

EA Technology's AstuteHV™ service "could have saved over £300,000"



Background

- In November 2014, EA Technology, working in conjunction with a UK Distribution Network Operator (DNO) installed an UltraTEV Monitor™ with prototype software at one of their high risk substation sites. As a prototype on a long-term soak test there were no communications and the system was not monitored over the test period.
- The site was judged as high risk due to its location near a river's edge together with the type of switchgear operated at the location.
- On 28th July 2015 EA Technology received a phone call from the DNO informing us that the substation switchgear had 'blown' and they asked if we would be able to help investigate the reasons.

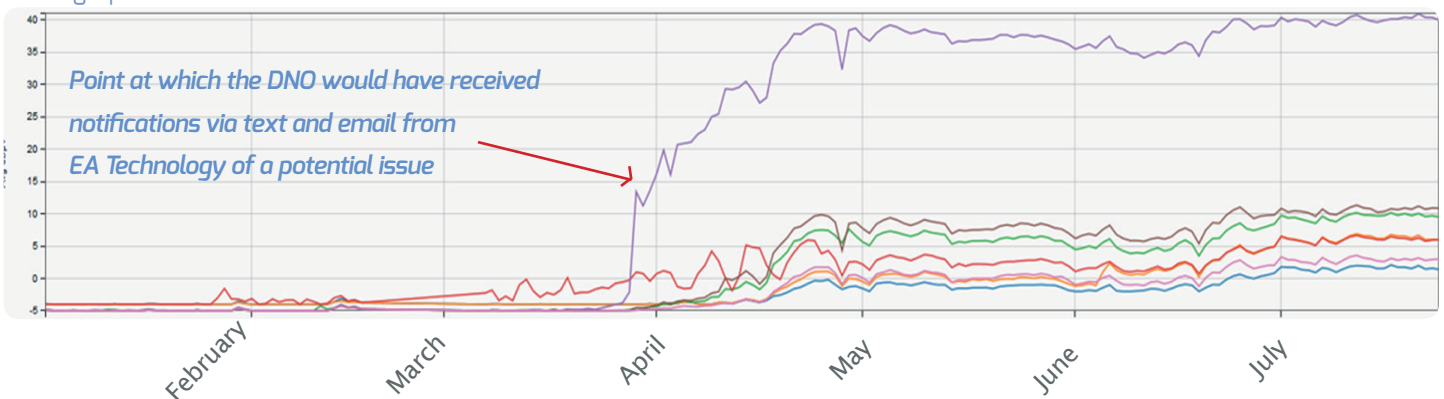


Failed circuit breaker truck

Findings

- EA Technology's failure investigations team reviewed the historic data and found that the substation had been at a normal reading from installation in November 2014 until March 2015.
- From March 2015 there was a marked increase in PD activity. Over a week long period, PD levels rose to a level which, had the alarm system been active, would have triggered the automatic alarm notification by text and email.
- This spike continued to be maintained until 28th July 2015 when the switchgear failed.
- The UltraTEV Monitor™ recorded slight changes in temperature and humidity over the period which were proven to be unrelated to the Partial Discharge levels increasing.

The graph below shows the results recorded at the DNO's site.



Results

- The switchgear failure resulted in a large part of a city being left without power for approximately 8 hours.
- As a direct result of the downtime, the DNO received Customer Minutes Lost (CML) and Customer Interruption (CI) fines totalling over £300,000
- The customer had to undertake the additional costs of replacing the failed assets

EA Technology's conclusion

- If a full AstuteHV™ service system been installed at the test partners site, the customer would have been made aware of the irregularity on the day that the PD levels rose. Potentially giving the DNO approximately 3 months to undertake remedial action.
- EA Technology's AstuteHV™ service would, in this case, have enabled the client to investigate any potential failures early, saving the DNO on £0000s in CML and CI fines.

What is AstuteHV™?

The AstuteHV™ service aspires to enable customers to move towards 99.999% availability of their assets.

EA Technology's AstuteHV™ is a non-intrusive, expertly assessed, remote condition assessment system underpinned by the world-leading technology of the UltraTEV Monitor™ and the new CableData Monitor™.

Learn more about the AstuteHV™ approach

- The EA Technology's AstuteHV™ service aims to protect your highest risk assets 24 hours a day, 7 days a week.
- We do this by surveying of a sample of your business assets and selecting the most high risk switchgear.
- Once we have identified the assets most at risk, we will use the survey results combined with our expert knowledge to supply, install and commission UltraTEV Monitor™ units to your most vulnerable sites.
- Once installation is complete we will use our proven communications portals to monitor your highest risk assets for you.
- EA Technology experts continually monitor your system and alert you to any developing issues.
- These early notifications will allow you to take early remedial action which will potentially prevent any future outage on the asset.

Safer, Stronger,
Smarter Networks

'Myself and Senior Managers now realise that the use of UltraTEV Monitor's™ in conjunction with the AstuteHV™ service at our highest risk sites will be far more cost effective in the future than to experience a failure of this magnitude again'

DNO Site Manager



Benefits of the AstuteHV™ method

- Early detection of PD will allow you to take the most cost effective, proactive action to prevent failures.
- Our Partial Discharge experts will be monitoring your system 24/7. Giving you peace of mind that should your system alarm you will be notified as quickly as possible.
- Avoid lost income through early identification and prevention of failures.
- Monthly and quarterly reporting enabling the customer to complete trend analysis as well as gain peace of mind that your assets are not at risk of catastrophic failure.