

Case Study

Voltage Disturbance Resilience



V1 / UK / 08.10.25

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Overview

Date of Incident: **May 2025**

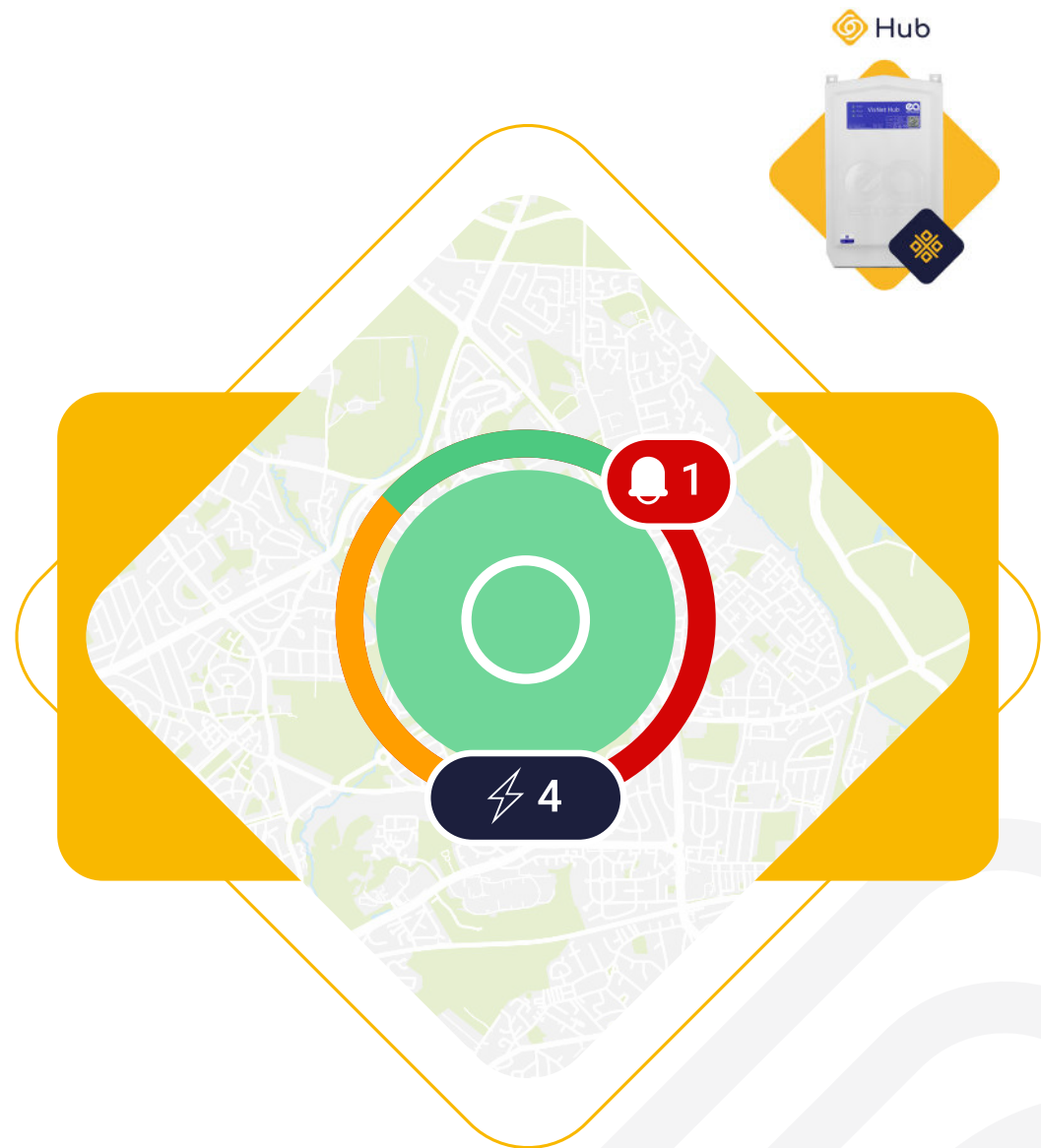
Location: **UK Pumping Station**

Monitored By: **The VisNet® Hub from EA Technology**

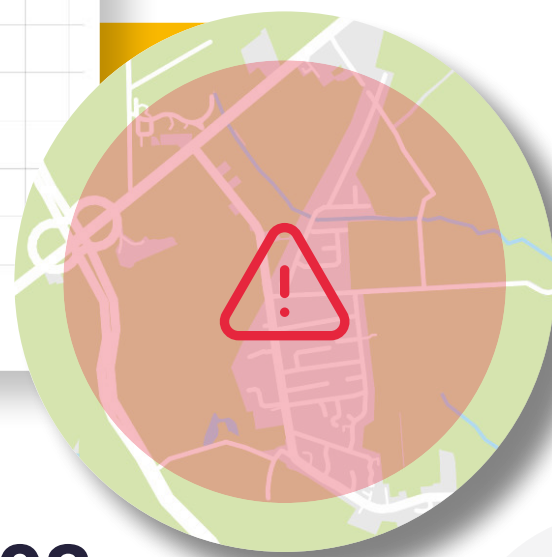
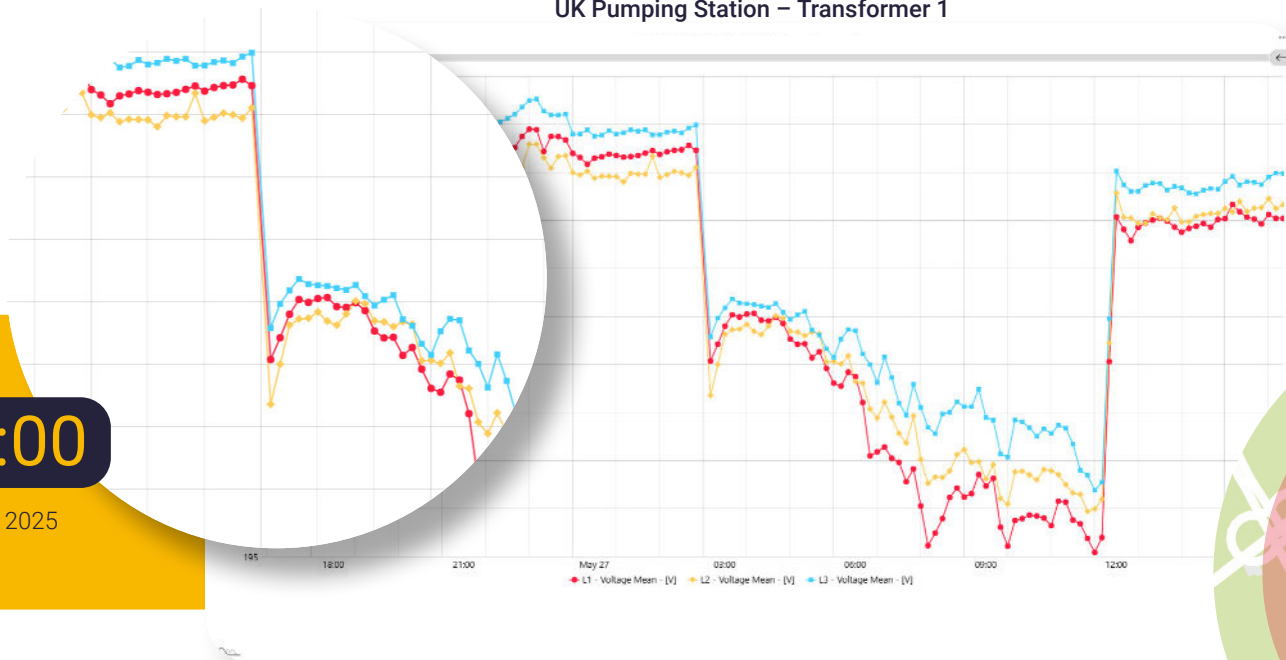
Data Source: **Monitored Electrical Supply Data**

Background

Routine electrical monitoring by the VisNet Hub at this pumping station highlighted that an interruption occurred on the DNO (Distribution Network Operator) supply feeding it. Analysis of the monitored electrical data reveals a supply outage lasting approximately 20 minutes, followed by a sustained period of voltage depression.



UK Pumping Station – Transformer 1



03:00

Date: May 2025

Key Findings

01

Initial Outage

A distinct gap in the monitored data indicates a total loss of supply around 03:00. The supply was restored within 20 minutes.

02

Voltage Drop

Post-restoration, the site experienced a noticeable voltage drop. This condition persisted for roughly seven hours, with normal voltage levels resuming around midday.

03

Root Cause

Communication with DNO contacts confirmed an HV (High Voltage) network fault in the area, leading to temporary reconfiguration of the local DNO network and associated voltage instability.

Operational Impact

Pump Performance

Thanks to recent upgrades at the site, newer smart electronic pumps continued to operate effectively throughout the voltage drop. These pumps demonstrated resilience by maintaining operational performance despite the reduced supply voltage.

Risk Avoidance

In contrast, older line-fed pump motors would likely have failed or operated inefficiently under these conditions. The newer systems helped avoid potential service interruptions and equipment stress.

Technical Classification

This incident is a good example of one sort of electricity network disturbance: voltages outside of the normal limits for a period of hours whilst the DNO is working to restore electricity supplies after a power cut.

Conclusion & Learnings

This event underscores the value of investment in smart electrical infrastructure. The VisNet Hub and the newer electronic pump systems at the site demonstrated clear operational resilience during a real-world voltage event. Had legacy systems been in place, the station could have faced significant operational disruption.



To book your demonstration or to get further information and advice please contact us on +44 (0) 151 347 2283 or email monitoringservices@eatechnology.com / www.visnet.tech