October 2009 10-Year Assessment
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Zone 1 - 2019 study results
Refer to Table ZS-3, Table ZS-3a and Figure ZS-3

Summary of key findings

- The Rhinelander Loop will require additional reinforcements sometime after 2020. The Cranberry-Conover-Plains project provides considerable improvement of the load serving capability of the Rhinelander Loop's transmission system. However, it is anticipated that another source into the Loop, in addition to the Cranberry-Conover-Plains project, will be needed at some point beyond the current planning horizon.
- Maintenance, voltage and thermal issues exist in the greater Berlin and Ripon areas that need to be addressed.

To address maintenance, voltage and thermal issues in the greater Berlin/Ripon area a reconfiguration of the North Randolph-Ripon 69-kV line is proposed. A new 69-kV line will connect the Fairwater and Mackford Prairie substations forming a new 69-kV line from North Randolph to Metomen Substation. The northern portion of the existing Mackford Prairie Tap-Ripon 69-kV line will then be extended into a vacant terminal position at Metomen Substation, creating a second Ripon-Metomen 69-kV line. This will allow for the retirement of a portion of the North Randolph-Ripon circuit between Metomen and Mackford Prairie substations which is where a significant portion of the maintenance issues are located.

To address low voltage situations under contingency, a 12.2 MVAR capacitor bank will be installed at the Hilltop Substation in 2023.

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

- None

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

- None

Zone 1 - 2019 futures study results

Two potential 2019 futures were studied as part of this Assessment:

- 20% Wind Future
- Slow Growth Future

Please refer to the Methodology & Assumptions for details about how these futures models were developed.

In the 20% Wind Future, voltages generally improved 2-to-3 percent in Zone 1. Furthermore, transformer overloads usually worsened and line overloads generally improved. This occurred as a result of the generation dispatch and the associated change in the flow of power associated with the 20% wind scenario.

In the Slow Growth Future, voltages improved throughout Zone 1. In addition, transformer and line overloads generally improved. This result is consistent with the reduced loading throughout the zone.

Please refer to Table ZS-3a for the limitations and performance criteria exceeded for these futures.