



Zone 3 - 2024 study results

Refer to [Table ZS-4](#) and [Figure ZS-12](#)

Summary of key findings

- Load growth in the Green and Rock County areas will drive the need for additional 138/69-kV transformer capacity and 69-kV line uprate.
- Several 69-kV lines in the West Middleton and Waunakee area are approaching their summer emergency ratings under single contingency conditions.
- Potential terminal or line uprates may be needed in the 2023 timeframe for the Sun Valley-Oregon 69-kV line and the Stoughton-Stoughton South 69-kV line.
- System intact low voltages exist on the 138-kV system in Dane County and on the 138-kV system from Nelson Dewey to Kilbourn.
- System intact low voltages exist on the 69-kV system in the Boscobel and Mazomanie areas.
- Numerous low voltage violations exist under single-contingency conditions throughout the Zone 3 system.

The 2024 results suggest that further study of Zone 3, particularly around Dane, Green and Grant Counties, is needed to identify an appropriate long-term solution for this area that may be required beyond the year 2019.

Both of the Columbia 200 MVA, 345/138-kV transformers are close to their summer emergency ratings for the loss of the Columbia 400 MVA, 345/138-kV transformer. In addition, the Columbia-Portage 138-kV line is overloaded for the loss of the other Columbia to Portage 138-kV line by 2021. Adding a North Randolph 345/138-kV transformer along with an uprate of the Columbia 345/138-kV transformer T22 are proposed to relieve these overloads. This project is also expected to provide needed voltage support for Dodge and Jefferson Counties.

Projects whose "Need date" precedes the "In-service date"

- None

Projects whose "In-service date" precedes the "Need date"

- None

Summary of Compliance with NERC Standards

The mitigation plans, planned, proposed and provisional projects identified for Zone 3 in this Assessment will allow the ATC system in Zone 3 to meet NERC standards TPL-001, TPL-002, TPL-003 and TPL-004 in each of the four years 2010-2014, and for the 2015-2019 planning horizon.