

G-PODS GREEN POWER ON-DEMAND SYSTEM



Frequently Asked Questions



Rev 14, June 2023



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General Project Questions

Project

Q1: What is the FEMA BRIC grant program?

A1: FEMA's Building Resilient Infrastructure and Communities (BRIC) grant program aims to categorically shift the federal focus away from reactive disaster spending and toward research-supported, proactive investment in community resilience. Examples of BRIC projects are ones that demonstrate innovative approaches to partnerships, such as shared funding mechanisms, and/or project design. Example, an innovative project may bring multiple funding sources or in-kind resources from a range of private and public sector partners. For example, an innovative project may offer multiple benefits to a community in addition to the benefit of risk reduction.

The FEMA BRIC grant program is aimed at increasing resilience within underserved communities and infrastructure across the United States. To learn more visit <https://www.fema.gov/grants/mitigation/building-resilient-infrastructure-communities>.

Q2: What is the name of this project?

A2: The project name: The Green Power On-Demand System (GPODS)
The project is identified in the VDEM grants portal as All Hazards Consortium - Energy Scoping Project.

Q3: What problem(s) does the project address?

A3: For many years, Virginia has experienced hazards (e.g., ice storms, snowstorms, windstorms, hurricanes, and tropical storms) that caused significant widespread power outages across wide geographic areas including multiple disadvantaged communities and tribal nations.

These storms resulted in the closing of schools and businesses, disrupting supply chains, limiting access to transportation, shelters, food distribution, health/medical services including dialysis centers and other medical services, and reducing the local government's ability to provide essential services such a public works, payroll, debris removal, safety and security and coordination of government services via a city hall.

Q4: What is the project about?

A4: The project—Green Power On-Demand System (GPODS) will provide a mobile, flexible power back-up capability to disadvantaged communities in Richmond, Colonial Heights, Petersburg, and Prince Williams County.

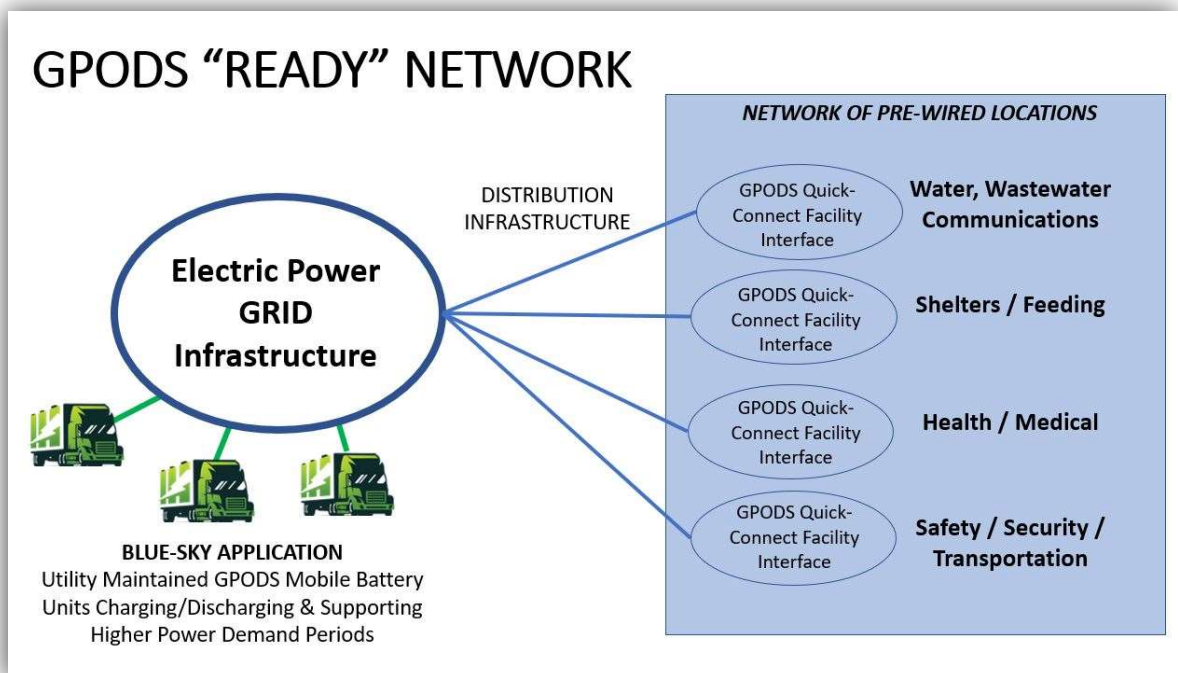
The purpose of this project is to provide an alternative to the two more traditional, and costly, centralized fixed asset solutions that facilities typically rely upon to mitigate long

