

## 1 MW/1 MWH LITHIUM-ION BATTERY SYSTEM

### R&D PROJECT

#### INDUSTRY PARTNERS:

- > Texas Tech University
- > Group NIRE
- > CCET
- > South Plains Electric Cooperative
- > Sandia National Laboratories
- > Department of Energy
- > Shell
- > DNV-GL
- > Samsung SDI
- > Xtreme Power

#### PROJECT TERM:

- > Commissioned October 18, 2013

#### INDUSTRY PROBLEM:

- > Innovating energy storage solutions
- > Mitigating intermittent fluctuations of wind turbines
- > Providing frequency support during the loss of generation
- > Regulating the distribution bus voltage
- > Having a spinning reserve

#### SOLUTION:

- > Utilizes the co-location of high power, utility scale wind, and power energy storage devices to evaluate services
  - o Battery Performance
  - o Efficiency Assessments
  - o Applications Analyses Demand Response
  - o Frequency Response
  - o Wind Ramp Control
- > Quantifies key impacts on long term battery operation
- > Increases the effectiveness and reliability of the electric grid