

ZIROUS CASE STUDY

Midwest-Based Energy Provider
Addresses FERC Order 881
with Custom Development Solution



ZIROUS CUSTOM DEVELOPMENT

OVERVIEW

The Federal Energy Regulatory Commission (FERC) sanctioned a rule geared to enhance both accuracy and transparency in transmission line rating to meet the future needs of our nation's transmission grid.

COMPANY

Operating nationwide, this Midwest-based energy provider ensures the dependable, competitively-priced delivery of energy across the country. Committed to sustainability, they drive initiatives through strategic investments in energy-centric enterprises, infrastructure, and regulated utilities, paving the way for a more eco-conscious future.

OVERVIEW

The Federal Energy Regulatory Commission (FERC) sanctioned a rule geared to enhance both accuracy and transparency in transmission line rating to meet the future needs of our nation's transmission grid. The new regulation is a huge step towards transmission system efficiency and lowering costs for consumers, but it necessitates transmission providers to adapt their current systems and procedures to comply with these new standards. Energy providers and power companies must use ambient-adjusted ratings for transmission lines and must do so by July 2025. Systematic updates must be made to calculate, store, and deliver ambient-adjusted system line ratings on an hourly basis.

THE CHALLENGE

Previous FERC mandates required a much smaller dataset for rating calculations, often manageable through Excel spreadsheets. However, the shift toward providing ambient-adjusted hourly ratings necessitates a more robust approach including: enhanced data storage, automated rating computations, streamlined delivery mechanisms, and an intuitive user interface.

Previously, the above-mentioned client managed 2,556 distinct conductor ratings, which factored in conductor type, seasonal ambient temperatures, and line operating temperatures. The FERC updated requirements will demand a more detailed calculation, requiring ratings for every five degrees Fahrenheit of ambient temperature, rather than one rating for each of the four seasons. They will also require factoring in other considerations like whether the ratings are used in daytime or nighttime conditions. This additionally increases the complexity. Specifically, the number of unique ratings surged to 102,240 due to the expanded range of ambient temperatures considered. This 40-fold increase underscored the necessity of migrating from a spreadsheet to a database for efficient data management, highlighting the crucial need for a more robust system to accommodate the increased complexity.

Transitioning from spreadsheet-managed systems to a more sophisticated data storage solution, like a relational database, poses many challenges. Equally crucial is the development of an efficient, automated rating system capable of consistently delivering accurate, real-time transmission line ratings. This Midwest Power Company needed a solution in place to meet these requirements by the upcoming FERC deadline of July 2025.

THE SOLUTION

To comply with the new regulations, the Power Company knew their current spreadsheet processes must be replaced and approached Zirus to develop the

TECHNOLOGIES INVOLVED

Oracle Application Express (APEX)
Oracle SQL Database

HIGHLIGHTS

- Faced with FERC's mandate for ambient-adjusted hourly ratings, a Midwest Power Company partnered with Zirus to transition from Excel to a robust Oracle APEX and SQL Database solution.
- Zirus not only met the FERC Order 881 deadline but also improved data quality, offering a user-friendly interface for efficient transmission line management.
- Despite regulatory hurdles, the energy provider now operates with an enhanced and future-ready system, contributing to the optimization of the national electric grid.



replacement system. Zirous has crafted a comprehensive application by coupling Oracle APEX, a low-code platform for streamlined and secure enterprise app development, with an Oracle SQL Database.

Zirous undertook the data migration from spreadsheet to database, crafted an automated rating system, and built a user-friendly interface for rating visualization and transmission line management. These improvements give users the ability to oversee all transmission lines, efficiently handle additions, updates, and removals of equipment. The new and improved system enables viewing ratings for individual equipment pieces on each line and the overall facility rating.

THE IMPACT

Based on the client's specific needs, Zirous chose Oracle APEX for this undertaking. This allowed for the efficient development of future enhancements and changes as the electric transmission industry continues to change and evolve. With this approach, Zirous was able to get the Client compliant with FERC Order 881 while also improving the quality and consistency of rating data.

Despite the challenges presented by FERC Order 881, Zirous facilitated the establishment of a more efficient and robust management system. This effort contributes to the broader mission of enhancing transparency in electric costs and optimizing the utilization of our nation's electric grid.

Given the timeline to comply with FERC Order 881, electric transmission providers need an efficient and effective implementation solution. If electric transmission providers do not already have a solution in place to comply with FERC Order 881, they need to act soon to avoid a last-minute scramble to meet the July 2025 deadline. Zirous has a rich history working with numerous companies in the energy sector, not to mention the direct experience solving this problem with the above-mentioned client. Contact us to learn more.

