Project Title: Storage as a Distribution Asset

DE-FOA-0002740: Department of Energy (DOE) Grid Deployment Office (GDO) Office of Clean Energy Demonstrations (OCED) BIL – Grid Resilience and Innovation Partnerships (GRIP)

Topic Area 3: Grid Innovation Program (40103(b))

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Entity Type: Public Utility Commission

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FirstEnergy Corp.	Lou D'Alessandris, Mark Josef, Joe Kausek, Amanda Richardson, Michele Somerday, Dan Tompkins	Columbiana and Richland Counties (OH)
[redacted]	[redacted]	[redacted]

1. Project Overview

1.1 Background

The Public Utilities Commission of Ohio (PUCO), along with three FirstEnergy Companies (Ohio Edison Company, The Cleveland Electric Illuminating Company, and The Toledo Edison Company, collectively the "Companies"), submit this application for the BIL – Grid Resilience and Innovation Partnerships (GRIP) in Topic Area 3, section 40103(b)).

The Project Team is proposing the Storage as a Distribution Asset ("SADA" or "Project") Project to enhance the reliability and resilience of the Companies' Ohio distribution systems. [redacted]

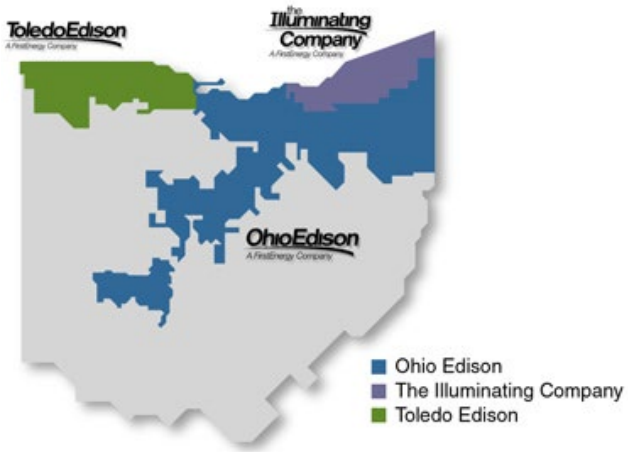
The Project Team has the qualifications, experience, and capabilities to successfully execute the SADA Project. The team assembled for the Project includes employees of the Public Utilities Commission of Ohio, FirstEnergy Corp. ("FirstEnergy"), [redacted]

About the Public Utilities Commission of Ohio

The PUCO's work with regulated entities, including electric distribution utilities (EDUs), centers mainly on regulation of those utilities in accordance with state law. The PUCO's engagement with regulated entities also extends to collaboration through workshops, working groups, forums, Commission investigations, and studies, including consideration of policy issues such as energy efficiency, distributed energy resources, electric vehicles, grid modernization, and infrastructure planning.

About the Companies

The Companies' three Ohio regulated distribution companies serve more than 2.1 million customers across Ohio. The Companies are subsidiaries of FirstEnergy, one of the nation's largest investor-owned electric systems, serving more than 6 million customers in the Midwest and Mid-Atlantic regions. FirstEnergy operates more than 269,000 miles of distribution lines, providing customers with safe, reliable, and responsive service.



[redacted]

[redacted]

1.2 Project Goal

The Companies are proposing to use energy storage devices on the distribution system to enhance the reliability and resilience of the Companies' Ohio distribution system.

The innovative use of storage on the distribution grid is aligned to GRIP program goals and will result in a number of benefits realized by both the grid and the community.

SADA Alignment with FOA Goals	Distribution Grid Benefits	Community Benefits
• Ensures reliable grid operations by reducing the frequency and duration of disruptions. • Improves overall grid resilience by avoiding, withstanding and recovering from disruptions. • Enhances collaboration on grid resilience. • Contributes to the decarbonization of the electric grid by enabling DER, EVs, and electrification. • Provides enhanced system value by targeting work and benefits to DACs.	• Enhanced system reliability and resiliency through use of storage. • Provision of distribution grid services from distributed energy resources (DER). • Enabling system operation with increasing use of DER. • [redacted]. • Ability to manage peak demands. • Value of avoided energy and ancillary services. • Potential for longer equipment life through distribution system management. • Reduced carbon and NOx from lower energy usage.	• Enhanced system reliability and resiliency through use of storage. • [redacted] • Commitment to diversity, equity, inclusion, and accessibility (DEIA) efforts. • Reduced emissions. • Energy burden reduction and improved energy security.

