

# Westinghouse Springfields Fuels reduced business risk, of potential failure of electrical equipment, by tackling their harmonics issues

A Westinghouse company, Springfields Fuels Ltd undertakes a range of activities associated with fuel manufacturing for nuclear plants, including oxide fuels and Uranium Hexafluoride.

## Challenge

Failures of rectifier converter transformers were causing concerns and having an adverse impact on the network reliability at the Westinghouse Springfield site.

EA Technology was appointed to:

- Undertake a power quality examination of a suspect transformer and to investigate the LV harmonic currents to determine their magnitudes and associated effects.
- Report on conclusions and recommendations to enhance network reliability and avoid future damage to electrical assets.

## Solution

Power quality monitoring equipment was installed to capture and record current and voltage data over an agreed time-frame and range of load conditions.

A power quality analysis report was produced, drawing conclusions and offering recommendations relating to:

- Load current range and load current balance
- Phase and neutral currents and harmonics
- Maximum harmonic currents, voltage balance and waveform quality
- Interruptions and Flicker

## Benefits

- The proposed rectification measures addressed key rectifier configurations and load balancing concerns and mitigated risk of future damage to equipment and disruption to network operation.
- The report provided impartial verification that imposed loadings were not within design parameters and required urgent attention to protect and enhance network reliability

Safer, Stronger,  
Smarter Networks

*“EA Technology provided a comprehensive power quality analysis service that highlighted the presence of problematic harmonics and recommendations of remedial actions.”*

**Alan Wildman, Senior Authorised Person (Electrical)**



*“The conclusions from our report gave the client tools to enhance network reliability and avoid future damage to electrical assets.”*

**John Welsh, Senior Consultant,  
EA Technology**

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