Bismarck State College

National Energy Center Excellence Smart Grid Laboratory (GridLab)

Project Description

Bismarck State College's National Energy Center of Excellence (NECE) is building a new laboratory to assist classroom and online workforce training in the areas of Smart Grid technology, distributed generation, demand response, and consumer integration of smart technologies. GridLab is a complete, integrated Smart Grid with a mock smart home, industrial loads, distributed and renewable generation, and advanced communication and control systems. It is interconnected and controlled from a web-based advanced smart control system that allows real-time access to facility energy data. Multiple scenarios will be tested to simulate various Smart Grid implementation and energy rate structures. GridLab can be operated locally or remotely. The GridLab Human Machine Interface is web-based and can be accessed from anywhere an Internet connection is available.

Goals/Objectives

- Provide training in demand energy response, distributed generation coordination, energy utilization/optimization, and cost simulations based on multiple rate structures
- Design, develop, implement, and disseminate GridLab, which allows classroom laboratory equipment to be operated via the Internet

Benefits

- Job retention and employee growth
- Workforce trained in technical skills that can transform existing power systems to a Smart Grid
- National Smart Grid growth

CONTACTS

Deborah Buterbaugh
Project Manager
National Energy Technology Laboratory
3610 Collins Ferry Road
Morgantown, WV 26507-0880
304-285-4164
deborah.buterbaugh@netl.doe.gov

Zachery Allen
Principal Investigator
Bismarck State College
1500 Edwards Ave
Bismarck, ND 58506-5587
701-224-5481
Zachery.Allen@bsc.nodak.edu

PARTNERS

None Listed

PROJECT DURATION

6/14/2010–6/14/2013

COST

Total Project Value
$808,958

DOE/Non-DOE Share
$728,060/$80,898

PROJECT LOCATION

North Dakota

CID: OE0000459

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