Managing NERC Compliance Requirements Using LiDAR Technologies

THE CHALLENGE

In response to field observations of aging defects or imperfections in transmission infrastructure, the National Electric Reliability Corporation (NERC) issued an alert to utility companies for complying with FAC-008 criteria. NERC prescribes that transmission owners determine whether their methods of modeling load ratings for transmission lines are an accurate reflection of actual conditions in the field as opposed to the engineering specifications used in designing lines. When combined with vegetation growth profiles and conditions, this presents a multi-variable scenario requiring a comprehensive approach.

WHAT NEEDS TO BE DONE?

Recent guidance in the electrical transmission industry recommends the use of Light Detection and Ranging (LiDAR) technologies to determine facility ratings based upon actual field conditions. But what are the first steps; how should you specify your requirements; and what company can provide this highly technical service in what period of time and to what levels of accuracy and completeness? What are the deliverables of this technology; what is it going to cost; how do I know that I will receive what I need and what I'm paying for?

These are all important questions that demand answers before undertaking the procurement of a LiDAR service contract for transmission line asset management.

PROGRAM MANAGEMENT IMPERATIVE

Spending money is the easy part. We've seen that power transmission companies are readily spending huge sums in generating data for NERC compliance. While most of the work is necessary, eMap sees that many power companies need a mix of program management services; and assurances that requirements are well defined, that budgets for data and analysis are appropriate and well-managed and that the customer is not overspending.

eMap program management services can be used as much or as little as needed. The professionals at eMap can be called upon to:

- Manage LiDAR technologies and provide quality consultative support.
- Provide understanding of what LiDAR can and can't do.
- Determine requirements for undertaking transmission corridor mapping:
  - Ensure appropriate survey systems, equipment, processes and skill sets are applied to achieve required deliverables.
  - All LiDAR is not created equally and the skills and equipment required for transmission engineering models and vegetation management are not the same as most wide-area LiDAR surveys.
- Develop program costs, budgets and performance timetables.

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- Write project specifications and provide input to LiDAR consultant selection.
- Provide source selection, project and contract management for data and model acquisition.
- Provide independent QA/QC of LiDAR-based deliverables to assure that a transmission company is getting what it is paying for and at the level of service required to meet your needs.
- Assure that “best value” is achieved for every dollar spent.

WHY USE LiDAR?

That’s simple. LiDAR data collection technologies when mounted to helicopter platforms provides the fastest, most accurate and most cost effective means for capturing data in transmission line positioning – both to the earth’s surface and to surrounding and potentially impinging vegetation. With LiDAR, you get a complete answer… when properly specified, managed and provided by a competent provider. Furthermore, LiDAR can be redeployed effectively so that condition change management over time is accomplished in the most accurate and cost effective way possible.

WHY ENGAGE eMAP INTERNATIONAL?

eMap International is the leading professional geospatial consultancy, providing best value guidance thru the maze of questions and potential for errors and waste. Since the inception of airborne LiDAR in the mid-1990s, eMap has been at the forefront of LiDAR applied technology and is recognized as an expert in this field.

- eMap’s practitioners have supported the electric power industry for over thirty (30) years.
- eMap has worked in the role as the licensed geospatial professional in direct charge of major electrical utility mapping assignments both nationally and internationally.
- eMap is completely independent, an honest broker. We purposefully do not own LiDAR equipment but work with and procure services from leading providers. We obtain the best results while not being beholden to any vendor.

eMAP DELIVERS

With eMap at your side, you get far more than a company wanting to sell you some data. You get a professional advocate, a team of experts who make sure that you are spending wisely and that you are receiving the high-quality results you need. eMap has years of experience as licensed professional surveyors, mapping scientists and spatial data practitioners. We also specialize in data acquisition, contract support, data quality metrics and program support.

To learn more about how eMap International can be of service to your electrical transmission company, eMap’s level of experience and qualifications please go to www.emap-int.com or call David Nale at 352-258-1631.