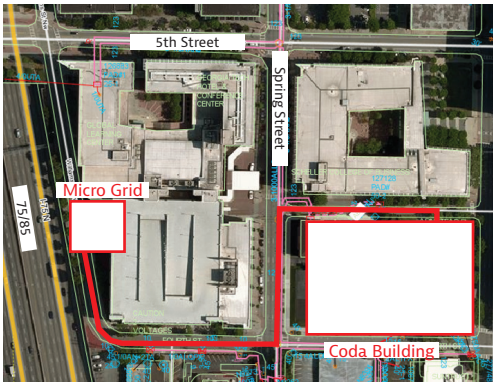
Georgia Power Microgrid for Technology Square





Location

Georgia Tech Square – Spring Street and 4th Street

Midtown Atlanta

Georgia Tech CODA Building
(High Performance Computing Center)

In Service Date: October 20, 2020

Technologies Tested

- Microgrid Controller
- Distribution Grid Control and Dispatch of Microgrid
- Overhead Feeder and Network Underground Distribution Interconnection
- Computing Center Customer Load Interactions
- Islanding Capabilities

This is a demonstration of an urban setting microgrid connected to our high-density distribution underground network, our overhead feeder distribution system, and to designated building loads in the new CODA building at Tech Square. The microgrid design will incorporate multiple distributed energy resources including a 225kW Samsung energy storage system, a 200kW Bloom fuel cell, and a 1025kW PowerSecure PowerBlock (625kW Diesel Generator and two 200kW Natural Gas Generators) with the ability to plug and play other types of distributed resources in the future. The multiple points of interconnection will provide a unique opportunity to test the microgrid's ability to interact with customer electrical loads while also supporting the distribution system, which is a key learning for utilization of distributed energy resources.

Distributed Energy Resources (DER):

- Fuel Cell
- Battery Energy Storage System
- Natural Gas Generators
- Diesel Generator

Create a "living lab" to study a grid-integrated microgrid

- Study microgrid impact on the system stability, reliability and resiliency
- Test end-to-end integration with customer electrical load
- Evaluate performance of DER and microgrid technology to best support the grid and customers

Seamlessly integrate a grid-connected microgrid with DER and controls

- Develop understanding of microgrid technologies: strengths, weaknesses, costs, benefits and challenges
- Develop framework and tools to evaluate impacts on the distribution system

Evaluate "smart" energy management systems with a microgrid to optimize grid performance

- Platform to test technologies that can provide automated and secure management of demand through a range of energy resources including smart appliances, electric vehicles and building energy management systems (real time)

Expand a collaborative effort with Georgia Tech

- Leverage Georgia Tech's vast technical knowledge and experience
- Create a "classroom" to further microgrid education and studies
- Provide a public "knowledge center" of DER and microgrid technologies

Georgia Tech Strategic Energy Institute

Georgia Power