

# Key Lessons

## Title Fire within Asphalt Plant

**Date of Incident:** 2016-05-11

**Site:** Wembley Asphalt Plant

**Country:** United Kingdom

**Main hazard/ Risk:** Fire

### Description of Event:

At just past midnight on the 11<sup>th</sup> May, a small fire broke out on the hot oil trace heating system at Wembley Asphalt plant. At the time a contracted security guard and electrician were at the site, the latter of which was investigating a low temperature warning that alarmed on the trace heating system. The fire broke out on the first floor landing, and was detected by both security guard and the electrician. The Plant Manager was indicated and he instructed that they should not tackle the fire and call the fire brigade. The fire brigade arrived promptly, and they were provided the fire grab pack for the site, this enabled the fire service to act quickly and the fire was extinguished by them.

### Photographs:



### Key Lessons after Incident Investigation:

Following the detailed investigation, it is believed that the fire was a consequence of electrical wires being loose in a terminal block that ignited loose fibres underneath the hot oil tank. These fibres had accumulated as a result of blockages in the fibre addition system, which is above the hot oil system on the floor above. These fibres are very flammable as they are paper based. The loose electrical connection may have occurred over time as a result of plant vibration.

Key lessons from the incident:

- The emergency procedure at Wembley in combination with having a fire service grab pack, ensured that the site did not have a major fire and that nobody was injured. Ensure that you have a robust emergency procedure at your site and that both contractors as well as employees are familiar with it. As per the Fire Standard, also ensure you have a grab pack for the fire service that is easily accessible.
- Detailed electrical drawings for the site allowed a thorough investigation of the hot oil electrical system.

- Asphalt Fibres are a fuel source for fire, ensure they are stored in an area that cannot be ignited.
- Carry out more regular checks of electrical connections to terminals where vibration issues could result in a loosening of connections. This should be as per your ESMS standard risk assessment – wiring in such conditions is of higher risk in areas subject to vibration.
- The system at Wembley has two independent thermostat's – although they did not act as a safety device in this incident, it is advised that all hot oil trace heating systems should be fitted with 2 independent thermostat's.



### Communication Principles

- Determine a country wide process for distribution of this document, including appropriate corrective actions for all levels of the organization.
- Communication should include discussions in Team Meetings, Toolbox Talks, posting on Notification Boards, email distribution, and developing and sharing relevant action plans



### Important Actions

- Perform a gap analysis based on the information in this document.
- Establish the action plan including objectives and processes necessary to ensure a similar incident will not occur at your sites.
- Implement the action plan, execute the process, close the gaps.
- Collect data to track implementation until completion

**1. Physical Conditions** Examples include: Controls, Visibility, Upset Conditions, Noise/Vibrations, Equipment Facility design, Warnings, Environment

**2. Human Factors** Examples include: Cognitive, Psycho-Behavioral, Physical/Mental Limitations, Perceptual, Self-imposed stress, Personnel

**3. Management System** Examples include: Training, Accountability, Communications, Planning & Evaluation, Rules and Procedures, Supervision, Incident Investigation

**4. Culture, Perception and Beliefs** Examples include: Risk Tolerance, Visible Leadership, Employee Engagement, Value for Safety, Norms, Drift, Goals