The SADA Project will enhance the reliability and resilience of the Companies' distribution system by providing energy storage on the distribution grid. Energy storage systems are uniquely capable of a variety of applications and uses. [redacted]

Energy storage is a viable alternative to large distribution upgrades and/or substation infrastructure upgrades. This mitigates concerns for loading on existing infrastructure and enables additional DER and electrification, leading to emission reductions and improving grid demand flexibility.

FirstEnergy will utilize advanced analytics to identify areas for investment. [redacted]. Following the successful execution of the Project, the location identification analysis developed and performed by FirstEnergy [redacted]

[redacted]

1.3 DOE Impact

The funding provided by the DOE under GRIP Topic Area 3 is critical to the viability of the SADA Project.

[redacted] The Companies have committed to not seek recovery of up to $4 million of their investment in the SADA Project[1].

[redacted]

Impact of DOE Funds	Result Without DOE Funds
Demonstrate efficient utilization of energy storage on the distribution system, allows for replicability across FirstEnergy footprint and across nation.	Energy storage projects and experience gained would be delayed until a point that the application is proven, and installation costs are reduced.
[redacted]	[redacted]
[redacted]	Employment and community engagement would be limited to the Companies' existing processes.

1.4 Community Benefits Plan: Job Quality and Equity

As detailed in the Community Benefits Plan, [redacted]

[1] *See In the Matter of the Application of Ohio Edison Company, The Cleveland Electric Illuminating Company and The Toledo Edison Company for Authority to Provide for a Standard Service Offer Pursuant to R.C. § 4928.143 in the Form of an Electric Security Plan*, PUCO Case Number 23-0301-EL-SSO, Application ¶ 31(c) (April 5, 2023).

[redacted]

[redacted] Concurrently, the distribution system serving these communities will be able to accommodate additional clean energy resources.

[redacted]

1.5 Strategy for Sharing and Maximizing the Project's Benefits Across Disadvantaged Communities

[redacted]

1.6 Potential Long-Term Constraints the Project Will Have on the Community's Access to Natural Resources and Tribal Cultural Resources

The SADA Project will not have any impact on community access to natural resources or tribal cultural resources. The Project will install new equipment in either existing utility footprints or on a small amount of purchased or leased land at the project site. In either situation, the Project will require minimal natural resources and will not have long-term impacts on the communities where the work is performed.

1.7 Climate Resilience Strategy

The physical risks to the electric system due to extreme weather events, changes in temperature and precipitation patterns, and other related phenomena, as well as increases in customer expectations and requirements, could affect some, or all, of the Companies' operations.

The funds used from the SADA Project will help mitigate climate impacts seen throughout the Companies' territory [redacted]

[redacted] The Project is designed to maintain or enhance reliability and resiliency and to provide targeted voltage support and control.

In addition to mitigating risks from climate change, FirstEnergy's strategy includes reducing greenhouse gas (GHG) emissions with an outlined plan to become carbon neutral by 2050, with a 30% reduction in GHG emissions by 2030. The Companies recognize that customers expect more sustainable energy options. The SADA Project will help support the development of renewable energy to interconnect to the distribution system.

2. Technical Description, Innovation, and Impact

2.1 Relevance and Outcomes

The changing landscapes of electricity generation and consumption make investments in grid modernization and advanced technologies more important than ever. The increased use of DER and the mounting push for electrification are bringing additional demands to the distribution grid at a time when extreme weather is also challenging system operations. These changing circumstances are leading to an increased likelihood of outages throughout the Companies' footprint. During outage events, energy storage technologies are well suited to maximizing the effectiveness of the remaining distribution grid capacity while increasing grid visibility to expedite recovery.

Today's distribution system must be able to successfully respond to unanticipated, unpredictable, and potentially large variations in both supply and demand from DERs and electric vehicle (EV) charging. At any given time, these resources may represent either loads or generation on the distribution system.

Responding to these challenges requires investments in the necessary infrastructure, systems, and personnel to transform the legacy distribution grid into a modern, resilient distribution system capable of meeting local demands as well as coordinating with transmission operations and wholesale markets. Incorporating energy storage technologies will necessitate investment by the Companies, including personnel training, updated infrastructure, and more sophisticated management systems.

