



New discontinuous electrification solution for Core Valley Lines

OVERVIEW

Amey's solution for the smart electrification of the Core Valley Lines (CVL) revolutionises traditional approaches and holds valuable lessons for future projects.

Electrification is complex, involving re-signalling of the network along with construction of a new control centre and new telecoms systems. For CVL, a new overhead contact system (OCS) was needed to power a new generation of trains.

Amey Consulting's solution is 'discontinuous electrification'. This unique approach involves leaving portions of track with obstructions such as low bridges current-free.

This is achieved by introducing permanently earthed sections of track where overhead cables are not live, with trains temporarily switching to other forms of power.

The in-house development of a bespoke traction power modelling tool to perform battery power calculations and validate designs was critical to the project, proving the viability of this new approach as well as identifying efficiencies and cost savings.

BENEFIT

Benefits

Benefits of Amey's new approach include:

- Reduced need for civil engineering interventions, containing costs
- Cutting carbon emissions during the construction phase
- No consents needed for OCS equipment to be attached to listed structures

FUTURE OPPORTUNITIES

This innovative approach has significant potential for future electrification schemes, vital for decarbonising the rail network.