



Zone 4 – 2024 study results

Refer to Table ZS-4 and Figure ZS-17

Summary of key findings

- The updated load forecasts have resulted in the deferral or absence of system performance issues identified in prior 10-Year Assessments.
- The transmission facilities in Sheboygan and northern Ozaukee County areas are becoming heavily loaded and as such may drive the need for system reinforcements.
- Additional reinforcements may be needed in central Kewaunee County due to load growth or potential increase in generation.

Prior assessments have shown the need for potential transmission reinforcements in the Sheboygan, Kewaunee, and Green Bay areas. Although system needs in the 2024 timeframe have diminished with the updated load forecasts used in the 2009 10-Year Assessment, we still want to the below discussion kept in mind in case system needs re-emerge in the next Assessment. The reinforcements listed below are based upon preliminary analysis to address system issues under single-contingency conditions. Further adjustments will be made to reflect system needs as well as in-service dates in future 10-Year Assessments.

- In the 2024 and beyond timeframe, additional transmission reinforcements such as installing capacitor banks may be needed to boost the voltages at the Holland, Plymouth #4 and Howards Grove 138-kV substations under single contingency conditions.
- Uprating the Edgewater-Washington 69-kV line may be needed in the 2024 plus timeframe to address line overloads under single-contingency conditions.
- Additional transmission reinforcements such as adding a second 138/69-kV transformer at the East Krok Substation may be needed in the 2024 timeframe to boost voltages along the East Krok-Beardsley Street-Barnett 69-kV line under single-contingency conditions.
- Depending on the load forecasted in downtown Green Bay, additional transmission reinforcements such as rebuilding the older sections of the existing Oak Street-Ashland 69-kV line may be needed in the 2024 timeframe to address line overloads under single-contingency conditions.

With the Kewaunee bus reconfiguration and the addition of a second 345/138-kV transformer project expected to be in-service by 2011, the next equipment limiting the generation at the Kewaunee Nuclear Power Plant under certain transmission outage conditions is the Kewaunee-East Krok 138-kV line. If additional generation from Kewaunee is desired, transmission reinforcements may include uprating the Kewaunee-East Krok 138-kV line.

Projects whose “Need date” precedes the “In-service date”

- None

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- None



10-Year Assessment

An annual report summarizing proposed additions and expansions to the transmission system to ensure electric system reliability.

2009

October 2009 10-Year Assessment
www.atc10yearplan.com

Summary of Compliance with NERC Standards

The mitigation plans, planned, proposed and provisional projects identified for Zone 4 in this Assessment will allow the ATC system in Zone 4 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.