed*

Program Details	2023	2024
DEMEC Member Communities	Clayton and Lewes	All 8 DEMEC members
Basic AMI Electric Included?	Yes	Yes – For members with out AMI
GRIP Enhancements	Itron Grid Edge Optimizer	2023 Enhancements plus Distributed Energy Resource Management (DERM)
GRIP Enhancement Capabilities	Enhanced transparency to identify/analyze EV and solar installations Enhanced real-time monitoring of transformer loading/usage	2023 Capabilities plus Enable communities to enroll customers with various DER technologies in demand response program <i>Example: Customer thermostats, electric vehicle charging, smart inverters and battery storage</i>
GRIP Enhancement Capabilities Cost Structure	Cost based on all meters enrolled	Setup fee plus cost per enrolled meter

AMI Enhancements



Grid Edge Optimizer

Delivering real-time visibility to the distribution grid



LOCATION AWARENESS

Providing the foundation for AMP Solution Network (Itron GenX)



DER AWARENESS

Recognizing both EV + Solar



TRANSFORMER MONITORING

Real-time load and voltage monitoring

Real-time Analytics & Alerts | Any Endpoint at the Edge | Integration in OT | New Workflows

Grid-Edge Enhancement Benefits



Smart Grid – Edge Computing Project

Project Benefits/Attributes

- Improve overall grid resilience
- Solution hosted by AMP within AMP's cybersecurity protocols
- Facilitate the aggregation and integration of electric vehicles (EVs)
- Enable the integration of intermittent retail BTM renewable energy resources
- Improve local grid operation to protect against faults or other system disturbances
- Enable implementation of Time of Use rates to:
 - Encourage load to match resources
- Enable, implement and manage demand response/load shedding programs to:
 - Protect/stabilize the grid;
 - Reduce transmission peaks/costs; and
 - Reduce capacity obligations/costs

Previous Budget Projections – *Electric Only*

The pricing below was presented to the board last year. AMP has not received revised pricing for change in cost structure. DEMEC expects the following GRIP pricing may increase due to the DERM addition. DEMEC will provide more accurate pricing when received.

Lewes BPW	Quote – 2/8/23	Quote - 2/8/23	Rev Quote – 2/16/23	Rev Quote – 2/16/23
AMI Services	(Option 1) Basic AMI w/GRIP Enhancements <i>No Incentive</i>	(Option 2) Basic AMI w/GRIP Enhancements & Grant Funding	(Option 1) Basic AMI w/GRIP Enhancements <i>No Incentive</i>	(Option 2) Basic AMI w/GRIP Enhancements & Grant Funding
Electric: Meter Quantity	3,845	3,845	4,038**	4,038**
Equipment, Installation, Services, Software, and Implementation	\$ 1,764,240	\$ 943,601	\$ 1,762,247	\$ 881,172
Total Electric Cost*	\$ 1,764,240	\$ 943,601	\$ 1,762,247	\$ 881,172

*Represents the Lewes BPW's estimated financial responsibility

** Increased meter count

***All pricing is estimated and subject to change due to a changing market and any program requirements by the Department of Energy.**

Previous Budget Projections – *Water Only*

Lewes BPW	Quote – As of 2/16/23
AMI Services	Basic AMI No Incentive
Water: Meter Quantity	3,691
Water Meters/Modules	\$ 458,208
Installation	\$ 375,118
Water Field Equipment	\$ 5,265
Meter & Operational Data Mgmt. Software & Implementation	\$ 55,350
Project Management & Professional Fees	\$ 84,655
Total Water Cost (\$)*	\$ 978,597

*Represents the Lewes BPW's estimated financial responsibility

****Not recommended as a stand-alone option** because the water meters are supported by the electric meters

***All pricing is estimated and subject to change due to a changing market and any program requirements by the Department of Energy.**

Previous Budget Projections – *Full Deployment*

Lewes BPW	Quote – 2/8/23	Quote - 2/8/23	Rev Quote – 2/16/23	Rev Quote – 2/16/23
AMI Services	(Option 1) Basic AMI w/GRIP Enhancements <i>No Incentive</i>	(Option 2) Basic AMI w/GRIP Enhancements & Grant Funding	(Option 1) Basic AMI w/GRIP Enhancements <i>No Incentive</i>	(Option 2) Basic AMI w/GRIP Enhancements & Grant Funding
Electric: Meter Quantity	3,845	3,845	4,038**	4,038**
<i>Equipment, Installation, Services, Software, and Implementation</i>	\$ 1,764,240	\$ 943,601	\$ 1,762,247	\$ 881,172
Water: Meter Quantity	3,691	3,691	3,691	3,691
<i>Equipment, Installation, Services, Software, and Implementation</i>	\$ 978,597	\$ 978,597	\$ 978,597	\$ 978,597
Total Electric & Water Cost*	\$ 2,742,836	\$ 1,922,198	\$ 2,740,844	\$ 1,859,769

