

Sharing is Caring Lessons from Major Accidents

60 years since Feyzin: Why we still need to learn from it



Description

The Feyzin accident occurred on 4 January 1966 at an LPG storage installation at the Feyzin refinery near Lyon, France. During routine drainage of water from the bottom of a pressurised LPG storage sphere, a drain valve failed to reseal properly and could not be fully closed. This resulted in a significant release of LPG. The escaping liquid rapidly vaporised and formed a dense, flammable cloud that spread at ground level under calm and cold weather conditions. The cloud ignited, producing a sustained jet fire

Fire impingement on neighbouring LPG storage spheres caused them to heat up, and despite firefighting efforts, several vessels failed catastrophically, resulting in Boiling Liquid Expanding Vapour Explosions. The explosions caused extensive damage to the installation and severe casualties, including among emergency responders; 18 people lost their lives, more than 80 were injured.

Key findings

The accident showed that routine operational activities can initiate major accidents when hazardous inventories are involved, and that such activities were not treated with sufficient recognition of their potential consequences. The design of the drain and valve system allowed direct release of LPG to atmosphere in the event of a valve malfunction, and there was no fail-safe or positive isolation to prevent escalation once the release began. The inability to rapidly isolate the leaking inventory allowed the fire to continue and expose adjacent vessels, leading to escalation through domino effects.

The emergency response revealed limited recognition of the risks associated with pressurised LPG exposed to fire, particularly the potential for BLEVE, which contributed to high casualties among firefighters. The accident also highlighted insufficient fire protection and cooling capability for pressurised LPG storage exposed to prolonged thermal loading, demonstrating the need to integrate equipment design, escalation prevention, and emergency response considerations when managing major hazard installations.

Why does it concern me?

The Feyzin accident matters because it shows how a routine task can trigger a major accident when large hazardous inventories are involved. The initiating event was a normal activity, similar to tasks still carried out today, making the scenario directly relevant to everyday operations

It also highlights how design limitations and lack of rapid isolation can leave operators with little ability to recover once a release starts, and how escalation and BLEVE risks can place operators and responders at risk. Learning from Feyzin helps operators recognise when routine work carries major accident potential and when personal safety must take priority over intervention