

## **Catastrophic Failure of Tap Changer**

A fatal incident occurred when an engineer tried to manually operate a high voltage tap changer and the unit exploded tragically killing the engineer.

The direct cause of the incident was the failure of the mechanism in the tap changer leading to an electrical fault which caused the oil in the unit to ignite and explode.

Underlying and Contributory Causes included:

- A failure to carry out a modification to the tap changer which had been recommended over 10 years before.
- The failure to understand the significance of repeated tap changer alarms and malfunctions that had occurred leading up to the fatality.

### **Learning Points**

- A robust asset management system is needed to ensure that recommended modifications are recorded, scheduled and carried out. This is particularly important when a company changes owners. [See ENA Guidance: [Managing Health and Safety through Organisational Change](#)]
- Alarms and defects on plant should only be dealt with by staff who are trained and experienced in the maintenance of that type of plant
- Repeated alarms, recorded in the asset management system, should be interpreted as an indication that there may be a more serious underlying problem which needs to be investigated.
- All ENA member companies reviewed their policies and risk assessments for manual operation of tap changers and revised their precautions as necessary.
- Where evidence exists that the internal mechanisms of either the diverter or selector are damaged the unit should not be operated by hand.