



Case Study

American Transmission Company

Company Details

American Transmission Company (ATC) was founded in 2001, as the first multi-state, transmission-only utility in the United States. ATC provides electric transmission service in an area from the Upper Peninsula of Michigan throughout the eastern half of Wisconsin and into portions of Illinois. Over 9,600 miles of high-voltage transmission lines and over 550 substations provide communities with access to local and regional energy sources.

MHI Service

Transmission Line Engineering and Analysis

Use Case

- Thermal rating
- Clearance reports
- PLS-CADD

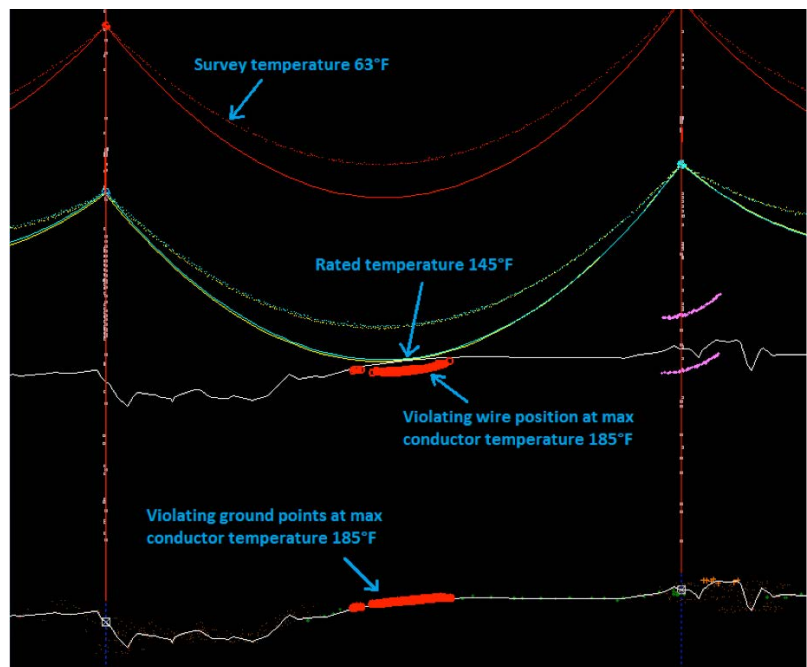
Benefits

- Mitigate violations
- Greater reliability and safety

Thermal Rating Analysis

Executive Summary

Manitoba Hydro International Ltd. (MHI) has developed thermal rating reports for ATC that illustrate the maximum safe operating temperature of conductors to find the real capacity of transmission lines. These reports show where ground/object clearance violations occur when utilities start pushing more load through their lines to meet peak demand.



Calculation of base wire temperature and identifying clearance violations

Challenges

Completion of modelling and analysis allows ATC to plan and mitigate efforts by implementing safe and reliable practices. ATC is able to mitigate the most critical areas first – saving time and money before a violation is problematic. MHI ultimately helps create sustainable maintenance practices that enable ATC to meet NERC and other regulatory requirements.

“MHI has carried out 15 survey projects for ATC since 2008 and has performed the work quickly and professionally. We are very satisfied with the final products delivered. The final thermal rating reports have been extremely useful in determining the condition of these existing lines. The favourable performance of MHI has led to the granting of additional work.”

- Lori Kolbow, Sr. Technical Specialist, ATC

How MHI Helped

By illustrating clearance violations of the lines, MHI is able to recommend solutions to ATC to mitigate these violations. These solutions lead to greater reliability in the transmission system.



Plan view of a ground violation

Results, Return on Investment, and Future Plans

MHI has been performing this work for ATC since 2008. The services provided to ATC are the first step to understanding the as-built clearance in the field. Using this information, ATC can prioritize upgrade and maintenance work in key areas to mitigate any potential public safety concern or increase the capacity on the transmission line.

For more information about this project, contact klaing@mhi.ca

mhi.ca

Available in accessible formats upon request.

