GRID RESILIENCE AND INNOVATION PARTNERSHIPS PROGRAM

Established by the Bipartisan Infrastructure Law, the U.S. Department of Energy's Grid Deployment Office is administering a historic $10.5 billion investment via the Grid Resilience and Innovation Partnerships (GRIP) program to enhance grid flexibility, improve the resilience of the power system against growing threats of extreme weather and climate change, and ensure American communities have access to affordable, reliable, clean electricity when and where they need it.

ADVANCING GRID-INTERACTIVE EFFICIENT BUILDINGS IN VERMONT

The Burlington Electric's proposed Building Grid-Edge Integration and Aggregation Network of Thermal Storage (GIANTS) project focuses on creating a network of grid-interactive efficient buildings (GEBs). This technology uses available building energy and other thermal storage resources across residential, commercial, and industrial customers to enable strategic GEB electrification while minimizing the negative impacts of system peak demands.

The GIANTS project will provide Burlington Electric with increased visibility and control of distributed energy resources (DERs) on its distribution system. Through improved situational awareness, control technologies, and flexible load management of DERs, Burlington Electric can reduce the need for costly distribution system upgrades. This work will support the further integration of renewable energy generation hosting capacity on the distribution system by providing greater control during times of peak demand.

Anticipated Outcomes and Benefits

- Supports unionized workforce. Two-thirds of BED’s workforce are members of the International Brotherhood of Electrical Workers (IBEW) Local 300 and covered by a collective bargaining agreement that provides family-sustaining wages and continuing education to support employee advancement.
- Provides energy efficiency assistance to many of Burlington’s small, non-profit organizations and subsided housing providers, most of which support Individuals or Families of Color, women heads of household, and/or low-to-moderate income households within census identified disadvantaged communities.
- Provide real-time monitoring data for grid operators, helping to make system-level decisions with automated controls using data analytics, software, and sensors.
- Decentralize and strengthen the electrical grid to provide community benefits, such as increased use of renewable energy resources and coordination with smart building technologies.
- Provide 4 MW of thermal storage (approximately 6% of Burlington Electric’s peak load) using solar and an automated load management system to decrease costs and provide a backup energy source during times of peak consumption.
- Generate savings by reducing reliance on the wholesale electricity market that is subject to fluctuating energy prices.
- Implement a program incentivizing residential customers to reduce their energy consumption during times when the grid reaches peak electrical demand, providing the electrical system with greater stability and resilience.

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