



DEMEC/AMP Advanced Metering Infrastructure (AMI) Program

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Lewes Board of Public Works

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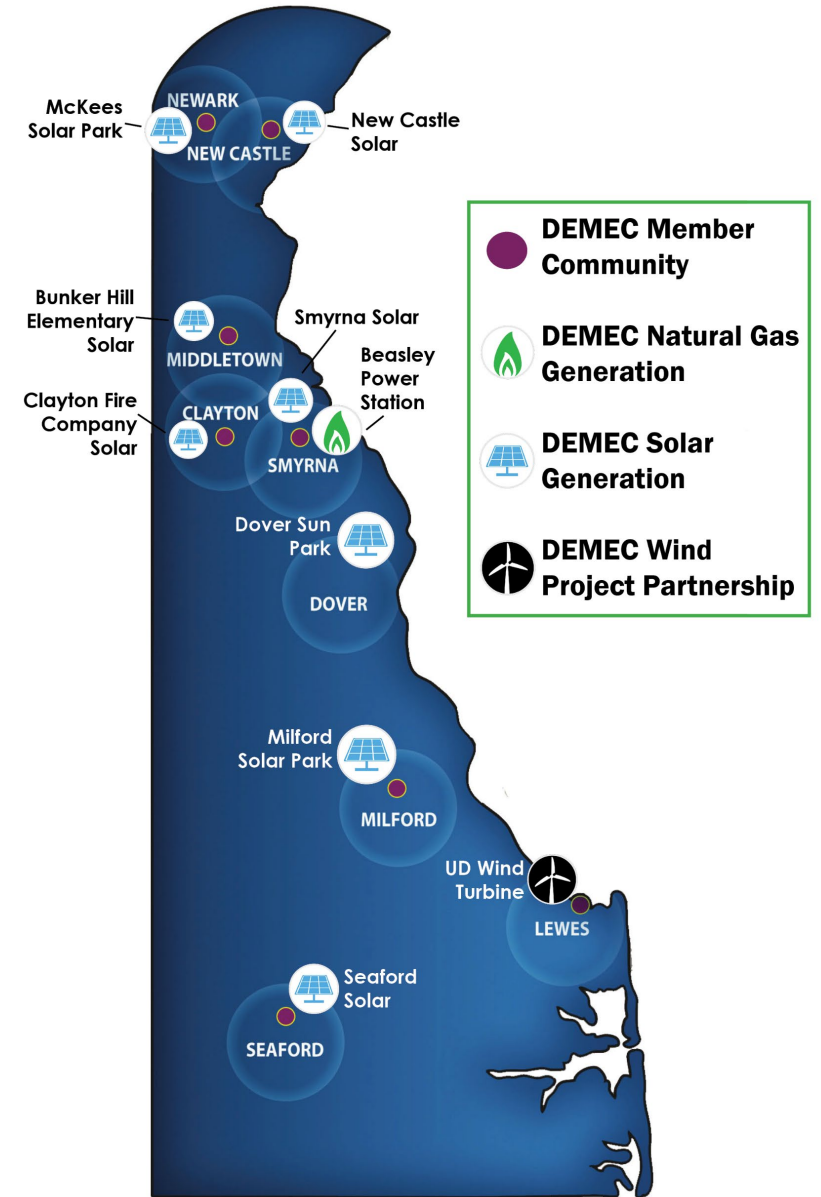


DEMEC Overview

DEMEC's Core Values: Member Focus, Culture, Operational Excellence, Education, and Sustainability

DEMEC's members/owners consist of Cities & Towns throughout Delaware that own their electric utilities.

- ▶ Incorporated in 1979 → over 43 years of service
- ▶ DEMEC provides **reliable, environmentally responsible, low-cost wholesale power supply** and related services to its members.
- ▶ As public power communities, DEMEC members have full control over their retail electric rates and services to their communities.
- ▶ Through active legislative and regulatory representation on both the state and federal levels, DEMEC fights to **protect our members' local control and decision-making**.
- ▶ **DEMEC identifies, develops, builds & operates assets** for our Members' benefit, including the development of fossil-fuel and/or renewable generation, demand response resources, and offers **on-behalf-of financing** for our members investing in their own community infrastructure improvements.



