

## OVERVIEW

**CUSTOMER:** Xcel Energy

**APPLICATION(S):**

*Peak Shaving*

*Demand Charge Reduction*

*Grid Stabilization*

*Renewable Integration/Solar Firing*

*Voltage Regulation*

**SYSTEM TYPE:** Grid-Interactive, Distributed Energy Storage

**SYSTEM/BATTERY SIZE:** 6 Systems / 12 Units | Total @ 828kWh

*2 @ 18kW(AC)/69kWh*

*2 @ 36kW(AC)/138kWh (2, side-by-side 18kW/69kWh units)*

*2 @ 54kW(AC)/207kWh (3, side-by-side 18kW/69kWh units)*

**LOCATION:** Stapleton, Colorado, USA

**COMMISSIONING:** 2017-2018

**BATTERY TYPE:** Lithium-Ion

**SYSTEM CONTROLS:** Custom Designed, System Controller

**POWER ELECTRONICS PARTNER:** Pika Energy Inc.

**ENCLOSURE:** Custom Designed, Environmentally Controlled Cabinet

**SYSTEM DIMENSIONS:** 58"H X 60"W X 50"D (Per 18kW/69kWh unit)





## NORTHERN RELIABILITY'S TECHNICAL SOLUTION

Northern Reliability (NRI) was selected by Xcel Energy to design, build and install a battery energy storage system capable of interacting with the grid and continuously supporting a single-phase leg of a local utility power distribution bus. The main objectives for the Stapleton energy storage project were to accommodate more solar energy on the system, reduce energy costs and manage grid issues such as voltage regulation. Other benefits include peak demand reduction and backup power. NRI's solution was 6 modular energy storage systems comprised of 12 units. Solutions are sized from 69kWh (18kW of bi-directional inverters), 138kWh (36kW of bi-directional inverters) and 207kWh (54kW of bi-directional inverters.) System equipment is housed in an environmentally controlled shelter to protect components from Colorado's varying weather patterns. The battery is charged and discharged through a grid connection while energy is stored in and distributed from a lithium-ion battery bank.

## FEATURES + BENEFITS

*Environmentally controlled shelter & smart battery management system*

*Long lasting lithium-ion battery (Up to 20+ years)*

*Flexible power distribution*

*Customized to the required applications*

*Designed to operate in hot/cold temperatures*

*Modular system sizing can adapt and grow for future expansion*

*Can be programmed to work with other systems or as a standalone unit*



36kW/138kWh AC Storage System (2, side-by-side 18kW/69kWh units)