

CV - Andrew Harrison



Profile

Andrew is a practical and pragmatic asset management consultant and professional electrical engineer. An effective project manager, he has successfully delivered some of the largest and most complex projects EA Technology have ever undertaken.

His ability to visualise difficult theoretical concepts and complex systems whilst maintaining a keen eye for detail contributes greatly to his success. Andrew has a great sense of humour, and is highly regarded as one of the most engaging and charismatic technical trainers within the EA Technology PowerSkills Centre.

Synopsis

- Andrew has over 20 years' experience of working in the UK electricity industry, and is a Principal Consultant for EA Technology's Insights business.
- He has extensive experience as a Senior Authorised Person, and has a background in HV electrical fault investigation, network performance improvement within the UK DNO sector.
- Andrew is regarded as a CBRM specialist and has a proven history of integrated project delivery globally in both the electrical and gas sectors.
- He is a Lloyds Register trained ISO55000 Lead Auditor, and a PowerSkills Centre approved technical trainer.

Education & Qualifications

- CEng MIET - Chartered member of the Institute of Engineering & Technology
- M.Eng (Electrical & Electronic Engineering), Heriot Watt University, Edinburgh.
- MIAM - Member of The Institute of Asset Management
- IAM Certificate in Asset Management
- APM Project Fundamental Qualification (SCQF Level 6)

Skills and Responsibilities

- Electrical distribution network operation, maintenance, fault identification and recovery, repair, testing, supply restoration, testing, commissioning & automation.
- Responsibility for the project management and delivery of Condition Based Risk Management (CBRM), and Common Network Asset Investment Methodology implementations using multi-disciplinary teams.
- Project Management of the full range of EA Technology Asset Management Projects including ISO55000 implementations and infrastructure audit.
- Specialist in Electrical Safety Rule review, revision, and training.
- Wildlife Protection for electrical systems.
- Design, delivery and assessment of technical training.

Career Summary

- 2011 - present EA Technology Ltd
- 2001 - 2011 SP Energy Networks
- 2001 - 2006 SP PowerSystems
- 2000 - 2001 Norweb Distribution
- 1996 - 2001 Heriot Watt University

Experience

Electrical Improvement Project

Client: AGCCE

Multi-stage project to address Action Legal improvements at the Thornton production facility following an Health & Safety Executive (HSE) visit. Deliverables include ESR's, Electrical competency framework, maintenance standards, training and consultancy support.

Storm Expenditure & Response Review

Client: Nova Scotia Utility And Review Board (NSUARB)

This review project involved undertaking a detailed regulatory driven emergency response preparedness evaluation and response delivery assessment of Nova Scotia Power LLC on behalf of the NSUARB. The review looked to determine the necessity, justification and prudence of a Distribution Routine spend exceeding \$114mCAD, and provided key evidence to support the regulatory settlement process.

Electrical Improvement Project

Client: Eurotunnel

Review and updating of the Asset Management, maintenance and Electrical Safety Rules used across the Eurotunnel group. This project included aspects including infrastructure, traction supply and rolling stock in both the UK and France.

Wildlife Protection

Client: Energy Networks Association

This project involved the identification of all UK wildlife interactions involving HV overhead lines and their influences. This specialised project considered both the technical aspects of OHL design alongside the biological and ecological. The project outputs include the determination of a range of effective wildlife protection mitigations and a corresponding application guide.

Safety Rules Review

Client: AkzoNobel Protective Coatings

To conduct a review and update of the production facility's Electrical Safety Rules against MDSR's and industry best practice.

Asset Management Enhancement

Client: National Grid Saudi Arabia

This challenging undertaking included the design and documentation of a suite of enhanced asset management policy and procedures for NGSA's main transmission and distribution asset classes.

Asset Condition Assessment Project

Client: Toronto Hydro (THESL)

Developing and supporting a newly established asset management team to develop asset health models in order to support a regulatory submission. This included the definition of asset inspection criteria, data collection protocols, the development and construction of digital twins, model calibration and interpretation over the course of multiple price control periods in Ontario Canada.

Renewables Infrastructure Audit

Client: Lightsource BP

This engagement involved conducting a series of infrastructure audits at a number solar generation sites across the UK.

Electrical Safety Rules Benchmarking & Review

Client: Kirby Group

This project involved reviewing both the LV and HV electrical safety rules employed in both the UK (including Ireland), and mainland Europe.

Condition Based Risk Management

Client: SSEPD & SHETL

Development and delivery of a complete suite of CBRM 2.0 models for all SSEPD assets reportable under RIIO-ED1. This implementation has significantly enhanced SSEPD's asset management capability, and decision making ability. This project included the development and delivery of investment models for 'core' transmission assets up to 400kV.

PAS55 Audit & Gap Analysis

Client: TriState, Colorado, USA

Perform an assessment of Tri-State's current asset management approach/processes. Based upon organisational goals/ objectives, develop a road map with implementation steps and benefits case.

Condition Based Risk Management

Client: Rio Tinto Alcan.

Rio Tinto Alcan invited EA Technology to apply Condition Based Risk Management (CBRM) to a selection of their electrical infrastructure assets which support their Canadian Aluminium smelting operations. The model developed during this project will help shape Rio Tinto Alcan's future investment programme.

Asset Health and Risk Study.

Client: Ergon (Australia)

The objective of this assignment was to assess the condition of all electricity distribution network assets and the risks presented to the business. The work involved the development of a range of investment options to reduce risk and improve network performance, maximising investment benefits within imposed capital budget constraints.

PAS55 Asset Management Training.

Client: Tenaga Nasional Berhad (TNB).

ILSAS - TNB, Malaysia asked EA Technology to provide a bespoke training course on Asset Management including the principles of BSI PAS 55.

This project was so successful that subsequently EA Technology has worked in partnership with TNB to obtain PAS55 certification for the Melaka region electricity distribution business. Melaka is regarded as the Centre of Excellence within this region.

An Introduction to asset management

Client: Oman Electricity Holding Company

This project involved the development of a bespoke training delivery that was designed to provide a general introduction to asset management into this region. The course included an overview of asset management from first principles, asset management standards, and an outline of what makes an asset management systems successful.

ScottishPower

Project Manager – Distribution Network Investment (Switchgear Replacement)

Responsible for the delivery of capital investment programme (predominantly 11kV Switchgear), and project managing the delivery of infrastructure for other project work streams.

Design Engineer – Network Improvement / Network Controllable Points Project

This c£58m project involved rogue circuit performance analysis, fault trending and root cause analysis. This was followed by the creation of bespoke circuit performance enhancing designs, their implementation and financial monitoring or the improved network performance.

Part of a small team to undertake competitor modelling and analysis; support operational efficiency and Regulatory outperformance programmes; develop cross-group (UK and Spain)

Project Engineer – CR2 (Control, Restoration & Repair)

This role was centred around emergency response to network faults, and the restoration of customer supplies, before undertaking necessary repairs. Vast experience of cable, overhead line and plant faults at 11kV and 33kV.

Project Engineer – Operations Dept. West of Scotland Region

This operational role involved the planning, design and execution of a wide variety of maintenance, new connections, refurbishment and construction projects using multi-disciplinary teams.

Papers Published

'Combining Load and condition based risk models for integrated investment planning', Co-Author, June 2013 for CIREN.

References

Available on request.