

## Abstract

<b>Applicant</b>	Surry-Yadkin Electric Membership Corporation (SYEMC)
<b>Project Manager</b>	Lee Bedsaul
<b>Project Title</b>	Smart Grid Deployment to Support Rural-Focused Resiliency at a Small-Scale Electric Co-op (Smart Grid Project)

**Project Description:** SYEMC is a community-focused small electric utility co-op serving approximately 27,860 member-consumers in Surry County, Yadkin County, Wilkes County, Forsyth County, and Stokes County, North Carolina which include 32 disadvantaged census tracts. Aging and outdated infrastructure hampers SYEMC’s ability to manage distributed energy resources (DERs) effectively and causes resiliency and outage issues (in the past five years, SYEMC has experienced approximately 400 outages). SYEMC seeks funds to support a series of smart grid infrastructure upgrades including deployments of a fault location, isolation, and service restoration (FLISR) system, which allows the grid to quickly identify and isolate faults and then “self-heal” to minimize outages.

**Methods Employed.** SYEMC will deploy a suite of interdependent, coordinated smart grid and smart grid enabling elements across its five-county service territory including:

- Upgrading and replacing outdated distribution equipment
- Installation of (b) (4) of (b) (4) substation transformers
- Installation and deployment of the FLISR system throughout the grid
- Administering comprehensive cybersecurity improvements required for SYEMC to implement the Smart Grid Project.

**Potential Impact.** Project outcomes include improved service connections, reduced SYEMC operational costs, greater support for DERs on the grid, creation of a “self-healing” grid, reduced outage times, and implementation of FLISR. The overall end goal / expected benefit of the Project is to prevent and lessen the impact of systemwide outages on our rural communities by 45-50%. While the primary benefit is addressing vulnerability to power disruptions in SYEMC’s 32 disadvantaged census tracts, the Project is also anticipated to create three full-time jobs, 40+ short-term contract jobs, and foster equity, inclusion, and economic development. Increases in the efficiency of the current infrastructure will benefit all co-op members by lowering SYEMC’s energy expenses and line losses across the system’s eight delivery points.

**Major Participants.** SYEMC’s partners, all of which have offered letters of commitment, include North Carolina Association of Electric Cooperatives (NCAEC), Forsyth Technical Community College, Nash Community College, Surry Community College, Yadkin Valley Chamber of Commerce, Surry County Economic Development Partnership, NC Works/American Job Center, The Salvation Army, and Surry County Schools.