

Detroit Edison Advanced Implementation of Energy Storage Technologies

Project Description

Detroit Edison will design, construct, and install an aggregated 1 MW Community Energy Storage (CES) System in their service territory at the HAGER substation in Michigan to demonstrate the potential of CES systems to strengthen grid *reliability*. **The performance data of the CES devices and control systems under in-service operating conditions will be analyzed and used to identify gaps and facilitate how the devices can be standardized for use across the U.S.** The project will also integrate the utility-owned 500 kW solar system to the energy storage device; provide proof of concept testing for an integrated, centralized communication system; and test the use of secondary-use Electric Vehicle (EV) batteries as CES devices.

Goals/Objectives

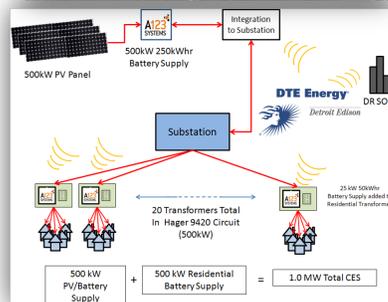
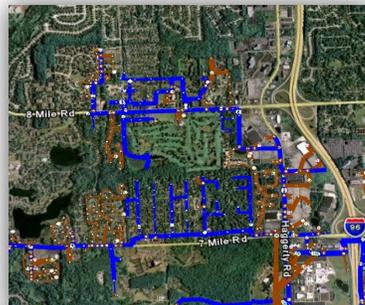
- Demonstrate peak shaving, demand response voltage, and emergency load relief of the CES devices when integrated to the utility grid
- Explore remote and automatic monitoring and control responses
- Develop and verify advanced modeling and simulation methods for system planning and operations based on existing utility practice and expanded to include photovoltaic systems integration
- Demonstrate intentional islanding of CES devices with a utility distribution circuit and how they can aid in frequency regulation

Key Milestones

- Final Design and Construction complete (June 2011)
- Commissioning (July 2011)
- Operations end (June 2013)
- Integration of secondary use battery system (July 2013)

Benefits

- Job creation
- Lithium storage manufacturing established in the U.S.
- **Power quality increased**
- **Security of the emergency response infrastructure strengthened**
- **Renewable resource integration**
- Greenhouse gas emission reduction
- Market penetration of electric vehicles increased



CONTACTS

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PARTNERS

A123 Systems
Chrysler Corporation
KEMA Inc
EDD Inc
NextEnergy
National Grid Utility

PROJECT DURATION

01/01/2010–12/31/2014

BUDGET

Total Project Value
\$10,877,258

DOE/Non-DOE Share
\$4,995,271/\$5,881,987

EQUIPMENT

A123 Systems Community Energy 25kW,
50 kW Storage Devices
500 kW Solar Array
Gridsense Linetrackers

DEMONSTRATION STATES

Michigan
CID: OE0000229

Managed by the National Energy Technology Laboratory for the Office of Electricity Delivery and Energy Reliability