American Municipal Power, Inc. (AMP)

Member Owned & Governed Nonprofit Corporation

Joint Action Agency providing power supply, services, and solutions to Members

- ▶ Established 1971

AMP serves 133 members across nine states

- ▶ Ohio, Pennsylvania, Michigan, Kentucky, Virginia, West Virginia, Indiana, Maryland, & Delaware



Agenda

The DEMEC/AMP AMI Solution Program

- *DEMEC Member AMI Deployment Status*
- *DEMEC/AMP Partnership*
- *Full AMI Replacement Solution and GRIP Enhancements*
- *AMI and GRIP Operational Benefits*
- *Return on Investment – DEMEC / AMP AMI Program*
- *Roles and Responsibilities*
- *AMI – Federal Funds (GRIP Grant)*
- *AMI Project Options and Cost Estimate*
- *Additional member data needs*
- *Letter of Commitment FAQs*
- *Next Steps*

GRIP Federal Grant Opportunity for AMI

DEMEC's responsibility to our members is to:

- Find value to position your community to implement AMI
- To prepare your community for the future of increasing solar, electric vehicle, and other technology

Reasons to Implement AMI:

- Federal and State legislation is encouraging, if not mandating, a modernized grid
- Federal money is currently available to modernize and increase electric grid resiliency

DEMEC has found an opportunity to help you modernize today so you can better analyze your system, adapt to new technologies, and connect with your customers in the future.



Delaware Utility AMI Deployment Status

AMI Programs Currently Under Review

- **Lewes BPW** (3,845 electric meters and 3,691 water meters)
 - DEMEC is presenting AMP GRIP Program to council
- **Smyrna (High Est.** 8,000 electric meters and 7,000 water meters)
 - DEMEC is presenting AMP GRIP Program to council
- **Clayton** (1,680 electric meters, no water utility)
 - DEMEC is presenting AMP GRIP Program to council

AMI Programs in Progress

- **MSC of the City of New Castle** (2,879 electric meters and 2,397 water meters)
 - *AMI meters & equipment continues to arrive, and computer system configurations continue*
 - *February 28, 2023 - Tentative date for metering equipment deployment*

AMI Programs Completed

- **Newark** (11,768 electric meters and 9,978 water meters) 2012
- **Milford** (7,979 electric meters and 5,539 water meters) 2018
- **Seaford** (4,236 electric meters and 1,172 water meters) 2018
- **Middletown** (9,847 electric meters and 35 water meters) 2021 – *water portion completed intentionally*
- **Delmarva Power** (336,445 electric meters)
- **Delaware Electric Cooperative** (100,927 electric meters)

DEMEC/AMP Partnership

Providing Even More Joint Benefits *Together*

- **Greater Economies of Scale**

Increased savings brought through greater aggregated purchasing for projects, generation, programs, and other assets.

- **Shared Resources**

Information sharing, best practices, educational materials, and more.