duration power outages; dedicated back-up generation and/or micro-grids. Not only are these traditional options expensive, but they are also site-specific, and physically limited to provide power to these individual locations.

The GPODS project leverages cutting-edge mobile rechargeable battery system technology that will support the electric grid during normal conditions, but can be detached and deployed to predetermined, pre-wired critical infrastructure locations in disadvantaged communities throughout the state to ensure continuous power or provide immediate backup power during a natural disaster or other catastrophic incident.

The distributed approach of this project provides a flexible and scalable strategy that allows more facilities and communities to participate in the GPODS program. By installing an inexpensive quick connect device at multiple sites, Virginia will create a network of locations across multiple rural and disadvantaged communities that can accept a GPODS mobile battery unit when needed.

Please see diagram below:



During normal blue-sky days, GPODS will store available energy that is being generated during off peak hours and support the grid by discharging energy into the grid during peak demand periods. The result is a more resilient, reliable, and responsive electric distribution grid for all Utility customers.



Prior to, or during, potential prolonged outages, GPODS can be dispatched to preidentified and prewired locations in underserved or impoverished areas to provide power should the utility grid get interrupted.

Q5: How will the GPODS system operate?

A5: The concept of the GPODS system was designed to allow the State, in coordination with localities, to identify and prioritize critical facilities in impoverished or underserved communities that would benefit from this technology. In partnership with the Utility, these sites will be vetted to determine which locations meet the technical qualifications for the project.

Once qualifications have been met, under direction from the State, the Utility will modify their service conductor prior to the electric meter with the appropriate “quick-connect” infrastructure to allow the speedy connection of a GPOD. No customer owned facilities are impacted.

The Utility will be responsible for disconnecting the GPOD from its home location on the grid, transporting it to the identified location, connection to the “quick-connect” infrastructure, monitor performance, and disconnect and return to the grid once the GPOD is no longer required.

Because the system is mobile, it can be used to respond to changing or evolving needs. It can quickly be deployed to locations where power is most needed at critical locations throughout each event such as water or wastewater facilities, shelters, urgent care centers, or public safety facilities. This allows for the capability to mitigate or rapidly respond and recover from a utility grid disruption.

Q6: What are the project objectives?

A6: Design and implement innovative and adaptable electric power infrastructure that lowers overall costs while ensuring resiliency during normal operating days but can be detached and deployed to support a state’s and/or local communities’ efforts to reduce hardship and suffering of people, and mitigate the cascading risks associated with electrical outages to critical facilities caused by disasters and natural hazards.

Q7: What is the vision behind the project?

A7: Leverage the FEMA BRIC grant process and integrate innovative electric grid technology that results in a more resilient electric power infrastructure for underserved communities.

Q8: Who will the project benefit??

A8: This project will leverage energy storage technologies to provide a capability that can help multiple rural, Tribal, or disadvantaged communities to better cope with, and recover faster from, power outages by ensuring that the essential infrastructure services, such as water, communications, transportation, fuel, etc. and community services, such as shelters, feeding/warming/cooling stations, healthcare, transportation, public safety, etc. can continue to operate during a disaster.



Q9: What FEMA Lifelines are being served?

A9: Through BRIC, FEMA continues to invest in a variety of mitigation activities with an added focus on infrastructure projects and FEMA [Community Lifelines](#). A community lifeline enables the continuous operation of critical government and business functions and is essential to human health and safety or economic security.

