

Stewart Kent

Traction Power and SCADA Lead



With decades of experience in traction power engineering, I recognize the challenges ahead for Sound Transit in strengthening inspection rigor and standardizing maintenance across a growing system. I'm confident I can support this critical effort and help maintain safe, dependable rail operations.



Firm
Network Rail

Skills
Traction Power Systems
Overhead Catenary Systems

SCADA

Risk Management

Maintenance Planning

Stakeholder Management

Education
HNC Mechanical Engineering
ONC Mechanical Engineering

Years of Experience
34

Summary

Senior rail electrification professional with over 30 years' experience delivering, governing, and assuring complex traction power systems across the UK and internationally. Stewart is a recognized national expert in overhead contact systems (OCS), substations, rail return current and grounding systems, and the integration of these assets into high-speed and conventional rail environments.

His leadership includes the development, approval, and deployment of V360 – Europe's highest-speed OCS system. He has shaped national technical strategy and standards for major programs including HS2, Northern Powerhouse Rail, Great Western Electrification, and the Olympic Delivery Authority. His expertise spans traction power protection, SCADA, train control interfaces, fault trending and alarm management ensuring safe, resilient, and compliant operation of critical power assets. A trusted advisor at board and executive level, he combines technical authority with pragmatic leadership to apply consistent maintenance practices across major networks.

Relevant Experience Summary

Network Rail, Implementation Engineer for Single Approach to Isolations, (2025-Present)

- ▶ Led the regional implementation of SAI25 across Northeast England developing risk controls for 3,000 signals, creating a machine-learning Power App to support operations, and briefing over 160 electrification staff to ensure safe, consistent isolation practices.

Network Rail, Principal Electrification & Plant Engineer (2021-2025)

- ▶ Lead electrification authority for Northern Powerhouse Rail, providing technical leadership across design, installation, maintenance strategy, and system assurance.

High Speed Two (HS2) Ltd, Subject Matter Expert – Overhead Catenary Systems, (2016-2021)

- ▶ National SME for OCS, leading the development and approval of HS2's overhead line system strategy.

Relevant Rail Experience

Implementation Engineer for Single Approach to Isolations

2025-Present Network Rail

- ▶ Lead the implementation of SAI25 in the Northeast of England including YORK ROC and York ECR adoption;
- ▶ Create Task Risk Control Sheets and Appropriate Electrical Risk Assessments for Circa 3000 Signals;
- ▶ Development of Machine Learning Power App to support the ongoing operational railway; and
- ▶ Led the Briefing of circa 160 Rail Electrification Staff on a rotational basis to ensure safe by approach isolations.

Principal Electrification & Plant Engineer

2021-2025 Network Rail

Lead electrification authority for Northern Powerhouse Rail, providing technical leadership across design, installation, maintenance strategy, and system assurance. Key responsibilities and achievements:

- ▶ Define electrification system requirements, specifications, and delivery strategies across multidisciplinary teams;
- ▶ Lead technical assurance for OHL systems, ensuring compliance with Network Rail standards and industry best practice;
- ▶ Provide technical direction to designers, contractors, and suppliers across all project phases;
- ▶ Deliver feasibility studies, optioneering and technical risk assessments; and
- ▶ Function as senior technical interface with stakeholders, ensuring alignment between programme objectives, safety, and whole-life cost.

Subject Matter Expert – Overhead Catenary Systems

2016-2021 High Speed Two (HS2) Ltd

National SME for OCS, leading the development and approval of HS2's overhead line system strategy. Key responsibilities and achievements:

- ▶ Spearheaded development and mandate of V360 and V360 Light OCS systems, embedding a 'safe-by-design' philosophy;
- ▶ Led regulatory and stakeholder engagement to achieve V360 approval and TSI compliance;
- ▶ Established OCS requirements to support procurement of a safe, cost-effective, and environmentally responsible solution;
- ▶ Managed all OCS engineering activities to ensure programme, safety and environmental objectives where achieved;
- ▶ Directed quantitative and qualitative risk management including HAZOP;
- ▶ Oversaw specialist designers and consultants as client representative; and
- ▶ Ensured digital federated model assurance and integration with civils interfaces.

Head of Systems Integration

2014-2016 High Speed Two (HS2) Ltd

- ▶ Developed and contracted the HS2 testing and commissioning strategy;
- ▶ Led systems integration, inspection, and commissioning approval processes;
- ▶ Directed validation of engineering evidence to support safe system handover; and
- ▶ Provided technical governance ensuring compliance with HS2 Technical Directorate policies.

National Function Lead – Contact Systems

2014-2014 Network Rail

- ▶ National technical lead for Contact Systems within Energy Services;
- ▶ Led and developed national OHL technical capability and resource planning;
- ▶ Expanded team capability from a single OHL engineer to a multi-disciplinary team;
- ▶ Championed DC rail system development, including successful trials of DC lug technology to reduce impact of high impedance failures;
- ▶ Chaired workshops with IP Directors and DfT to define operational requirements for Great Western Electrification; and
- ▶ Influenced adoption of UK Master Series** OHL**, delivering significant cost reductions.

Senior Programme Manager

2013-2013 Network Rail

- ▶ Progressed Series 1 OHL from GRIP 2 through National System Review Panel approval;
- ▶ Led national design reviews, modelling, physical testing, and TSI compliance;
- ▶ Secured Approvals in Principle for OHL through tunnels; and
- ▶ Achieved authority to proceed for Great Western Electrification.

Senior Project Manager

2011-2013 Network Rail

- ▶ Delivered OHL foundations and structures to integrate future electrification;
- ▶ Led procurement, Design, and construction of 900 OHL structures;
- ▶ Functioned as Designated Project Engineer (DPE); and
- ▶ Successfully mitigated programme and cost risk through early OHL integration.

Employment Record

- ▶ 2025-Present Network Rail, Implementation Engineer for Single Approach to Isolations;
- ▶ 2021-2025 Network Rail, Principal Electrification & Plant Engineer;
- ▶ 2016-2021 High Speed Two (HS2) Ltd, Subject Matter Expert – Overhead Catenary Systems;
- ▶ 2014-2016 High Speed Two (HS2) Ltd, Head of Systems Integration;
- ▶ 2014-2014 Network Rail, National Function Lead – Contact Systems;
- ▶ 2013 Network Rail, Senior Programme Manager;
- ▶ 2011-2013 Network Rail, Senior Project Manager;
- ▶ 2008-2011 Olympic Delivery Authority Senior Technical Project Manager;
- ▶ 2008, Jarvis Rail Contractors Responsible Engineer (CRE);
- ▶ 2007, Colas Rail Programme Review Engineer;
- ▶ 2003–2007 Network Rail Regional NWR Contact Systems Engineer;
- ▶ 2002–2003 Halcrow, Australia, Senior Design Consultant; and
- ▶ 1992–2002 Balfour Beatty / British Rail Linesperson to Principal Technical Officer.