[redacted]

[redacted]

2.2 Feasibility

The Companies serve more than two million customers across a geographically diverse footprint. The service territory features a number of locations – both rural and urban – that could benefit from energy storage technology.

The feasibility of utilizing energy storage is not simply a matter of technology, but also related to safety, reliability, and customer behavior and preferences. The Companies must manage the distribution system safely and reliably while accommodating customer needs and preferences such as DER and electrification.

[redacted]

The locations selected for the SADA Project are expected to have a greater ability to accommodate DER and customer electrification as a result of the Project. Including energy storage in the real-time operations of the distribution grid will afford utility staff the experience of operating the grid with an advanced technology that will continue to increase in numbers.

As outlined in Section 4.3, the Companies and FirstEnergy have experience with projects similar to the SADA Project, such as Ohio Grid Modernization and the Maryland Energy Storage pilot.

2.3 Innovation and Impacts

The SADA Project will be primarily used to enhance reliability and resilience. The Project represents a first step in the innovative use of energy storage as a distribution asset. [redacted]

There are a number of innovative approaches for energy storage in the SADA Project where its use could replace traditional system design methods. The innovative approaches in the SADA Project include:

- [redacted]
- The developed and demonstrated screening process for beneficial energy storage locations will reduce the future amount of labor hours required and reduce errors.
- [redacted]
- Comprehensive cost-benefit analysis to review qualitative and quantitative benefits.
- [redacted]

While the Project will focus on reliability and resilience, there are a number of future uses of energy storage as a distribution asset.

[redacted]

The Project will advance the Companies' capability to consider energy storage as a distribution asset for the applications listed above. In particular, the Project will develop and demonstrate a framework for identifying the applications, capacities, and distribution system locations where energy storage can provide the most value across the Companies' service territories.

Note that the energy storage in the SADA Project is dedicated to use as a distribution asset and will not be used to provide generation services. The SADA Project will be used by the Companies for control and maintenance including managing distribution loading, enhancing reliability and resiliency, and voltage management. This approach is distinct from jurisdictions with traditionally vertically integrated utilities, where the uses of energy storage could include generation service to maximize value from the investment.

2.4 Project Support for State, Local, Tribal, Regional and National Resilience, Decarbonization, or Other Energy Goals, Strategies and Plans

It is the policy of the state of Ohio, to be implemented by the PUCO, to ensure the availability to consumers of adequate, reliable, safe, efficient, nondiscriminatory, and reasonably priced retail electric service, to encourage innovation and market access for cost-effective supply- and demand-side retail electric service, to ensure that an electric utility's distribution systems are available to a customer-generator or owner of distributed generation, to protect at-risk populations, and to facilitate the state's effectiveness in the global economy.[2] The SADA Project will fully support these policies.

In addition, the PUCO continues to work with other state agencies on updating Ohio's State Energy Security Plan in accordance with requirements of the IIJA for the State Energy Program. While the update is ongoing, a partnership with the PUCO will aid in ensuring this Project is aligned with state goals and policies encompassed in the upcoming State Energy Security Plan.

The Grid Innovation Program is part of the Infrastructure Investment and Jobs Act, which in itself is a plan that represents a national resilience approach. The SADA Project will increase resilience at the project locations and contribute to the broader national goals.

[redacted] The expansion of energy storage will promote regional resilience and support specific missions, goals and plans in those states.

- Pennsylvania's State Energy Security Plan is an annual plan on energy efficiency, renewable energy, and assurance activities that notes the increased use of storage as a resiliency resource in future years.
- The New Jersey Energy Master Plan is a strategic vision for the state and includes strategies for the state to achieve the established goal of 100% clean energy and includes the use of energy storage to enable renewable energy.
- The Maryland Energy Administration's Energy Plan highlights the deployment of energy storage as a critical component of the future energy grid.

2.5 Potential Impact of the Project to Reduce Perceived Risk for Deployment and Lead to Private Sector Investments

The utilization of energy storage as a distribution asset will support the energy transition within the U.S. economy and reduce barriers for future adoption of private sector investments. The number of DER within the Companies' service territories is growing. At year-end 2022, the Companies had approximately 5,000 retail distribution interconnection projects connected to the distribution grid, and the pace of interconnections is increasing.

[2] Ohio Revised Code 4928.02.

