

## on-line partial discharge measurements



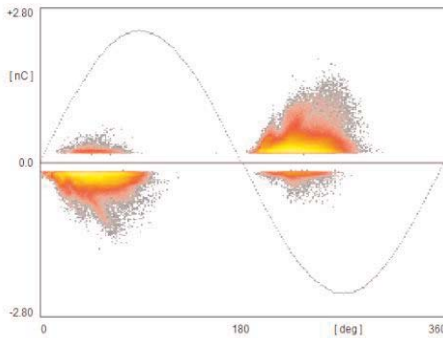
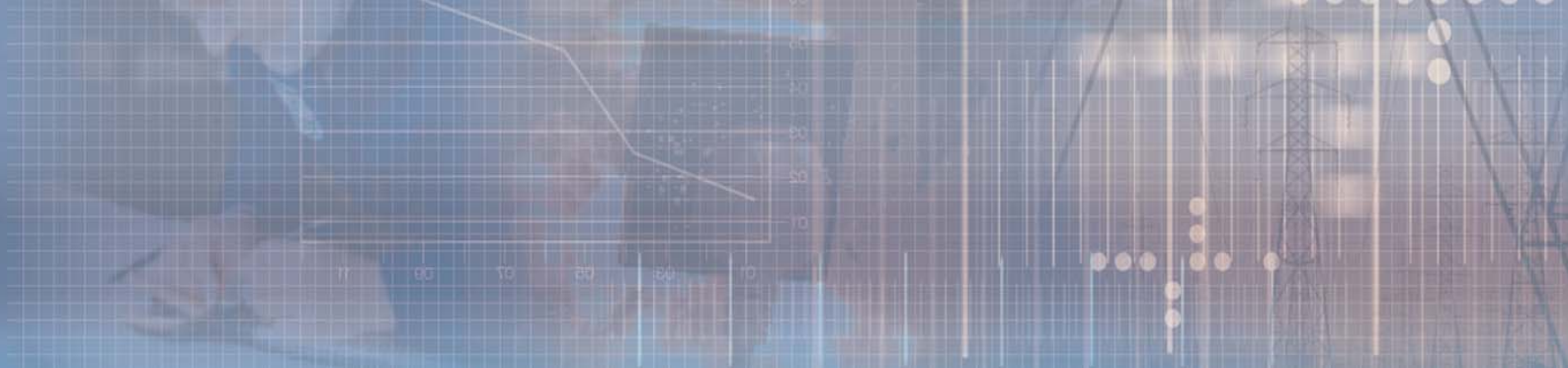
For non-disruptive condition monitoring of High Voltage (HV) assets.

The cost and disruption of failures occurring in HV electrical equipment can have a serious impact on a company's performance. To avoid such losses, asset managers need reliable information on the condition of newly installed and ageing HV electrical equipment.

Partial discharge (PD) measurement is an excellent method for determining the condition of HV equipment but traditional PD measurement techniques require circuits to be de-energised resulting in system downtime and are often not suitable for use in electrically noisy environments.



*ERA provides cost effective, reliable instrumentation and services to measure PD activity on cables, transformers, generators, switchgear and accessories without having to de-energise the HV equipment.*



ERA can detect PD activity on-line using high frequency current transformers, acoustic sensors, direct contact capacitive couplers and transient earth voltage probes. This wide range of sensing techniques gives ERA the capability to select the optimum sensor for any particular environment.

ERA can also map the location of discharges in cables on-line and, by using portable pulse boosters, can locate partial discharges in cables over 5km in length.

◀ *An example of measured electrical partial discharge activity.*

This is a very powerful technique where the PD pulses from a remote location are detected at the far end of the cable and a much larger pulse is sent back down the cable to the monitoring position. In this way discharges that would in time cause a cable failure can be detected and accurately located.

ERA's engineers have the capability to carry out spot measurements on HV equipment, survey a large number of items (at major substations for example) and set up PD monitoring equipment on key plant to monitor PD activity over an extended period.

## ERA's reports include

A full diagnosis of any PD activity and an assessment of the condition of the plant together with recommendations for any remedial actions. This enables our clients to avoid the costs associated with unplanned outages and to effectively manage the repair and replacement of critical HV assets including power transmission and distribution systems, generating equipment and HV industrial plant.

ERA's engineers will also carry out on-line PD measurements during soak test or load bank test commissioning of new HV equipment, to detect errors in installation or design and material faults that could lead to a reduced life expectancy on newly installed plant.

To receive a quote for an on-line PD assessment of your HV assets, please contact ERA's enquiries desk by telephone: [+44 \(0\) 1372 367007](tel:+44201372367007) or e-mail: [info@era.co.uk](mailto:info@era.co.uk).

## ERA Technology

ERA Technology works at the leading edge of many advanced technologies. The business was founded in 1920 and today provides specialist, high value-added, technology-based services including design and development, testing, assessment and expert advice.

ERA's services reduce technical and commercial risk, improve the operational performance of engineering infrastructure assets, and enhance the competitiveness of products and systems.

For further information please visit the ERA website: [www.era.co.uk](http://www.era.co.uk)

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