*Represents the Lewes BPW's estimated financial responsibility

** Increased meter count

***March 2022 Estimate for Basic AMI Electric & Water = \$1,736,316

None of these cost includes Annual On-going costs

***All pricing is estimated and subject to change due to a changing market and any program requirements by the Department of Energy.**

Previous Budget Projections – Annual *Ongoing Costs*

On-Going Annual Costs and Services*	Quote 2/8/23	Quote 2/16/23
Concept Proposed in GRIP Grant 3,845 electric meters	\$ 115,388	\$ 42,893
Water, MDM License and Support, Program fees, Cellular Costs, etc.	\$ 40,824	\$ 40,824
Total Cost	\$ 156,212	\$ 83,717

- Additional optional software modules, equipment or services selected by the Board of Public Works would add additional initial costs and on-going annual costs.
- Annual On-going expenses are subject to a 3% annual increase.

Case Studies: AMI and TOU Rate Impacts

Fort Collins and Sacramento Municipal Utility District (SMUD)

Utility	Fort Collins (CO) – Pilot	SMUD (CA) - Pilot
Number of Customers	67.5K Res, 76K Total	640,000 Total
Pilot Enrolled Residential Customers	<ul style="list-style-type: none"> • (2) Groups – 2,400 • (4) Control Groups 1,200 	<ul style="list-style-type: none"> • 6,700+ in (4) groups • 33% were lower income
Peak Savings	<ul style="list-style-type: none"> • 7.5% peak demand reduction • 0.4% shift in demand 	<ul style="list-style-type: none"> • 5.8% - 11.9 % peak demand reduction
Consumption Savings	1.9%	1.3% - 3.5%
Dollar Savings/Month	<ul style="list-style-type: none"> • TOU Tier Rate Customer \$1.12/mon. (savings) • All Electric Customer \$2.44/mon. (increase) • Solar Customer \$2.82/mon. (increase) 	<ul style="list-style-type: none"> • Customers shifted and reduced bills • Saved about 2% or \$3/mon.

Information provided in response to Mr. Thomas Panetta emailed questions from October 2023

Source: <https://www.publicpower.org/system/files/documents/Moving-Ahead-Time-of-Use-Rates.pdf>

GRIP Grant Topic Area 2 - *Application Schedule*



Anticipated Approval Timeline

May 22, 2024 - Full AMI grant application due to DOE

Anticipated DOE Response Timeline as experienced in 2023:

- Summer/Fall 2024 – DOE Selection Notification
- Winter 2024/2025 – DOE Award negotiations
- Spring 2025 - DEMEC contract negotiations with member
- Fall 2025 - GRIP equipment ordered (Delivery - 20 Weeks minimum)
- Winter 2026 - AMI Deployment
- Spring 2026 - First AMI payments due to AMP
- Summer 2026 - AMI Deployment complete

Next Steps

Initial Process

- ✓ Presentation to Lewes BPW on 2/28
 - Is the Lewes BPW interested in moving forward?
 - If so, request Lewes BPW to issue a resolution committing to participate in the GRIP program and issue a letter of commitment if final pricing is reasonable
- Continued Discussion with Lewes BPW in March and April (*if needed*)
- DEMEC to email AMP by May 6, 2024
 - Letter of commitment
 - Requested data if required

Development Process

- DEMEC & Lewes BPW
 - Discuss financing options if the Lewes BPW would like to finance the project through DEMEC/AMP
 - Execute a contract and project purchase agreement with DEMEC
- AMP & Vendors
 - Execute Statements of Work and Issue Purchase Orders

Project Deployment Planning & Kickoff

Letter of Commitment – *FAQs*

1. What is a Letter of Commitment and what does it do?

- Issuing a letters of commitment means your community is committing to enroll in AMI and utilize the AMP GRIP grant for enhanced AMI services

2. Is the Letter of Commitment binding?

- It does become binding after AMP signs with US. Department of Energy (DOE) after contract negotiations in Winter 2025

3. Can a utility withdraw its commitment?

- Yes, if AMP does not receive funding from GRIP
- Yes, however DEMEC members are encouraged to fully commit after best and final quotes from AMP are received
- No, after AMP has signed the contract with the DOE

4. What is the impact if a member withdraws?

- DEMEC members could withdraw their commitment prior to AMP signing with the DOE, however, it could have an impact on AMP's grant application

5. If the utility do not wish to move forward, can they apply in future years?

- GRIP funds are intended to be available for up to 1 additional year. AMP intends to assess future interest, however, there is a risk in waiting such as: cost increases or funds become exhausted

6. Can a utility do AMI through AMP without going through GRIP?

- Yes, however additional GRIP enhancements and funding may not be included

DEMEC



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Thank You

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