

Taking Transmission Technology to New Heights

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National Grid is taking the initiative to better understand and manage its transmission assets in the Northeast with a new technology called Aerial Laser Survey. Network Mapping, Ltd., a subsidiary of National Grid Transco, utilizes this proprietary technology that combines high-resolution aerial photography, lasers, global positioning satellites and customized software to develop extremely detailed and precise diagrams of transmission systems and rights-of-way.

Using its infrared laser and digital camera mounted on National Grid's helicopter, Network Mapping is surveying approximately 3,000 miles of National Grid's New York transmission system over the next several years. The helicopter flies 60 – 70 miles per hour at 850 – 1,000 feet overhead, collecting data that is combined with global positioning information.

The result is three-dimensional models of transmission lines, corridors and nearby objects – accurate within inches – which provide a number of benefits including:

- Improved asset management because the technology provides exact structure locations, size and configurations;
- Faster and better engineering and design for upgrades and new facilities through the availability of accurate digital transmission line models and right-of-way photography. Additionally, photographs and other information on specific features, such as houses, schools or commercial buildings, will be readily available; and
- Enhanced vegetation management because the digital models allow identification of areas along rights-of-way where vegetation encroachment poses a potential risk to transmission lines. This enables National Grid to better prioritize right-of-way maintenance activities.

Approximately 800 miles of National Grid's New York transmission corridors were flown in the fall. It is estimated that the remainder of the project, including processing the collected data, will take five years to complete. Network Mapping already completed a similar project in New England, where 1,500 miles of transmission corridors were surveyed.

“Network Mapping is an important tool to more effectively operate and maintain our transmission facilities through the use of new technology,” said Marc Mahoney, vice president of Transmission Network Asset Management. “Our investment in this technology should yield benefits for our customers and communities, and is an example of National Grid's clear focus on stewardship of transmission networks.”

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