- **Access to Regional Programs & Support**

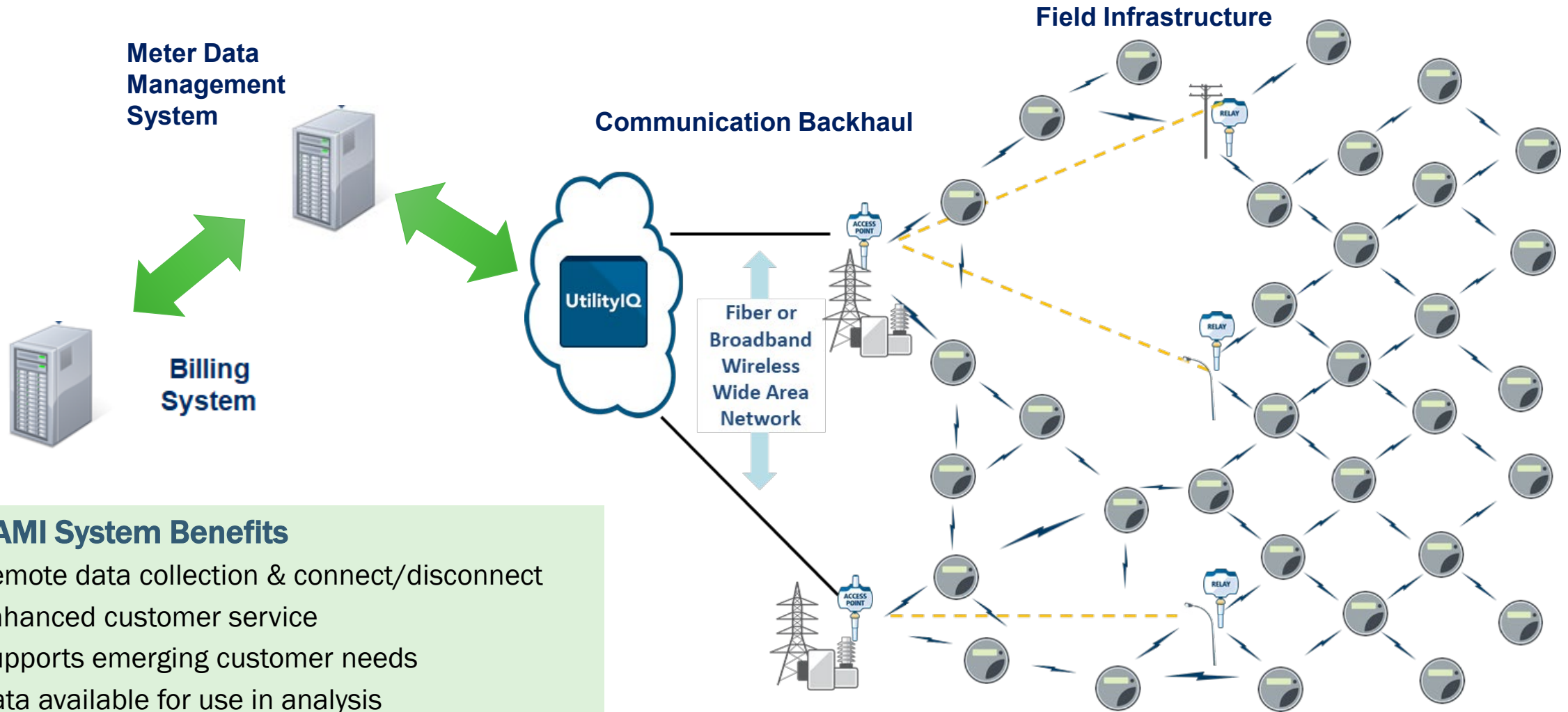
Opportunities to partner in broader programs, such as solar, AMI, transmission, and support with trainings, policies, and advocacy.

- **Continuous Improvement & Increased Value**

Shared experience, cumulative knowledge, lessons learned, access to additional providers

The DEMEC/AMP AMI Solutions Program is one of these many benefits.

Advanced Metering Infrastructure (AMI) – Whole System Replacement



Whole AMI System Benefits

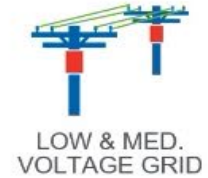
- Remote data collection & connect/disconnect
- Enhanced customer service
- Supports emerging customer needs
- Data available for use in analysis

GRIP 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**

AMI Operational Benefits

Reactive Operations (*current*)

Time intensive corrective actions driven by issues as they occur or are reported.

- ▶ Customer Outage Calls
- ▶ Transformer Failures
- ▶ Re-reads/Re-bills

versus

Proactive Operations (*desired*)

Preventative actions driven by analysis of information derived from available data.

- ▶ Automated Notifications
- ▶ Predictive Analytics
- ▶ Direct Customer Notifications
- ▶ Re-allocation of staff to value added activities

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

Return on Investment – DEMEC/AMP AMI Program

Organizational Benefits

Meter Reading & Services

- Automated billing determinate collection, validation, and creation
- Remote and on-demand device reads and commands

Field Operations

- Reduced truck rolls, issue mapping/targeted effort, preventative maintenance, & safety issues

System Losses

- Increased accuracy, loss identification, voltage regulation

Revenue & Finance

- Accurate billing, increased collection, fee restructuring, process improvement

Advanced Cybersecurity

- Intrusion prevention, data encryption, and 24/7 monitoring

Social Benefits

Employee Safety & Engagement

- Fewer chances of physical and vehicle accidents
- Opportunity for new staff skill development

Customer Experience & Engagement

- Customer self-service portal, reduced customer property entry, proactive communications, improved customer service outcomes, reduced time on the phone to answer basic questions

