

PROJECT PROFILE

Category	Engineering & Inspection
Client	CitiPower & Powercor
Structure Type	Steel Power Poles
Location	Geelong & South Yarra, VIC, Australia
Date	2020



CitiPower & Powercor in Victoria engaged Revo Group to complete an assessment of the remaining strength and serviceability of several uniquely fabricated 66kV steel termination poles. This involved quantifying the remaining strength in the groundline region, visual inspection using photogrammetry above ground, determining compliance with old and current standards, determining recommended life expectancy in the current condition and recommended remediation options to extend the life to the satisfaction of Powercor’s forward plans. This allowed CitiPower & Powercor to make informed, confident asset management decisions.



The poles under assessment provide critical oil filled cable Underground to Overhead (UGOH) connections for parts of Geelong and Melbourne so their detailed assessment, and the timing of the project to align with seasonal demand was critical.



High-quality data capture was required for the client to gain a full picture of their assets. Our team combined lidar, photogrammetry, ultrasonic corrosion measurements and visual data capture to get the required data to meet the project goals.

Following the data capture, we used Neara 3D modelling and bespoke 3D photogrammetry software to check the design loads and complete a detailed pole top condition assessment from all angles. The 3D models allowed our engineers to determine the true serviceability of the poles, and to make detailed engineering designs and recommendations for remediation options and future inspection recommendations.

Revo Group’s understanding of corrosion, overhead line design, lidar and asset inspection allowed us to combine our Structural and Electrical Engineers, drone services and steel pole inspection services to produce a digital twin of the UGOH poles and nearby infrastructure.

This was all completed with minimal site visits due to the Covid-19 lockdowns that were in effect in Australia at the time.

The completion of this project allowed for the risk based decision to wait for the planned replacement of two heavily corroded poles, and the repair and painting of two more poles to cost effectively increase their life and reduce their risk of failure. This saved the client many millions due to deferring replacement of the poles that would incur significant cost due to the use of oil filled cables.

