OTTER TAIL POWER COMPANY
Docket No: E017-M-23-380

Response to: MN Public Utilities Commission
Analyst: Austin Northagen
Date Received: April 30, 2024
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Responding Witness: Mike Riewer, Manager, System Infrastructure & Reliability 218-739-8565

Information Request:

How is the utility considering equipment design standards regarding modernizing infrastructure to withstand increasing extreme weather events, including but not limited to higher and longer duration heat waves, heavy rainfall events, higher winds, and increased ice storms? For example, how is the utility considering how increased and longer duration heat waves might impact increased stress on the distribution system from both higher temperatures and higher electricity use?

Attachments: 0

Response:

Heat Waves
As part of Otter Tail's single phase new residential service construction specification(s) we have standardized on the installation of 25 kVA transformers and 4/0 secondary wire. This allows us to adequately serve existing customer loads and allows for future growth and increased loading capabilities for higher and longer duration heat wave events.

When large three phase loads are requesting electric service Otter Tail does an in-depth engineering study to determine if existing distribution infrastructure can handle the load and if a distribution line upgrade or rebuild needs to be initiated.

Otter Tail is also looking forward to using loading data from our recently installed Advanced Metering Infrastructure (AMI) system to proactively identify potential overload issues.

Heavy Rainfall Events
In areas prone to water issues Otter Tail attempts to mitigate the impact to distribution pole infrastructure by installing additional pole guy wire support and/or install poles in vertical steel culverts back-filled with crushed rock. If the condition cannot be mitigated with the previous mentioned methods, Otter Tail will attempt to re-route the existing line to a new location away from the identified water issues.

High Winds

Current Otter Tail distribution line construction standards meet the NESC (National Electric Safety Code) Rule 250B Grade C construction requirements for lines located in the NESC Heavy Wind and Ice loading zone for Minnesota. Additionally, Otter Tail installs phase spacers in lines where "galloping" has been observed and/or caused damage in the past to existing overhead distribution line.

Ice Storms

Current Otter Tail distribution line construction standards meet the NESC (National Electric Safety Code) Rule 250B Grade C construction requirements for lines located in the NESC Heavy Wind and Ice loading zone for Minnesota. Additionally, Otter Tail may convert poor performing overhead distribution line to buried underground line, to improve reliability performance in areas prone to icing.