



## Mines Safety Significant Incident Report No. 173

### Employee burnt while setting up fire scenario for emergency response training

#### Summary of incident

An employee preparing for an emergency response fire-fighting training drill was burnt on his hands, arm, back and face when he was engulfed by a fire ball. He was lighting a stack of wooden pallets using unleaded petrol as an accelerant. The fire scenario was located inside a dedicated surface training compound on a mine site.

The employee raised the alarm but there were delays in the arrival of personnel to assist him.

#### Probable causes

##### *Direct*

- Over 10 litres of unleaded petrol was used as an accelerant to ignite the fire. The lower explosive limit (LEL) of petrol is 1.4%, and this fuel will explode in the presence of an ignition source if petrol vapour concentration is between 1.4 and 7.6%.
- A cigarette lighter was used instead of a fire igniter, which meant that the officer was close to the ignition point.

##### *Contributory*

- There were no documented and approved task instructions for the training scenario, including how to light the fire safely.
- No risk assessment or safety analysis was conducted for the scenario.
- There was an element of haste to light the fire before the emergency response team arrived.
- Personal fire protection (e.g. coat, helmet and gloves) was not used.
- The employee was working alone and had to call for assistance himself after being burnt.
- After the alarm was raised, confusion about communications and terminology delayed the response.

#### Action required

Live fire drills are an essential part of emergency response training. However, practical simulations using live fire and smoke can pose a significant risk to participants. When developing safe systems of work for emergency response team drills, mine sites should apply the same rigour and standards as used for other workplace activities.

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