Over the last three years, the Companies have seen a 30% increase annually on average across their Ohio service territories in the number of DER interconnections, and those numbers do not include electric vehicle adoption. Since 2021, the Companies have experienced DER trend levels that exceeded projections, and this is only one market segment. There are also wholesale interconnections seeking distribution interconnection and while smaller in number, they are larger in capacity.

The increase in number and type of projects supports the need for EDUs to be able to utilize energy storage as another tool to make the grid infrastructure stronger and more resilient, and to enable and support customers' desire to install DERs.

Ultimately, the Project aims to achieve reduced outages, enhanced system reliability, and improved readiness for future system needs.

2.6 Topic Area 3 Requirements

2.6.1 How the Project Will Deploy Across Transmission Lines and Distribution

[redacted]

From a power quality perspective, utility-deployed energy storage can be used on a distribution system to aid in voltage regulation or to help manage the impact of variable resources to the larger distribution system. This mitigation will allow for a greater decarbonization of the grid by enabling growth in DER and vehicle electrification in areas that currently have constraints.

2.6.2 How the Federal Funds Will Enable the Project to Secure Additional Funds and Proceed

[redacted] The Companies have committed to not seek recovery of up to $4 million of their investment in the SADA Project[3].

[redacted]

2.6.3 How the Concept Will Provide Economic Benefit

The SADA Project will provide economic benefits to customers and communities through enhanced system reliability and resilience, and through employment opportunities for community members.

[redacted]

[3] *See In the Matter of the Application of Ohio Edison Company, The Cleveland Electric Illuminating Company and The Toledo Edison Company for Authority to Provide for a Standard Service Offer Pursuant to R.C. § 4928.143 in the Form of an Electric Security Plan*, PUCO Case Number 23-0301-EL-SSO, Application ¶ 31(c) (April 5, 2023).

[redacted]

2.6.4 How the Project Has the Potential to Deliver Near-Term Impact

The impact of the first SADA Project will be felt as soon as the installations are energized. [redacted]

2.6.5 Describe Project's Readiness, Viability, and Timing

The SADA Project is being fully developed and the team anticipates moving forward with Project work once the appropriate state regulatory process is conducted and matching funding from the DOE is secured.

[redacted]

3. Workplan

3.1 Project Objectives

The electric system is undergoing a transformational change, and energy storage must play a key role. The SADA Project will provide an innovative approach to the planning, management

and operation of the distribution grid. [redacted]

SADA Alignment with FOA Goals	Distribution Grid Benefits	Community Benefits
• Ensures reliable grid operations by reducing the frequency and duration of disruptions. • Improves overall grid resilience by avoiding, withstanding and recovering from disruptions. • Enhances collaboration on grid resilience. • Contributes to the decarbonization of the electric grid by enabling DER, EVs, and electrification. • Provides enhanced system value by targeting work and benefits to DACs.	• Enhanced system reliability and resiliency through use of storage. • Provision of distribution grid services from distributed energy resources (DER). • Enabling system operation with increasing use of DER. • [redacted] • Ability to manage peak demands. • Value of avoided energy and ancillary services. • Potential for longer equipment life through distribution system management. • Reduced carbon and NOx from lower energy usage.	• Enhanced system reliability and resiliency through use of storage. • [redacted] • Commitment to diversity, equity, inclusion, and accessibility (DEIA) efforts. • Reduced emissions. • Energy burden reduction and improved energy security.

[redacted]

3.1.1 Buy America Requirement

[redacted]

3.2 Technical Scope Summary

[redacted]

- The Companies will evaluate the potential locations in its territory. Criteria used for location selection will include:

[redacted]

[redacted]

Project Outcomes	Approach	Decision Points
• Enhanced reliability and resilience	• Identify locations that would benefit from energy storage	• Annual review of Project impacts to inform future installations
• Prepare for future DER and electrification needs	• Review impacts on distribution system capacity and operations	• Annual review of DER penetration on distribution circuits • [redacted]
[redacted]	[redacted]	[redacted]

[redacted]

3.3 WBS and Task Description Summary

The work breakdown structure (WBS) and task description for the SADA Project is below.

[redacted]

The general work plan for the SADA Project includes the following:

1. Identify potential locations

[redacted]

3. Plan the Project

[redacted]

Some considerations when siting a system may include space requirements, type of location (such as rural, residential, urban, commercial, or industrial), safety, applicable codes and standards, existing interconnection infrastructure, proximity to emergency response, permitting, physical access requirements, equipment clearance requirements, noise, appearance, or community outreach.

