KILBOURN REBUILD

ALLIANT ENERGY
WISCONSIN

COMPLETION DATE: 2019

SUBSTATION RESUME

Key Facts and Highlights:

- Physical, Electrical, and Civil & Structural Design as part of existing substation reconfiguration.

Electrical Consultants, Inc.
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Project Description:

This project included the design for three companies operating Transmission, Distribution, and Generation facilities to rebuild and reconfigure an existing substation.

The generation scope included replacement of a 4.16 kV metal-clad switchgear with a new 15 kV switchgear operated at 4.16 kV for a generation connection, replacement of the generation step-up transformer (12.5 MVA, 4.16/69 kV), replacement of the transformer hide side breaker with a 69 kV circuit breaker. The transformer mains were installed in a medium voltage duct bank to the new switchgear.

The distribution scope included the installation of a 69 kV breaker on the high side of the transformer, 12.47 kV open air distribution bus reconfiguration, and SCADA/metering upgrades.

The transmission work included replacement of the control building with a new pre-packaged building and relaying, replacement of four 69 kV line breakers for line and transformer protection, and installation of bus differential protection for the 69 kV and 138 kV buses. 138/69 kV transformer protection packages were updated and temporary facilities were required to continue to serve a 69 kV radial distribution substation.

The project required that the substation be expanded within the existing property and required 12.47 kV distribution feeder relocation, grading work, cable trench modifications, underground control conduit relocation and installation, and transmission bus reconfiguration.