

# FIRE CASE STUDY

## Transportation



# Sleeper Train, Paddington

July 6, 1978

### **Statistics**

#### **Type of fire**

Hydrocarbon

#### **Ignition Source**

Excessive heat to plastic bags

#### **Duration of fire**

Rescue operations continued for over 24hrs

#### **Number of casualties**

11 people died, plus 17 people injured

#### **Cost to industry**

The report into the accident brought about changes to management and services to sleeping-car carriages. The drop-light windows in all berths were examined and where the drop-light would not lower the berth was put out of use. Instructions were given that the communication bell systems must operate correctly before the coach. Attendants were issued with a portable warning horn for use as an alarm whilst on duty and were required and to be tested before starting each journey. All cars to be equipped with CO<sub>2</sub> fire extinguisher in each pantry.

### **References**

BBC News. 1978.[Online]. [Accessed 2 December 2014].

[http://news.bbc.co.uk/onthisday/hi/dates/stories/july/6/newsid\\_2495000/2495703.stm](http://news.bbc.co.uk/onthisday/hi/dates/stories/july/6/newsid_2495000/2495703.stm)

#### **Penzance to Paddington Sleeper**

The train car SLC W2437 was constructed in 1960 by Metro-Cammel Ltd. Constructed to a British Railways design, one of 332 sleeping-cars purchased. A steel frame structure mounted on bogie wheels, the car body is 64 ft 6 ins long, a vestibule and gangway at both ends with two exit doors in each vestibule. At one end two lavatories placed symmetrically one on either side of the gangway between the exit doors. At the other end the exit doors are immediately adjacent to the gangway. In the center of the corridor side, there is an emergency exit door, unlike the other four doors, does not have a droplight window or outside handle, it can only be opened from inside by removing a tear-off strip at the top of the door and pulling a release handle. The car has 11 compartments and an attendant's pantry, equipped with a washing-water heater and a water boiler for tea making, both fuelled by propane gas. During 1976, an overhaul of the cars introduced an electric heating system, each compartment has an electric convactor heater and there are electric heaters in both lavatories.

At around 2.40am July 6, 1978 fire took hold while the occupants were sleeping and were slowly overcome by the fumes and carbon monoxide.

### **Lesions Learned**

The autopsy report suggested that some of the victims had suffered fatal heart attacks, all unaware of the rising temperatures and conditions within the carriage. In total 11 fatalities and 17 others sustaining injuries during the blaze. Initial reports indicated that fire crews had difficulty during their attendance because doors on the train were locked, rising heat temperatures and reduced visibility hampered search and rescue. The department of transport investigation report 1980 concluded that the most likely cause of the fire were several piles of linen stacked next to the electrical heating system, either ignited due to the heat melting the plastic linen bags or from a discarded match. The bags were placed blocking one of the escape routes. Interview with staff confirmed that it was routine to locate the linen pile at this location, the operation that was unchanged for some 18 years since the introduction of the car. The report concluded:

- locked doors hampered the evacuation and fire fighting efforts
- There was no means of fire detection, fire fighting and prevention methods.
- Lack of emergency training for staff