

FIRE CASE STUDY

Transportation



Kingscross, London

November 18, 1987

Statistics

Type of fire

Hydrocarbon

Ignition Source

Match / Smoking device

Duration of fire

Rescue operations continues for over 3hrs

Number of casualties

31 people died, 100 plus people injured

Cost to industry

Unknown

References

Kingscross. 1988.[Online]. [Accessed 7 November 2014]. http://www.railwaysarchive.co.uk/documents/DoT_KX1987.pdf
ITN news. 1988.[Online]. [Accessed 7 November 2014]. <https://www.youtube.com/watch?v=sj21xNbNKBQ>
BBC news. 1988.[Online]. [Accessed 7 November 2014]. <http://news.bbc.co.uk/onthisday/hi/dates/stories/november/18>

Event

It is believed that a passenger while on a moving escalator dropped a lit match onto rubbish and debris below the escalator igniting combustibles. The fire took hold and at around 19:30 turned into a blaze, with 100s of commuters making their way around the busy rush hour.

Many passengers were trapped as flames rushed up the wooden escalator. The intense heat output damaged concrete at the main ticket hall and for several hours after the fire had been extinguished the metal ticket booths were still too hot to touch. Most of the victims died in the ticket hall as intense heat and swirling black smoke engulfed them.

The staircase design acted as a chimney funneling the flames and drawing the flames up to the street above.

The first of the fire fighters entering the underground did so without breathing apparatus instinctively rescuing lives. Then even when having the correct safety equipment they could only operate for a limited amount of time due to the intense heat exposure.

Lessons Learned

February 1985 the London transport policy banned smoking in all underground stations, despite this smoking was still observed and therefore not policed sufficiently.

Inquest into the event discovered that between 1956 and 1988 46 escalator fires had occurred with 32 of them attributed to smoker's material.

The escalator, once lit due to kindle material of rubbish and years of oil and grease build up made it impossible to stop once taken hold, along with melting grease flames stretches upwards as it moved along the escalator shaft resulted in flashover.



Reconstruction study of the event proved this theory setting about change to legislation as a result of the FENNEL REPORT 1988, published November 10, 1988.