[redacted]

[redacted]

4. Procure necessary equipment and services

A detailed request for proposal (RFP) will be developed that will include a detailed scope of work including both equipment and services. [redacted]

5. Deploy energy storage Project

Deployment activities include engineering, permitting, site preparation and construction, installation, commissioning, grid interconnection, and acceptance testing. Experienced FirstEnergy project management resources will provide oversight of these tasks to ensure the Project stays on schedule and on budget.

6. Operate Project

The final step will be a structured hand off to distribution system operations that will include training on intended use and associated protection schemes. Safety plans will be reviewed with both internal and external stakeholders to safeguard FirstEnergy workers and the public. Preventive maintenance programs will be implemented as recommended by the energy storage system vendor.

3.4 Milestone Summary

The SADA Project contains quarterly milestones as outlined below.

[redacted]

[redacted]

3.5 Go/No-Go Decision Points

FirstEnergy will evaluate the SADA Project in several key areas during the lifecycle, as highlighted in the table below. FirstEnergy will update the DOE on the Go/No-Go Decision points annually, or as circumstances change.

[redacted]

3.6 End of Project Goal

[redacted]

Enhanced Resiliency

The SADA Project is expected to mitigate 2-to-4-hour outages experienced by the customers served by the selected circuit. While this solution will not address the root cause of outages

such as equipment failures, animal contacts, or other similar issues, it will provide back up support giving the utility the opportunity to resolve the issue before customers are impacted. Customers on neighboring circuits will also see the benefit of the extra distribution capacity to be used to pick up portions of those circuits that were difficult or not possible to transfer during outages based on lack of ties or capacity.

Power-Quality Improvements

The Project will correct local power-quality issues, such as flickering lights or voltage sags, generated by local manufacturing businesses and ensure these businesses are able to stay on-line and continue to provide jobs for local residents.

Power-quality improvement will be realized by utilizing energy storage to strengthen the grid for demanding conditions, such as large motor start-up. [redacted]

Peak Shaving

The Companies distribution capacity planning philosophy recommends loading substation transformers to 125% of nameplate. The SADA Project will be used for peak shaving for the related substation transformer to maintain the asset below its peak load limit and decelerate the expected loss-of life of the unit.

[redacted]

3.7 Project Schedule

[redacted]

3.8 Buy America Requirements

As requested by the FOA, the requirements are addressed in Section 3.1.1.

3.9 Project Management

3.9.1 Approach to and Organization for Managing the Work

The Companies will have a business contact responsible for corresponding with the PUCO and DOE and providing the necessary reporting. [redacted] A FirstEnergy project manager will be assigned to ensure Project deliverables are achieved safely and within the approved scope, cost, and schedule. This will be accomplished by holding regularly scheduled meetings with all stakeholders to review progress and address barriers to completion. A construction site coordinator will complete a pre-energization testing and commissioning checklist and site walk down to ensure all required activities are completed prior to energization.

3.9.2 Project Team Member Roles

Name	Title	Responsibilities
Maura McClelland	PUCO Staff Attorney	Principal investigator for IIJA grant programs.
Beverly Hoskinson	PUCO Chief Financial Officer, CPM	Director of PUCO's Finance & Services Division.
Sarah Parrot	Director, PUCO Office of the Federal Energy Advocate	The Federal Energy Advocate ("FEA") is a position within the PUCO created by state statute. The staff with the FEA has responsibilities that include the PUCO's involvement in IIJA grant programs.
Don Leming	PUCO Deputy General Counsel	Supervisory responsibilities for Principal Investigator.
Monica Waller	PUCO General Counsel	Supervisory responsibilities for legal compliance.