This project focus is on the Community Lifeline of Energy to maintain critical functions such as:

- Energy, Power, Fuel, Communications
 - Pipeline pumping, fuel storage
 - Switching stations, critical towers for public safety, 911 centers,
- Health & Medical
 - Dialysis centers, assisted living,
- Food, water and shelter
- Wastewater facilities, water towers
- Emergency shelters, schools,
- Distribution centers (food, materials, etc..)

Q10: How will this project be funded?

A10: This project is being funded through the FEMA Building Resilient Infrastructure and Communities (BRIC), grant program.

Q11: What cost impact will this have on the local community?

A11: There is NO funding needed by the local communities to support this project. FEMA, within the established BRIC funding guideline, will fund the costs associated with this project. Long term specific costs for VDEM and the utility will not be fully known until the scoping phase of the project is complete and approved by FEMA.

Grant Match:

Q12: What is “match” and who will be responsible for generating it?

A12: As part of this grant, FEMA is requiring a match based on the projected funding. Match is required to ensure state and partner participation in the success of the programs being funded. Match can be generated with matching funds from other projects, in-kind services, or cash. The AHC and the project partners will be responsible for the grant match development.

Q13: What is the match requirement and how will the match be developed?

A13: The FEMA BRIC grant match is 25% of the FEMA funds awarded and will be developed via the AHC proven match development process that leverages procurements, meetings, and project related activities.



Q14: How will the match be tracked and reported to FEMA?

A14: The AHC will track and report the match to VDEM and FEMA.

Benefits:

Q15: What are the operational benefits of the project?

A15: The operational benefits include:

- Mobile - unlike a fixed asset, these assets are mobile and can be deployed to pre-identified critical sites without any limitations.
- Flexible - States can request to deploy these mobile resources for any type of qualifying event, including multiple units being deployed to the same area.
- Reusable - Mobile platforms can be used repeatedly.
- Rechargeable - mobile platforms can be designed to be recharged using any power source (the grid, solar, etc...).
- Dual use - for blue sky days units feed the grid; gray sky days they power a facility(s).
- Scalable – can expand easily to add more mobile units or facilities.
- Mutual assistance – can potentially be used across state lines between utilities.
- Support for Climate Change: The GPODS approach is in direct alignment with the Justice40 goal of investments that promote “...climate change, clean energy and energy efficiency...remediation and reduction of legacy pollution, and the development of critical clean water and wastewater infrastructure.”
- Reduction in Mitigation Costs: Reduces the locations and downtime and the cost of mitigating cascading impacts experienced from extended power outages (e.g., Relocating personnel, providing shelter, ongoing costs for permanent standby generation.)
- Improved Resiliency: Improves resiliency at selected community sites since these units will be decentralized and installed at predetermined locations that best enhance site performance.
- Multi-Application Usage: GPODS can support the daily needs of the grid, while providing a key back-up power supply during emergencies or disasters.
- Mutual Assistance: The technology can be deployed in multiple states, and with proper multi-state governance and agreements, this technology can become part of a mutual assistance process deployed to assist in a regional disaster across many states.
- Cleaner Air: GPODS provide a renewable and clean source of energy. This directly benefits the quality of life for residents in the community by reducing noise, carbon emissions, and improving air quality and health outcomes, such as respiratory diseases, associated with the quality of air.



Partners:

Q16 Who are the partners that will be involved in this grant initially and down the road?

A16: Initially, the current partners are the Virginia Department of Emergency Management, the communities of Richmond, Colonial Heights, Prince William County and Petersburg, Dominion Energy, and the All Hazards Consortium.

Supporting partners in the Phase 1- Scoping Project also included:

[The Edison Electric Institute \(EEI\)](#), a national trade association for the investor owned utilities, will support the All Hazards Consortium (AHC) in the areas of outreach, education, and training. EEI and the AHC have worked together since 2012 and have a longstanding trusted relationship.

