



Electrician received serious burns following explosion

Briefing

Introduction

This briefing note reminds employers of the need to appoint competent people to manage work involving high voltage (HV) and for such work to be carefully planned and coordinated.

Issue

A large retailer and an electrical contractor were prosecuted by the HSE and subsequently found guilty and fined following an incident where an electrician received burns to 15% of his body.

Incident

Maintenance was required to the switchgear at a B&M Retail warehouse in Speke. B&M wanted to maintain a supply while the HV maintenance was taking place, therefore they hired a generator for this purpose. The site maintenance manager was to oversee the works, which had to be completed to a tight timescale. Electrical contractors Daker Ltd were appointed to connect the generator to the low voltage (LV) supply, so the HV could be maintained.

The electrician was working at the switchgear and it is believed a metal spanner touched the live HV busbar, which was close to the LV he was working on. There was a large explosion and the electrician received extensive burns to his arms, hands, legs and face.

HSE Investigation

The HSE investigation found that the works were complex and potentially dangerous, involving several contractors and the co-ordination of several work groups. There was insufficient planning prior to the works commencing, it was unclear who was in charge, who would coordinate the works and who would ensure the exchange of key information between all parties. As a result, work was able to take place at the switchgear while the HV was still live.

The key findings were:

- B&M were in control of the site and did not appoint a competent person to plan and carry out the work. The site maintenance manager had no electrical qualifications and no experience of this type of work.
- The work started without proper planning.
- The HV power supply was not isolated prior to the works commencing, resulting in electricians working close to live electrics and at risk of electrocution.
- Daker's work practices were well below the standards required.

Outcome

B&M Retail Limited were fined £1M plus costs. The electrical contractor was also fined for their part in the incident.

The HSE stated that the incident could have been avoided if: *"the companies involved had taken the time to appropriately plan and coordinate tasks to ensure the circuit was dead, eliminating the risk of electrocution to workers."*



Comments and Actions

This incident has some clear parallels with a similar incident we investigated several years ago where an electrician was electrocuted while attempting to connect a generator to the LV while the HV busbar was still live.

The key outcomes are:

- A competent person needs to be appointed to manage live electrical work.
- Any such works need to be carefully planned and coordinated, as this is specialist work and often there will be more than one contractor involved.
- All relevant contractors need to be appointed and approved, including any sub-contractors.
- Method statements and risk assessments should be provided by all parties and should take account of the different risks during each part of the process.
- An effective permit to work system should be in place to ensure the effective isolation of the HV and LV during the different phases of the work.
- The competent person should be present during the works and should supervise and monitor each phase of the work.

Further Information

HSE press release:

<https://press.hse.gov.uk/2022/07/20/retailer-and-electrical-contracting-company-fined-after-electrician-sustains-serious-burns-in-warehouse-explosion/>

HSE guidance: HSG85 Electricity at Work – Safe Working Practices:

<https://www.hse.gov.uk/pubns/priced/hsg85.pdf>