

Name of Applicant: ALLETE, Inc. d/b/a Minnesota Power. Minnesota Power is a division of ALLETE, Inc. that provides electricity in a 26,000-square-mile electric service area in northeastern Minnesota. Minnesota Power supplies retail electric service to 150,000 customers and wholesale electric service to 14 municipalities

Project Manager: Daniel W. Gunderson
Vice President – Transmission and Distribution
dwgunderson@mnpower.com
(218) 355-2014

Project Title: Minnesota Power HVDC Terminal Expansion Capability (HTEC) Project

Project Objectives:

Increase design capacity at the HVDC terminals to make the HVDC System future-ready for greater expansion to support the increased transfer of clean energy from one of the highest efficiency renewable energy areas in North America, provide greater grid support and operating flexibility, and enhance resiliency of the system as intermittent generation continues to be added to the grid.

Project Description:

Minnesota Power will design new HVDC terminals by utilizing an Engineer, Procure, Construct contract with a globally established HVDC supplier. Minnesota Power and the supplier will design converter terminals that will leverage an existing 465-mile, high-voltage direct-current (HVDC) transmission line. The increased design capacity of the two HVDC terminals would allow for the expansion of renewable energy transmission capability by up to as much as 1500 MW, a more than 66% increase; allow for the transfer of more renewable energy from other sources; and align potential future capacity expansion of both the transmission line and HVDC terminals more cost effectively. The project leverages existing assets to advance the CO₂ reduction goals in Minnesota's recently passed law requiring utilities to deliver carbon-free electricity by 2040.

Potential Impact of the Project:

The HTEC Project will ensure a reliable grid that can expand to deliver renewable energy to where it is needed by Minnesota Power's customers and the broader region. This project will be a catalyst for the addition of new renewable and low-carbon energy sources to the regional grid. The system will enable new renewable power transfers; allow future interconnection to other high-voltage transmission projects being considered in the region; and help prepare the grid for a low-carbon future. By providing superior grid support, the project will maintain reliability while integrating large amounts of new intermittent renewable resources.

Major participants (for collaborative projects): N/A