[The American Water Works Association](#), a national trade association for the water and wastewater sector, will support the All Hazards Consortium (AHC) in the areas of outreach, education, and training. AWWA and the AHC have worked together since 2017.

[Resilient Virginia](#), a 501(c)(3) nonprofit organization focused on accelerating resiliency planning in communities across the Commonwealth of Virginia.

Additional partners and organizations can be added in future phases of the project to include local governments, nonprofits, business councils, building owners and operators, etc.

Q17: What is going to be expected of the partners?

A17: Partners will attend meetings, provide input to the process, post questions, and support communications and awareness creation efforts.

Roles:

Q18: What is the state's role in the program?

A18: For the State

- Provide guidance in the application submittal and governance framework design if awarded.
- Approve and submit the grant application to FEMA.
- Collaborate with local governments that comprise historically underserved and vulnerable communities to select locations.
- Participate in the site selection process.



Q19: What is the utility role in the program?

A19: The Utility

- Own and operate the GPODS.
- Provide technical and operations support.
- Provide design, engineering, and other technical related activities.
- Conduct ongoing integration of available technologies.
- Support match development.

Q20: What is the Consortium's role in the program?

A20: The All Hazards Consortium (AHC)

- Facilitation of project with states and utility, operate governance structure, provide administrative and program management.
- Conduct project outreach to partners and communities.
- Help fund costs for the application writing process.
- Help generate, produce, and track the “match”.

Q21: What is the role of the Locality?

A21: Locality

- Participate in discussion and provide feedback and guidance related to the processes.
- Help identify and vet potential qualified facilities.

Q22: What is the role of the building owner/operator?

A22: Building Owner/Operator

- Participate in discussion and provide feedback and guidance to related processes.
- Work with project team on technical requirements and communications.

Timelines:

Q23: What are the current timelines for the GPODS program if it is successful?

A23: The project is broken down into three phases:

- 2022/23- scoping project to match the technology with qualified communities and potential locations.
- 2024/25 - pilot project in several communities and facilities.
- 2025/26 Continued full implementation across the dominion footprint of up to 100 locations in predetermined underserved communities.



Status:

Q24: What is the status of the project?

A24: The Virginia Department of Emergency Management, with the All Hazards Consortium and Dominion Energy submitted a grant application in January 2022 for the Phase 1 – Scoping Project. This was officially awarded in March 2023 and is underway.

The Phase 2 – Pilot Project application was submitted in January 2023 and pending initial notification of selection for further review in summer 2023.

Governance:

Q25: Who is on the governance committee?

A25: VDEM will determine the governance structure for the project.

Outreach:

Q26: Who will be responsible for outreach to localities and partners to provide education and answer their questions?

A26: Outreach will be a joint responsibility of VDEM, local emergency management and preparedness officials, and the AHC. AHC will coordinate and conduct outreach activities on behalf of VDEM and local officials.

Program Management:

Q27: Who will be involved in the program management of this grant?

A27: The AHC will provide program management for the project in coordination with VDEM.



Technical Questions

GPODS - Physical

Q28: How big is a GPODS unit? (How many trailers will be needed just store batteries, Transformers, and equipment?)

A28: The size will be dependent on the overall capacity of the unit. Currently we envision the unit to be between 23 feet and 42 feet (e.g., small medium size of typical tractor trailers) The overall size and capabilities will be further evaluated throughout the scoping project.

Q29: Are there any safety concerns?

A29: While there are hazards associated with energy storage technology, specifically lithium-ion batteries, the utility evaluates and maintains strict safety specifications for the equipment to mitigate these risks. This includes ensuring all energy storage is tested and certified to meet the UL 9540A standard for energy storage systems. Each location identified will also be evaluated to ensure that the equipment can be staged with proper setback from both the public and any facilities, thereby reducing risk of exposure to potential hazards. The utility will also work closely with facility owners, local first responders, and equipment operators to educate them on maintaining safe operations and appropriate response to emergency situations.

Q30: How many people will be involved to operate a trailer unit?

