

Transmission Line Routing Study - Wisconsin

Location: Northwest
Wisconsin

Client: Wisconsin Public
Service



PROJECT SUMMARY

For Wisconsin Public Service (WPS), Burns & McDonnell assessed the environmental impacts of new electrical transmission lines between the Arrowhead and Weston substations in northwest Wisconsin.

Burns & McDonnell used ESRI software to determine accurate placement for more than 1,000 miles of transmission line alternatives in northern Wisconsin. First, a detailed geospatial database was developed that included: aerial photography, U.S. Geological Survey digital raster graphics, National Wetlands Inventory wetland data, land use, hydrography, roads and existing power lines. Several forms of computer-aided drafting and design (CADD), global positioning satellite (GPS) and imagery were converted to a format compatible for geographic information system (GIS) analysis. Route segments were assigned a variety of attributes that were used in queries and as a link to other databases. Then extensive analysis of route segment lengths, land cover, adjacent features, wetlands and other constraints was performed. Results of the analysis proved invaluable when explaining potential routes to government agencies and the public. Final results have also been posted to the WPS Internet site.

Burns & McDonnell made mapping, attribute linkage and analysis efficient and more accurate than other methods. The data generated supplied the client with realistic options and alternatives for siting new transmission lines. The GIS database deliverable also serves numerous other mapping and analysis needs for Wisconsin Public Service.

SERVICES PROVIDED

- Data conversion
- Spatial analysis
- Geospatial database development

PROJECT FEATURES

Primary technologies used:

- Arc/Info
- ArcView

Engineering, Architecture, Construction, Environmental and Consulting Solutions