

CASE STUDY

ARTHURS SEAT COVERED CONDUCTOR UPGRADE

PROJECT TYPE

Design Engineering; Distribution
Overhead Line Covered Conductor
Upgrade

SERVICES

Overhead Line Design, Electrical
Design, Structure Design

ASSET OWNER

United Energy (Australia)

WORKS SUBCONTRACTED

All works completed in house



CHALLENGE

Replacing ageing steel conductors across a heavily vegetated, high fire-risk coastal area with spans well beyond typical distribution network lengths.

United Energy's maintenance provider Zinfra needed to upgrade overhead steel conductors across the Arthur's Seat area on the Mornington Peninsula, south-east of Melbourne, a densely vegetated environment with acute wildfire risk. The terrain demanded a solution capable of spanning long distances, including an approximately 330m span and a 270m span, both significantly above distribution network norms and among the longest in the United Energy network. The solution also needed to be practical to install and retrofittable to the existing bare line infrastructure.

SOLUTION

Covered Conductor was specified and installed; only the second installation of its type anywhere in the world at the time — delivering a proven wildfire mitigation solution suited to the Victorian operating environment.

Groundline's Covered Conductor was selected for its ability to span long distances, its suitability for retrofitting to bare lines, and its design resilience for harsh Australian conditions. Installation was carried out by Zinfra's line workers, who noted the simplicity of handling, comparable to working with bare conductors, supported by high-quality hardware and straightforward installation processes. The project demonstrated that large-scale Covered Conductor deployment could be executed efficiently without specialist techniques or significant retraining.

IMPACT

Wildfire and outage risk eliminated across a high-risk network corridor, at a fraction of the cost of undergrounding.

Covered Conductor eliminates the risk of outages and wildfire ignition caused by trees, animals, or other objects contacting live lines. Compared to undergrounding, it costs approximately 85% less and delivers up to four times greater risk-spend effectiveness, while installing faster and at scale. The Arthur's Seat project established an early proof point for Covered Conductor in the Australian market, demonstrating its viability for high-risk, long-span distribution environments and setting a benchmark for subsequent wildfire mitigation programmes across the region.

