

Duke Energy Business Services Notrees Wind Storage Demonstration Project

Project Description

The Notrees Project will analyze and discern how, when integrated with wind power, energy storage can compensate for the inherent intermittency of this renewable power generation resource. Incorporating both existing and new tools, technologies and techniques, this demonstration project will provide valuable information regarding wind energy storage and serve as a model for other entities to adapt and replicate. The energy storage system will be designed and constructed using fast response, advanced lead-acid batteries configured to provide 36 MW output capabilities with a storage capacity of 24 MWh.

Goals/Objectives

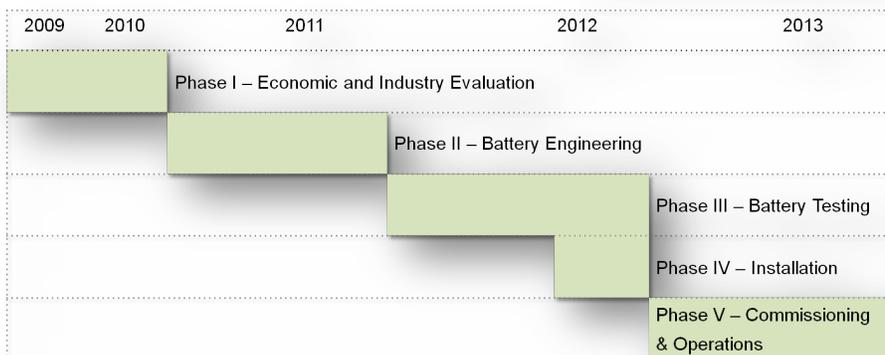
- Store energy during non-peak generation periods and re-issue the power to meet demand
- Quantify the value of wind storage
- Demonstrate the reliability and dispatchability of wind storage
- Use the storage system for system balancing
- Determine if energy storage solutions are commercially viable to support wind generation

Key Milestones

- Site preparation complete (December 2010)
- Installation complete (April 2010)
- Storage system commissioned (May 2011)
- Begin dispatch (May 2011)

Benefits

- Congestion reduced
- Energy dispatch optimized
- Energy costs reduced
- Energy efficiency and grid reliability improved
- Carbon emissions decreased
- Wind energy knowledge advanced



CONTACTS

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PARTNERS

Electric Power Research Institute

PROJECT DURATION

1/1/2010–12/31/2013

BUDGET

Total Project Value

\$43,612,464

DOE/Non-DOE Share

\$21,806,232/\$21,806,232

EQUIPMENT

None listed

DEMONSTRATION STATES

Texas
CID: OE0000195

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

