

EEI Imaging - Case Study #02

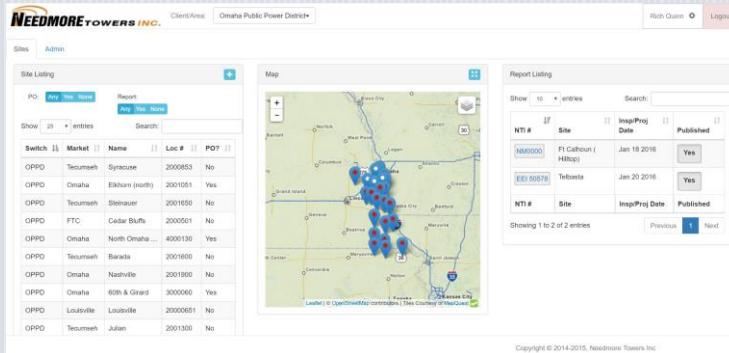
5/1/2016

Omaha Public Power District

OPPD needed to find a better management and inspection program for their communication towers, EEI Imaging and Needmore Towers provided that program.

OPPD's communications and IT department manages approximately 30 tower sites. This aging infrastructure needed a better program for

Ehresmann Engineering gave a recommendation and EEI engineers were headed to Omaha for a site demonstration and a



The screenshot shows the Needmore Towers web application interface. It includes a 'Site Listing' table with columns for ID, Market, Name, Loc #, and POP. A central map displays the locations of the tower sites. To the right, a 'Report Listing' table shows details for specific sites, including NTI #, Site, Insp/Proj Date, and Published status.

ID	Market	Name	Loc #	POP
OPPD	Tecumseh	Syracuse	2000553	No
OPPD	Omaha	Elkhorn (north)	2001051	Yes
OPPD	Tecumseh	Steinauer	2001650	No
OPPD	FTC	Cedar Bluffs	2000501	No
OPPD	Omaha	North Omaha...	4000130	Yes
OPPD	Tecumseh	Barata	2001605	No
OPPD	Omaha	Nashville	2001900	No
OPPD	Omaha	60th & Grand	3000090	Yes
OPPD	Louisville	Louisville	2000501	No
OPPD	Tecumseh	Julian	2001300	No

NTI #	Site	Insp/Proj Date	Published
NEED000	F1 Carlson (Hiltop)	Jan 19 2016	Yes
EEI 50076	Telvista	Jan 20 2016	Yes

Figure 1 - Needmore Reports

keeping track of TIA Maintenance and Condition inspections and as-build conditions. Our parent company, Ehresmann Engineering was called upon to perform a safety evaluation and minor repairs to one of their towers.

company presentation.

With the partnership of the OPPD team, a management and inspection plan was developed for the 30 tower system. A custom inspection outline was created to perform a site



Executive Summary

Client Challenge:

Manage and care for an aging communication tower system:

- Organized management system for the tower sites
- Provide compliance with TIA 222-G
- As-built and map these older sites

EEI Imaging Solution:

- Provide Laser scanning on each site to record and map the towers sites
- Use UAS to capture point cloud data and images for hard to access tower exposures

Needmore Reports:

- Provided the web based site management tool
- Provided on-line cloud based access to reports, video and pictures

visit, a site safety overview, a TIA-222-G maintenance and condition inspection, and an updated antenna feedline summary for each site.

EI Imaging's Scanning and UAV tools were incorporated into the inspections to provide increased accuracy for data

collected and complete site as-built documentation.

Abbreviated Tower climbs were done to complete inspection items not attainable with the scanner or UAV. EI Imaging is providing detailed deliverables such as TIA twist and plumb analysis, TIA Guy wire tension analysis,

Antenna and feedline summaries and well as TruView Global online access to each sites point cloud and HDR imagery.

Every deliverable will be hosted on NeedmoreReports, our online secure portal designed for site reporting and tower data management.

Impact on Client's Business:

OPPD will be able to achieve greater safety compliance and documentation for their entire tower system. With the incorporation of Needmore Reports, they will be able to track and monitor tower inspection records and status throughout the management chain. From the scan created TruView Global online viewport, anybody with Needmore reports access will have a virtual site visit at the click of a button.

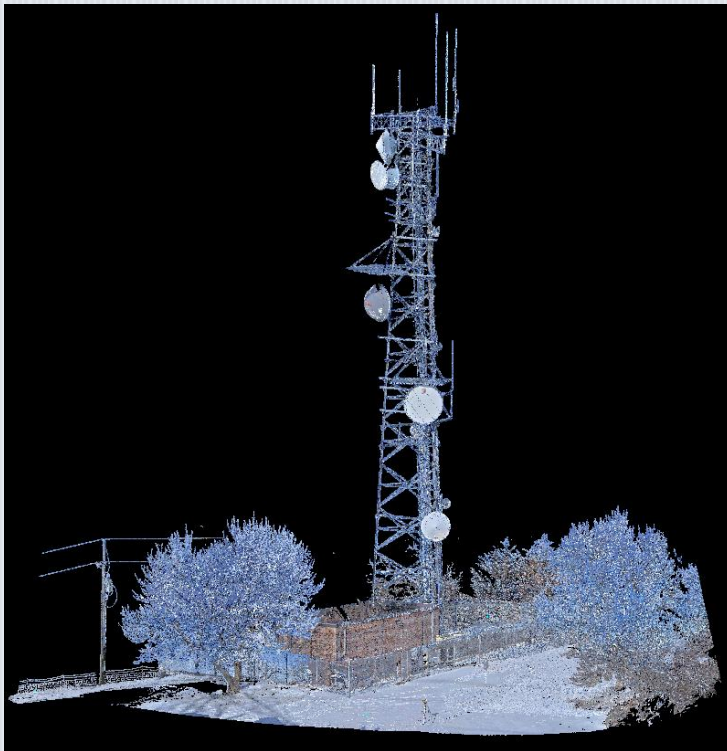


Figure 2 - 3D Point Cloud

EI Imaging provides reality capture services with the use of UAV and LIDAR Scanning equipment

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