



Tower Foundation Condition Assessment Service

Maintaining the integrity of a steel lattice overhead line

Maintaining the integrity of a steel lattice overhead line is vital to ensure reliability of the electricity transmission network, and a key component of the overhead line network is the tower foundation.

While considerable time and effort is used to inspect the above ground steelwork, the costly and time-consuming excavation of foundations has meant that this is rarely done.

Therefore, the ability to test the integrity of tower foundations by non-intrusive testing is a valuable tool in determining condition.

Benefits

- Non-intrusive cost-effective test to determine foundation condition
- Utilises two measurement techniques to increase value of results
- Quantitative measurement to assist in refurbishment planning
- Identifies tower foundations where excavation work would be advised

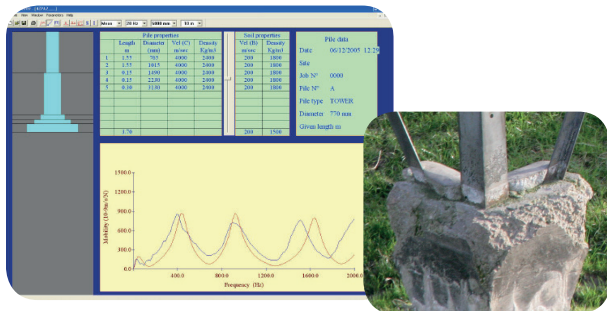
Polarisation resistance

- Proven method for obtaining corrosion rates
- Assesses electrochemical mechanisms associated with corrosion
- Testing method involves measuring potential of each tower leg with reference to a copper sulphate half-cell

Transient dynamic response (TDR)

- Method involves application of vibration signals through the tower foundation
- Proven method for confirming the integrity of concrete foundations
- Determines the depth of concrete foundations

Results



EA Technology offers a comprehensive range of on-site testing and analysis services utilising the measurement of Polarisation Resistance and Transient Dynamic Response (TDR) to assess the condition of tower foundations.

Summary

- Cost-effective test to determine tower foundation condition
- Combination of two test methodologies enhances the value of results
- Results presented in a structured MS-Excel spreadsheet
- Results colour-coded to make it easier to quickly identify towers posing a high risk of failure
- Photographic record of tower muffs hyperlinked to result spreadsheet

Overhead Surveys

The value of tower foundation surveys can be greatly enhanced by our helicopter surveys of overhead assets, which present condition results in the same format.



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