Culture Change

- Staff resources reallocated to higher priority tasks
- Predictive and preventative action vs. reactionary responses

New/Improved Capabilities & Support

- Modernized infrastructure, business engagement/attraction (key accounts & economic development), distributed generation (solar), EV charging, and community engagement

Roles & Responsibilities – DEMEC/AMP AMI Program

DEMEC & AMP

Develop, design, deliver, administrate, manage, and support solution for the BPW

- Project Management, Installation Management, Hosting, On-going Support, Cyber & System Security
- From initial solution discussion through full contract term

Manage Vendor Partner relationships and deliverables

Lewes Board of Public Works

Designate a Project Lead to coordinate staff and resources

Maintain Utility Systems

- CIS, IT Network, & Future Systems

Maintain & field troubleshoot deployed network devices and endpoints if necessary

- Troubleshooting training provided
- Supported 24/7/365 remotely by AMI Ops Staff

AMI – Federal Funds (GRIP Grant)

American Municipal Power (AMP) sent a concept paper to the US Dept. of Energy (DOE) which include AMI as a Grid Resilience and Innovation Partnership (GRIP) option for Bipartisan Infrastructure Law (BIL) funds. **AMP received a favorable recommendation notice from DOE encouraging them to submit a full application to DOE and is now preparing its full application.**

AMP needs letters of commitment by March 8, 2023.

- Could help reduce AMI project costs by as much as 50%
 - DEMEC is working with AMP regarding the funding structure

Submission Deadline for Full Applications (Topic Area 1):	04/06/2023 5:00pm ET
Submission Deadline for Full Applications (Topic Area 2):	03/17/2023 5:00pm ET
Submission Deadline for Full Applications (Topic Area 3):	05/19/2023 5:00pm ET
Expected Date for DOE Selection Notifications (Topic Area 1):	Summer 2023
Expected Date for DOE Selection Notifications (Topic Area 2):	Summer 2023
Expected Date for DOE Selection Notifications (Topic Area 3):	Fall 2023
Expected Timeframe for Award Negotiations (Topic Area 1):	Fall 2023
Expected Timeframe for Award Negotiations (Topic Area 2):	Fall 2023
Expected Timeframe for Award Negotiations (Topic Area 3):	Winter 2023

Lewes Board of Public Works AMI Implementation – Electric Only

	Quote – 2/8	Quote - 2/8	Rev Quote – 2/16	Rev Quote – 2/16
Initial Services	(Option 1) Full AMI Replacement w/GRIP Enhancements <i>No Incentive</i>	(Option 2) Full AMI Replacement w/GRIP Enhancements & GRIP Grant Funding	(Option 1) Full AMI Replacement w/GRIP Enhancements <i>No Incentive</i>	(Option 2) Full AMI Replacement w/GRIP Enhancements & GRIP Grant Funding
Electric: (meter qty)	3,845	3,845	4,038	4,038
Total: Equipment, Installation, Professional Services, Software, and Implementation Concept Proposed in GRIP Grant (3,845 qty.)	\$ 1,764,240	\$ 943,601	\$ 1,762,247	\$ 881,172
Total Electric Cost (\$)*	\$ 1,764,240	\$ 943,601	\$ 1,762,247	\$ 881,172

*The Total Electric Cost represents the Lewes Board of Public Works estimated financial responsibility.

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

Lewes Board of Public Works AMI Implementation – Water Only

	Quote – 2/8	Quote - 2/8	Rev Quote – 2/16	Rev Quote – 2/16
Initial Services	(Option 1) Full AMI Replacement w/GRIP Enhancements <i>No Incentive</i>	(Option 2) Full AMI Replacement w/GRIP Enhancements & GRIP Grant Funding	(Option 1) Full AMI Replacement w/GRIP Enhancements <i>No Incentive</i>	(Option 2) Full AMI Replacement w/GRIP Enhancements & GRIP Grant Funding
Water: (meter qty)	3,691	3,691	3,691	3,691
Water Meters / Modules (3,691 qty.)	\$ 458,208	\$ 458,208	\$ 458,208	\$ 458,208
Water Meter / Module Installation	\$ 375,118	\$ 375,118	\$ 375,118	\$ 375,118
Water Field Equipment	\$ 5,265	\$ 5,265	\$ 5,265	\$ 5,265
Meter & Operational Data Mgmt. Software & Implementation	\$ 55,350	\$ 55,350	\$ 55,350	\$ 55,350
Project Management & Professional Fees	\$ <u>84,655</u>	\$ <u>84,655</u>	\$ <u>84,655</u>	\$ <u>84,655</u>
Total Water Cost (\$)*	\$ 978,597	\$ 978,597	\$ 978,597	\$ 978,597

