MapMerger™ software saves PSE&G money while improving outage management.

Introduction

Public Service Electric and Gas Company (PSE&G), one of the nation's largest combined electric and gas companies, servicing nearly three-quarters of New Jersey's population, is saving significant amounts of money by using ESEA's MapMerger™ software to help build and maintain a land-base map for their outage management needs. MapMerger is a software module that extends the functional capability of the industry-standard ArcGIS™ Desktop software suite from ESRI, providing tools for automatically matching and aligning two different map representations of the same region.

Challenge

To service their 1.6 million gas customers and 2 million electric customers in more than 300 cities and communities, PSE&G maintains an extensive and accurate street centerline map that shows exact locations of its circuits and adjoining facilities. When a customer calls, PSE&G needs to locate the customer and the connected PSE&G transformer quickly and accurately so that they can most efficiently direct a repair crew to the scene. PSE&G's challenge was that their highly accurate centerline map did not contain the street address attribution necessary for precisely locating the customer.

PSE&G chose to obtain the needed address information from a commercially available street centerline product that is updated four times a year to ensure that street addresses are current. Unfortunately, the vendor-supplied street map which would replace PSE&G's own street map did not align well, meaning that existing customer and facility locations would appear out of place and have to be re-aligned. This re-alignment would also have to be done with each new vendor delivery as their data's positional accuracy improved. The alternative to re-alignment of PSE&G facilities, which are positionally accurate, was to align the vendor street data to PSE&G geometries. This alignment process of the vendor street data to PSE&G geometries would have to be repeated with each new delivery and be very costly in both time and resources. PSE&G started looking for tools to reduce costs.

Solution

In order to fulfill the challenge, PSE&G needed an automated approach to ensure economic feasibility. Fortunately, PSE&G's GIS specialists found a software package from ESEA called MapMerger™ that automates the task of precisely aligning the vendor street centerlines to the PSE&G geometries. MapMerger provides tools for automatically matching and aligning two different map representations of the same region. PSE&G

used MapMerger to find the vast majority of control points automatically at the press of a button. The remaining control points, used to accurately align the maps, were generated semi-automatically and manually using the powerful control point editing tools. To streamline workflow, PSE&G divided the state into counties so that different operators could work simultaneously. MapMerger saved the control point coordinates for each county into text files for reuse. The county control point files were later combined to create a single control point file for the entire state of New Jersey. MapMerger uses the stored statewide control point file for quarterly re-alignment of the vendor street centerline map to the PSE&G geometries.

Result

The beauty of the MapMerger solution is that the control point file can be reused with each quarterly vendor product release to re-align the new vendor data in one-sixth of the original processing time. PSE&G will now be able to quickly bring each updated vendor street centerline map into alignment with the PSE&G data and thus keep their outage management system current to serve customer needs. The technology provides a solution resulting in fast, reliable customer service with significant cost savings. The result is lower operational costs and even higher levels of customer service. With the help of MapMerger, when a customer calls PSE&G, the nearest transformer can be easily located and service can be dispatched in the most expedient manner. You might say that MapMerger has become an important "power tool" for PSE&G.