

# UltraTEV™ family prevents catastrophic failure during routine testing at Port of Felixstowe

## Client - Port of Felixstowe

The Port of Felixstowe is the busiest container shipping port in the UK dealing with 44% of Britain's containerised trade. The Port of Felixstowe have 10 UltraTEV Plus™ units which they use for substation entry and routine inspection.

## Background

- During routine testing Port of Felixstowe identified two instances of Partial Discharge (PD) using the UltraTEV handheld.
- Area 1 detection - During routine testing PD activity was identified on an 11kV RMU that had been in services since 2005.
- Area 2 detection - After a planned upgrade of an 11kV substation, PD testing was carried out and revealed activity on one of the RMU Fault Making Switches.

## Investigation

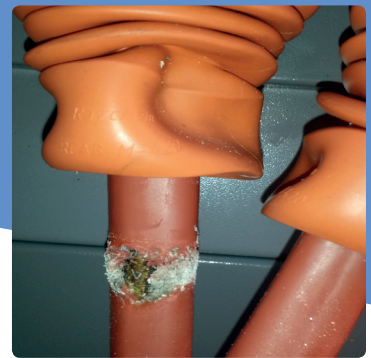
- Area 1 detection - Investigation revealed the one phase termination had considerable PD activity damage and required re-termination. There was also interaction between cores. The cause was poor connections and the cable core spacing being insufficient.
- Area 2 detection - Investigation revealed the air gap between two phases was insufficient causing interaction between them. This was identified using the UltraTEV's Ultrasonic mode with headphones.

## Impact on business

- Area 1 detection - If this had been left to the point of failure there would have been disruption to the ports core operation.
- Area 2 detection - If this had been left to the point of failure it would have resulted in a delay to the future development of this operational area.

Port of Felixstowe use the UltraTEV family of instruments as part of their safety and quality regime.

Port of Felixstowe have been involved in the development of the new UltraTEV Plus<sup>2</sup> and their valued feedback has been incorporated into the new instrument. EA Technology is grateful for their suggestions and would like to acknowledge their contribution.



*Evidence of PD at site brought to light by UltraTEV Survey*