*The Total Water Cost represents the Lewes Board of Public Works 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.***

Lewes Board of Public Works AMI Implementation

	Quote – 2/8	Quote - 2/8	Rev Quote – 2/16	Rev Quote – 2/16
Initial Services	(Option 1) Full AMI Replacement w/GRIP Enhancements <i>No Incentive</i>	(Option 2) Full AMI Replacement w/GRIP Enhancements & GRIP Grant Funding	(Option 1) Full AMI Replacement w/GRIP Enhancements <i>No Incentive</i>	(Option 2) Full AMI Replacement w/GRIP Enhancements & GRIP Grant Funding
Electric: (meter qty)	3,845	3,845	4,038	4,038
Total: Equipment, Installation, Professional Services, Software, and Implementation Concept Proposed in GRIP Grant (3,845 qty.)	\$ 1,764,240	\$ 943,601	\$ 1,762,247	\$ 881,172
Water: (meter qty)	3,691	3,691	3,691	3,691
Water Meters / Modules (3,691 qty.)	\$ 458,208	\$ 458,208	\$ 458,208	\$ 458,208
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Water Field Equipment	\$ 5,265	\$ 5,265	\$ 5,265	\$ 5,265
Meter & Operational Data Mgmt. Software & Implementation	\$ 55,350	\$ 55,350	\$ 55,350	\$ 55,350
Project Management & Professional Fees	\$ 84,655	\$ 84,655	\$ 84,655	\$ 84,655
Water Only Total	\$ 978,597	\$ 978,597	\$ 978,597	\$ 978,597
Total Electric and Water Cost (\$)*	\$ 2,742,836	\$ 1,922,198	\$ 2,740,844	\$ 1,859,769

March 2022 Estimate for Basic AMI Electric and Water - \$1,736,316. *The Total Electric and Water Cost represents the Lewes Board of Public works estimated financial responsibility.

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

Lewes Board of Public Works AMI Implementation

On-Going Annual Costs and Services*	Quote 2/8	Quote 2/16
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
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.

Additional Member Needs

A member of the AMP team and/or our grant writer, The Ferguson Group, likely will be reaching out to you regarding the information below...

- Key contact person at community to assist with collecting data for the application
- Historical system outage information
- Financial data/budget constraints
- Data on solar rooftop installations
- Data on EV charger installations
- Any additional information regarding the challenges your community faces (financial constraints, resource constraints, etc.) that would prevent you from doing this project on your own.
- Any information you would be able to share regarding community benefit that you would receive from this project.

Letter of Commitment – FAQs

1. What is a Letter of Commitment and what does it do?
 - Issuing a letter of commitment means your community is committing to enroll in the 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 the Fall of 2023
3. Can a utility withdraw its commitment?
 - Yes, if AMP does not receive funding from GRIP
 - Yes, however DEMEC members are encouraged to commit fully based on best and final quotes from AMP
 - No, if the utility requests after AMP has signed its contract with the DOE
4. What is the impact if a member withdraws?
 - While DEMEC members could withdraw their commitment it could have a significant impact on AMP's grant application
5. If my utility does not wish to move forward can my utility apply in future years?
 - GRIP funds are intended to be available for up to 2 additional years. AMP intends to assess future interest and apply for funds again 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

These FAQs are how AMP has presented them and DEMEC understands them as of this presentation.

Next Steps

Initial Process

- Presentation to the Lewes BPW
 - Request council to issue a resolution committing to participating in the GRIP program and issue a letter of commitment
- DEMEC emails AMP by March 8, 2023
 - Including letter of commitment
 - Including available additional data as requested

Development Process

- DEMEC & Lewes BPW
 - Discuss financing options if the Board 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

GRIP Federal Grant Opportunity for AMI

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DEMEC

Delaware Municipal Electric Corporation



Thank You

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PublicPowerDE.com

Let's be
friends!

