

## PECO Energy

In 2008, Opvantek worked hand-in-hand with PECO Energy, one of the earliest Optimain DS customers, to dramatically improve the value, accessibility, and visibility of Optimain DS risk evaluations. PECO's Gas Division had been investing in desktop geospatial technology and data for several years. They exported gas main segment locations from their Stoner Software™ Gas Planning System and aligned them with a commercial landbase (using MapInfo). They had also geocoded a large percentage of their customer premise records against the same landbase. In early 2008, PECO approached Opvantek to explore the possibility of using the geospatial data (a series of ArcGIS Shape files) to improve the fidelity and effectiveness of their existing Optimain DS system. Opvantek offered to license and configure the Optimain ArcGIS9® interface to provide a visualization of risk assessment results on PECO's geospatial data. In addition we offered to use our geocoding and facility finder engine to generate geographic locations for PECO's existing leak and pipe inspection records, on the best matching main pipe segments. We also proposed to develop and deliver a new GIS Placement Tool, allowing PECO staff to use the same geocoding and facility finder engine for ongoing placement of leaks and pipe inspection records.

Opvantek began work on the system upgrade in September 2008 and delivered the following results in just four (4) months:

- Geocoded over 67,000 historical main leak and pipe inspection records and associated them with the best matching gas main segment. Over 89% of main leak records were successfully associated with a matching main pipe and placed in an ESRI geodatabase.
- Integrated the geocoded customer premise locations and related service pipe attributes into the Optimain risk and economic assessment based on spatial proximity to the gas main segments.
- Overlaid Optimain DS risk evaluation projects on PECO's commercial landbase (TeleAtlas® StreetMap), enabling nearby high risk buildings to be automatically incorporated into the risk evaluation.
- Delivered the new Optimain DS Google Interface, allowing users to export an Optimain Project and the underlying GIS facilities and display them in Google Earth. This provides an efficient way for planning engineers to make an initial assessment of their facilities in Google Earth, with satellite imagery and StreetView high resolution photographs, in order to understand the current risk and potential replacement challenges surrounding a candidate project without actually driving to the site. The Optimain DS Google Interface also provides single-click launch of Google Maps in a web browser from any record in Optimain that has a valid street address.
- Developed and delivered the new Optimain GIS Placement Tool, based on ESRI's ArcEngine Runtime Library. This tool enables data entry staff to efficiently place new leak and pipe inspection records onto the correct gas facility, through a simple, intuitive, point-and-click interface. The tool automatically generates candidate street addresses for the object to be placed, geocodes the addresses to generate candidate locations, and then searches the GIS for nearby facilities that match the attributes of the leak repair or pipe inspection. Each candidate facility is given a relative score indicating the confidence that it is the correct facility for the record that is being placed. Users can then place the record with a single click on the best matching facility, either in a tree view on the GIS Placement Tool or directly on the GIS map.

Through the judicious use of desktop mapping technology, existing data sources, available staff time, and the Optimain ArcGIS Interface, PECO has developed and deployed a system providing many of the benefits of an enterprise GIS at a fraction of the costs. Some of the benefits they are already achieving include:

- Improved grouping of historical leak repair and pipe inspection records onto the affected pipe, providing more accurate and complete system-wide risk assessment to aid in replacement planning and other risk mitigation activities
- Enhanced system improvement project planning through visualization of clusters of high risk pipes in the same area, achieving economies of scale for replacement or rehabilitation projects.
- Reduction in on-site visits and improved budgetary estimates during early planning and scoping by providing a geospatial view of a candidate project with the surrounding facilities and a single click to display in Google Earth.
- Continued investment in reusable GIS data and technology, positioning the gas department to migrate onto a corporate GIS platform.

PECO continues to invest in their GIS and Optimain DS systems and plans additional enhancements in 2010.