A30: The ultimate number will be determined during the scoping project, but our goal is to make delivery and installation quick, efficient, and seamless to the end user at the facility.

Q31: What type of skills or licenses will they need?

A31: The Utility will ensure all personnel will have the skills, training and credentials required to transport, connect, and disconnect the unit during operation.

Q32: Will they be employees of the utility?

A32: Yes, they will be employed by the utility.

GPODS -Technical

Q33: How much power can a GPODS deliver?

A33: While these are not intended to power large scale facilities such as hospitals or high-rise complexes, we are setting our specifications to be able to provide power to mid-size commercial facilities. These are typically 3 phase services at 120/208V or 277/480V with 400 to 1500-amp service panels.



Q34: How long will a GPODS power a facility?

A34: This is dependent both on the capacity of the selected technology and the power consumption requirements of the facility that it is powering. We are currently targeting a minimum of 24 hours, but ultimately a multi-day deployment. We will work with the facilities to help maximize the capabilities of these units.

Q35: Who hooks up the GPODS once it's delivered to the facility?

A35: Qualified Dominion Energy personnel will transport, connect, and disconnect these units when they are no longer required.

Q36: What happens if a GPODS runs out of power or there is an issue once its deployed?

A36: The units will be integrated in the utilities grid monitoring system and will have real time visibility of the state of the GPODS. If the unit runs out of power, there is the potential to replace it with another fully charged unit if available. If there is any other issue with the unit it, the utility will quickly evaluate and take necessary steps to resolve the issue.

Q37: Who pays for the power delivered from the GPODS? How will this be done?

A37: These units will be connected in front of a customer's meter. The customer would continue to pay for any power consumed at the same rate they would if the outage had not occurred.

Q38: Is anything required of the facility owner or the hosting locality while the GPODS is at a selected site and operational?

A38: The Utility will work with the facility to determine where the GPODS will be housed on site while deployed, as well as any physical setbacks needed for safety.

Since the GPODS will be installed before the meter, the site will receive power no different than if it were being powered by the grid. The utility will provide the facility owner with instructions or suggestions on how to optimize consumption to ensure power is consumed in an efficient manner and extend the battery power while the unit is on site.

Prewiring of Facilities

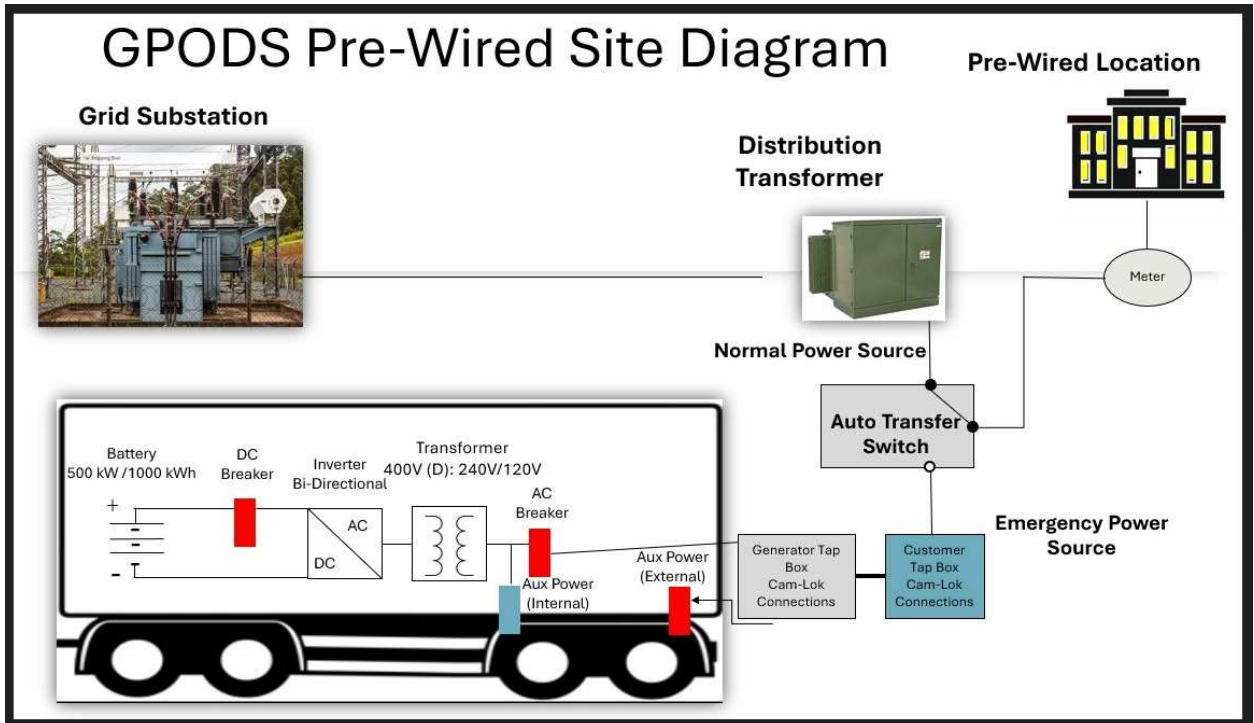
Q39: Once selected, what's involved in the facility review and qualification for approval process?

