

# What was the Buncefield Fire (2005)?

## Description

The Buncefield Fire in 2005 was a major incident at the Hertfordshire Oil Storage Terminal near Hemel Hempstead, England, on December 11, 2005. It caused significant damage and injuries but no fatalities. It is considered one of the largest explosions in peacetime Europe.

## Background of the Buncefield Fire

The Buncefield oil storage facility, located near Hemel Hempstead in Hertfordshire, was a major hub for fuel distribution in the UK. On December 11, 2005, a series of explosions occurred at the site, leading to a massive fire that burned for several days. The incident was triggered by the overfilling of a storage tank, which caused a large vapor cloud to form and subsequently ignite.

## Explosion and Fire

- **Start Time:** The fire started at 06:01 UTC due to a fuel-air explosion in a vapor cloud of evaporated leaking petrol. The explosion measured 2.4 on the Richter scale and was heard up to 200 km away.
- **Impact:** The fire engulfed 20 large storage tanks and was the largest of its kind in peacetime Europe. It caused significant damage to nearby offices and warehouses.

## Causes of the Explosion

- **Overfilling of Tank:** The primary cause was the overfilling of a storage tank, which led to the release of a large vapor cloud.
- **Ignition Source:** The vapor cloud found an ignition source, leading to a series of explosions.
- **Safety Failures:** There were multiple safety system failures, including faulty alarms and gauges that did not alert operators to the overfilling.

## Impact and Damage

- **Structural Damage:** The explosion caused extensive damage to the facility and surrounding buildings.
- **Environmental Impact:** Significant environmental damage occurred due to the release of pollutants.
- **Economic Loss:** The incident resulted in substantial economic losses, including the cost of emergency response and cleanup operations.

## Emergency Response

- **Declaration:** Emergency services declared a major emergency at 06:08.

- **Firefighting Effort:** The firefighting effort involved 25 fire engines, 20 support vehicles, and 180 firefighters. The fire was extinguished by December 15, 2005.
- **Casualties:** There were 43 injuries, including two serious injuries, but no fatalities.

## Lessons Learned

- **Improved Safety Protocols:** The incident led to a review and improvement of safety protocols in the oil and gas industry.
- **Better Monitoring Systems:** Enhanced monitoring and alarm systems were implemented to prevent similar incidents.
- **Regulatory Changes:** The incident prompted changes in regulations governing the storage and handling of hazardous materials.

## Long-term Effects

The Buncefield Fire had long-term effects on industrial safety practices and regulations. It highlighted the importance of robust safety systems and the need for continuous monitoring and maintenance of industrial facilities.

The Buncefield Fire in 2005 was a significant industrial accident that led to major changes in safety regulations and practices in the oil and gas industry.

## CATEGORY

1. Hertfordshire

## POST TAG

1. BP
2. British Pipeline Agency
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4. Fuel Distribution
5. Fuel Storage
6. Gas Leak
7. Major Incident
8. Motherwell Control Systems 2003
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