Monica Hairston	PUCO Financial Program Manager	Supervisory responsibilities including financial review and recommendations.
Deborah Daniels	PUCO Fiscal Grant Administrator	Financial review and recommendations.
Krystina Schaefer	PUCO Grid Modernization and Retail Markets	Supervisory responsibilities including technical review and recommendations.
Kristin Clingan	PUCO Grid Modernization and Retail Markets	Technical review and recommendations.
Lou D'Alessandris	FirstEnergy Director, Legislative Policy	FirstEnergy Business Lead. Coordinate and communicate FirstEnergy's responses to the DOE.
Mark Josef	FirstEnergy Manager, Engineering Services (OH)	Engineering support on the SADA Project.
Joe Kausek	FirstEnergy Supervisor, Dist. Planning & Protection	Engineering support on the SADA Project.
Amanda Richardson	FirstEnergy Director of Engineering (OH)	Technical lead on the SADA Project.
Michele Somerday	FirstEnergy Emerging Technology Policy Research Advisor	Policy and strategy support for emerging technologies and grid modernization efforts.
Dan Tompkins	FirstEnergy Director, Regional External Affairs	Coordinate outreach to FirstEnergy's communities to ensure engagement in the process.
[redacted]	[redacted]	[redacted]

[redacted]

3.9.3 Critical Handoffs / Interdependencies Among Project Team Members

[redacted]

3.9.4 Technical and Management Aspects of the Management Plan

[redacted]

[redacted]	[redacted]

[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]

3.9.5 Approach to Project Risk Management

[redacted]

3.9.6 How Project Changes Will Be Handled

[redacted] Changes to future projects will be provided to the DOE on an ongoing basis as they occur.

As changes are made, all financial documents will be updated and provided to the DOE as requested.

3.9.7 Approach to Quality Assurance/Control

The FirstEnergy Operating Utilities and Distribution Engineering Services groups are sub-divided into various manager areas for quality assurance and control. The field operations and construction teams report to a Director of Operations. Each Director of Operations reports to a State President. The field engineering services employees are also sub-divided into various manager areas for design and planning functions and report to a Director of Engineering Services. Additionally, the Distribution Engineering Support Managers are separate from

operations and field engineering and maintain common distribution construction standards, engineering practices, asset analytic models and design software.

3.9.8 Project Team Communications

4. Technical Qualifications and Resources

4.1 Project Team's Unique Qualifications and Expertise

Beginning with railroads in 1867 and expanding to other industries over the years, the PUCO has regulated utility and transportation service providers in Ohio, including electric and natural gas companies, local and long-distance telephone companies, water and wastewater companies, and rail and trucking companies. The PUCO is also responsible for facilitating competitive utility choices for Ohio consumers. The PUCO's mission is to assure all residential and business consumers access to adequate, safe and reliable utility services at fair prices, while facilitating an environment that provides competitive choices.

The PUCO is governed by five commissioners, including the Chairperson, who are appointed by the Governor for five-year terms. The PUCO has a staff of approximately 330, including accountants, inspectors, auditors, engineers, economists, investigators, attorneys, and specialists in customer-service, information technology, public engagement, and geographic information systems. The Chairperson of the PUCO also serves as the Chairperson of the Ohio Power Siting Board, which reviews applications for certificates to construct utility facilities in the state, such as electric generation and transmission facilities, within statutory jurisdictional parameters.

The PUCO also houses the Office of the Federal Energy Advocate, which, in addition to the PUCO, participates in proceedings of the Federal Energy Regulatory Commission. The PUCO Staff, including the staff of the Federal Energy Advocate, also monitor and are involved with various programs and provisions of the IIJA and the Inflation Reduction Act. This includes participation in related webinars and workshops by DOE and its offices, by the National Association of Regulatory Utility Commissioners, related briefings by the federal executive branch, standing calls of the National Association of State Energy Officials on grid resilience, and meetings of the Secretary of Energy Advisory Board.

PUCO applies *three core grant management responsibilities* in the grants management lifecycle: direct service (provides service directly to external stakeholders (applicants, grantees, grantors) and internal stakeholders (program, finance, legal staff, etc.); management functions (oversees grants management operations including people, projects, procedures, systems, and/or

budget); and policy functions (establishes and updates rules and executes the policies set by the Ohio general assembly for achieving the mission and goals of the organization).

LIFECYCLE OF GRANT COMPETENCIES

Outside of the PUCO, the Companies have the qualifications, experience, and capabilities to successfully execute the SADA Project.

As shown in Section 3.9.2, the team assembled for the Project includes company leaders in the fields of Distribution, Engineering, Emerging Technologies, Public Policy, and External Affairs. The Companies' SADA Project Team Members oversee nearly 500 employees and will guide the Project from start to finish. The staff and contractors expected to complete the work in the field have a history of successfully performing similar work in the service territory.

[redacted]

4.2 Equipment and Facilities

The PUCO will leverage the access to equipment and facilities of its teaming partners.