A39: Once selected for review by VDEM, Dominion Energy engineers will review the site through GIS for physical access. Next, they will review historical energy usage and service reliability for the site. If the first two steps reveal a potential qualified site, the utility will schedule an onsite meeting to collect detailed notes including existing facility electrical equipment, location of the utility source to include transformer and metering

equipment and evaluate the potential transition point and other relevant site-specific information.

Q40: Where will the interconnection be located?

A40: No interconnection will be made inside a customer facility. The “quick connect” infrastructure will be installed on the customers property, but on Dominion Energy service facilities, somewhere between the existing transformer and the meter recording customer energy usage. Please see below picture of the GPOD interconnection look like:



Q41: Who installs (prewires) the interconnection hardware?

A41: The utility will oversee the installation of the “quick connect” interconnection with either Dominion Energy personnel, or a qualified, licensed, and bonded 3rd party electrical contractor.

Q42: Who does the facility contact if there is an issue with the interconnection?

A42: Dominion Energy will provide all necessary contact information regarding the “quick connect” interconnection to the facility owners.

Recharging:

Q44: How will units be recharged?

A44: These items will be located and connected to Dominion Energy’s grid at strategic locations identified within its service territory. The two main criteria for a storage facility



will be ensuring they can be used to support the grid during day-to-day operations, and efficiently deployed to preidentified facilities and connected as quickly as possible during an emergency.

Q45: Will solar or renewable energy be integrated into the recharging strategy?

A45: The electricity used by Dominion Energy's grid is produced by a robust and diverse generation fleet including traditional energy sources as well as an ever-increasing green energy supply from innovations such as solar and wind generation.

Maintenance:

Q46: Who owns the GPODS?

A46: Dominion Energy will own the units.

Q47: Who manages the fleet of GPODS?

A47: The utility, Dominion Energy, manages the fleet.

Q48: What are the maintenance costs?

A48: Maintenance and other costs will be determined during the scoping project.

Q49: Who pays for maintenance?

A49: The Utility, Dominion Energy, is responsible for maintenance of the equipment.

