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Bill Peterson
CAD Analyst
GIS & CAD Systems
Lincoln Electric System

Electrifying Accessibility

Lincoln-based power utility uses DWF to quickly and efficiently share complex construction drawings with its office and field personnel.

Project Summary

Lincoln Electric System is a power utility for the city of Lincoln, Nebraska. The company has a vast power infrastructure to maintain, and it maintains an online database of nearly 40,000 construction drawings to aid in this goal. Sharing these drawings with office and field personnel however, proved challenging, as the native format of the drawings was too large to access remotely, while printing out hard copies and mailing them required too much time. With DWF™ functionality and Autodesk® DWF™ Viewer, Lincoln Electric System has been able to:

- Convert 90% of its 40,000 construction drawings into DWF format
- Reduce the size of design files by 80%
- Increase the accessibility of electrical wiring diagrams, mechanical details, architectural plans, and other vital information
- Drastically reduce the time required for office and field personnel to obtain the latest version of drawings



By converting its construction drawings to DWF format and making them available on the corporate intranet, field and office personnel can receive the latest drawings within minutes rather than days

The Challenge

Sharing Complex Construction Drawings
Keeping the lights running isn't as easy as flipping a switch, as the Lincoln, Nebraska based power utility Lincoln Electric System well knows. The job entails making sure that thousands of pieces of equipment are functioning correctly and being properly maintained.

"It takes a lot of behind-the-scenes work to supply power to the community," noted Bill Peterson, a CAD Analyst at Lincoln Electric System. "We have construction drawings that we use to assist our field personnel with activities such as tending to substations and transmission facilities, or fabricating custom brackets for an electrical pole."

Finding the best way to share these construction drawings with office and field personnel, however, proved quite a challenge for Lincoln Electric System. "Most of our construction drawings were created with sophisticated AutoCAD® applications," said Peterson. "Those files are generally too large in their native format to share with remote field crews—their computers would probably freeze up if they tried to download a file of that size. As a result, most of the field crew chooses to have hard copies of the construction drawings printed out, which can be quite time consuming, particularly if we have to mail them a copy."

The Solution

Full Intelligence Without the Size
The solution was DWF, a file format specifically designed for complex design data. DWF files retain all the design intelligence of DWG files, but at a fraction of the size. Lincoln Electric System has converted nearly 90% of its 40,000 construction drawings into the small, secure DWF format. "We've been able to reduce the size of each construction drawing by nearly 80% without sacrificing any of the complexity of the design information," said Peterson.

These DWF files are available as linked documents from within Lincoln Electric System's corporate intranet and its enterprise document management system. By downloading the free DWF Viewer, any of the company's employees can readily access and view vital infrastructure information. "Mechanical details, electrical wiring diagrams, architectural plans—all the details of our construction drawings are available at the click of a button with DWF Viewer," said Peterson

The Result

Less Time to Get Results
The increased accessibility of the construction drawings has produced substantial time-savings for Lincoln Electric System. "It used to take a day or two to print out a hard copy of a construction drawing and mail it out," said Peterson. "Now, with the help of DWF, they can access the drawing immediately, the minute it's available. The time savings are huge. And that's not even counting the time we save on our end by not having to print it out, make copies of it in the copier machine, fold it, and drop it off to be mailed."

Moving forward, Lincoln Electric System plans to continue leveraging Autodesk's collaboration solutions. "The more we can move towards becoming a digital, paperless organization, the better we'll be at sharing information," said Peterson. "I look forward to seeing the ways in which we can incorporate more of Autodesk's products into our workflow to help achieve that goal."

For More Information

To learn more about how Autodesk can help enhance collaboration through effective information sharing visit www.autodesk.com/dwf. To download the free DWF Viewer go to www.autodesk.com/dwfviewer-download.