As affiliates of one of the nation's largest utilities, the Companies have access to the equipment and facilities needed to complete the Project. This includes access to new switchgear, switches, overhead conductors, reclosers and capacitors needed as part of the SADA Project. Depending on the site selection, the Companies may need to purchase or lease land for the Project.

The Companies have an extensive history of successfully implemented distribution projects and have pulled together employees across the three distribution utilities. The Companies recognize the need for a full breadth of perspectives and skills on their project team – true diversity to foster innovative, collaboration, making for a future-ready team that delivers powerful outcomes:

The PUCO has extensive prior experience with federal funding. The PUCO is the state's agency certified by the U.S. Department of Transportation to administer federal funding under the Natural Gas Pipeline Safety Act and the Motor Carrier Safety Assistance Program (MCSAP). These federal programs, accounting for 32% of the PUCO's annual budget, supported by collaboration agreements, ensure the success of these programs and compliance with the programs' maintenance of effort and secured indirect and fringe cost rate agreements.

Additionally, the PUCO has ongoing involvement with federal funding programs under the IIJA, having opened a public docket on all IIJA funding opportunities in August of 2022 in PUCO Case No. 22-0755-AU-COI. This includes administration of the Grid Resilience Formula Grant Program under section 40101(d) of the IIJA. The PUCO also solicited public feedback on Topic Area 3, the Grid Innovation Program, in the above case. All commenters encouraged the PUCO to engage in the funding opportunity for Topic Area 3.

Aside from the PUCO, FirstEnergy is one of the nation's largest utilities, and has extensive experience in the areas proposed in the Project. Recent work projects are outlined below.

- The projects completed under Ohio's Grid Modernization I plan have proven to be successful in reducing many power interruptions. This has laid the foundation to further enhance service reliability across the entire service area in Ohio. To date, that program has resulted in improved outage restoration times for customers in areas where the smart technology (i.e., distribution automation) was installed. For example, thousands of Ohio Edison customers in Trumbull and Mahoning counties in northeast Ohio have seen their average restoration times improve by nearly half an hour in more complex

outage scenarios, such as equipment damage from severe weather or a vehicle accident. Improvements have also been realized in the CEI and Toledo Edison territories.

- The State of Maryland signed into law the Energy Storage Pilot Project Act, which requires each Maryland regulated investor-owned electric company to develop energy storage pilot projects. The Companies' affiliated utility in Maryland, Potomac Edison, is undertaking energy storage pilots as required by the Order.
    - Potomac Edison's first proposed project is a third-party owned and operated battery electric storage system ("BESS") located on the Town Hill circuit. The Town Hill Proposal calls for a BESS capable of 1.75 MW and 8.4 MWh. The primary goal of the project is to enhance reliability, with the secondary benefit of providing Potomac Edison with experience in engineering and operating energy storage assets as a reliability solution. The Town Hill circuit is located in a rural area and has suffered from challenging tree-related reliability issues, and tree trimming measures are not expected to be sufficient to fully impact reliability across the circuit. The project offers an alternative to building a connection to another circuit.
    - Potomac Edison's second project is the Myersville BESS, a utility-owned and operated 0.5 MW BESS, co-located with EV DC Fast Charging ("DCFC") station. DCFCs create significant demand on electric distribution grids, which may over time require more frequent distribution system upgrades. This project allows the company to study how a BESS and EV chargers can work together to minimize the impacts of these demand spikes on the local distribution system infrastructure. The project aims to provide a resiliency and reliability benefit to the EV chargers by continuing to provide electricity, through the stored energy in the battery, and charge EVs in the event of an electrical system outage.

4.4 Time Commitment of the Key Team Members

The PUCO has a dedicated staff with extensive experience on federal matters, grid modernization and resilience, and grants administration. In addition, the PUCO has applied for the DOE Clean Energy Innovator Fellowship program to bolster the PUCO's efforts to address equity, environmental, and energy justice priorities in the use of IIJA grant funds. The PUCO staff will commit varying amounts of their time toward the Project based on the roles of the individual staff members.

As one of the nation's largest utilities, FirstEnergy has a large, talented staff ready to commit the necessary time to support the Project. [redacted]

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Summary: Correspondence on Forms Submitted to DOE on May 18, 2023 for Grid Innovation Program Application electronically filed by Kristin Clingan on behalf of Staff.