



Enhancing GIS Data Quality to Support Grid Modernization for a Large North American Utility



AT A GLANCE

CLIENT CHALLENGES

- ADMS data loads failing due to network connectivity errors in the GIS extract
- Incorrect data for their ADMS and distribution modeling software, including phasing and voltage mismatches or nulls
- An upcoming transition to the Esri UN data model

CLIENT BENEFITS

- The data quality analytics application enables the visualization, tracking, and reporting of the continued improvement of the GIS data quality over time
- Maintain data quality by continued use of the data quality reporting application
- A quality control mechanism

Business Need

Electric utilities are initiating grid modernization programs to meet regulatory and customer reliability needs, address aging infrastructure as well as incorporate distributed energy generation and storage resources into network operations. These programs rely on the GIS representation of the electric network as the “system of record” to build a network model to support outage management, volt/VAR, and other advanced applications.

In many cases, a comprehensive GIS data correction process is necessary to ensure the GIS data is complete, correct, and current to support the advanced network model. GIS data quality challenges have impacts on ADMS and Esri Utility Network (UN) implementations, and significant resources and time are needed to inventory, assess, and clean the GIS data.

RAMTeCH Solution

To address the GIS data quality challenges, the utility implemented a comprehensive GIS data validation and streamlined the correction process. This effort utilized RAMTeCH’s *gReady*TM data quality analytics toolset that was able to evaluate and report GIS data errors related to:

- Network connectivity
- Phasing, voltage, and network loops
- Feature geometry and snapping
- Data attribute completeness
- Database relationships



The *gReady*TM solution and services provide a method to determine ADMS and Esri UN data model compliance and a roadmap of prioritized data remediation tasks.

Results

The utility has been able to generate error reporting and metrics regarding the current state of its GIS data. This becomes the basis for a prioritized data clean-up and correction effort, utilizing a mixture of both company and RAMTeCH resources to correct the data for use in the ADMS, Esri UN, and other smart grid systems. The data quality reporting application serves as a quality control mechanism to feed all the systems that support the grid modernization program.