Process Questions

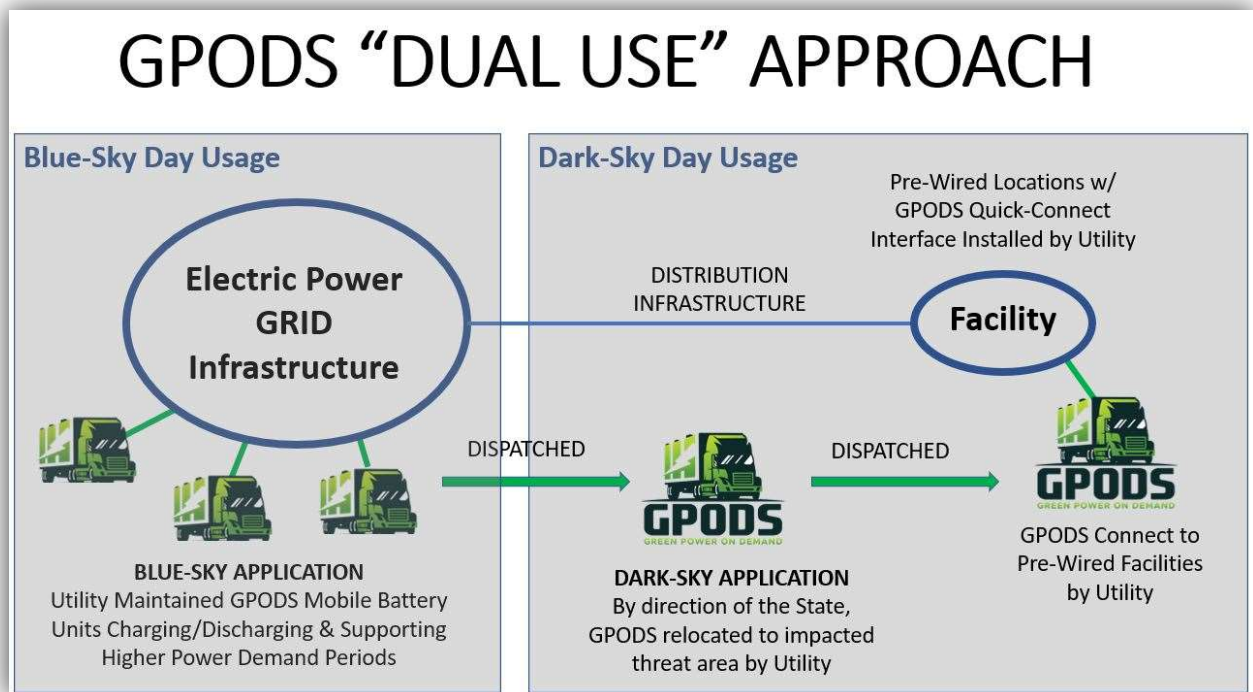
Operations:

Q50: Blue-Sky Days - what role will the trailer units play during non-emergency periods?

A50: On blue sky days, these units will be aggregated at regional Dominion facilities and utilized to provide local grid support.

Q52: Dark-Sky Days - What role will the trailer units play during emergencies?

A52: Under the direction of VDEM, these units will be deployed post storm events to pre-selected disadvantaged community locations to provide emergency backup power.



Logistics and Processes:

Q53: Where will units be stored?

A53: These units will be located and connected to Dominion Energy’s grid at strategic locations identified within its service territory. The two main criteria for a storage facility will be ensuring they can be used to support the grid during day-to-day operations, and



efficiently deployed to preidentified facilities and connected as quickly as possible during an emergency.

Q54: Who will manage inventory?

A54: Dominion Energy.

Q55: What is the process to request and deploy a GPODS to a prewired facility?

A55: The deployment process will be developed during the scoping project but owned and managed by VDEM.

Q56: How are facilities prioritized?

A56: Prioritizing selection and the deployment process will be developed during the scoping project by VDEM and communicated to all stakeholders as the project progresses.

Q57: Are there any ongoing costs after the BRIC Funding is complete?

A57: Yes, there will be an ongoing maintenance cost associated with each unit and its associated facilities. Since all associated equipment with this program are installed in front of the customer's meter, any maintenance costs will be the responsibility of the utility company.

Mutual Assistance:

Q57: Can existing MA agreements be used?

A57: Our goal is to grow this project with other states and adjoining utilities. The potential exists to leverage existing MA framework, but many mobile storage providers include mileage restrictions in the warranties for their offering. This may restrict the ability to utilize these units for cross country Mutual Assistance.

Agreements with Coops and Municipal Utilities:

Q58: Are there existing agreements we can leverage?

A58: Some agreements exist and can be used as a framework. We will be exploring these possibilities as the project moves on to proof of concept (Phase 2).