

Facility	Buncefield, United Kingdom
Date	11 th December 2005
Consequences	No fatalities but significant damage to surroundings.
Description of accident	<p>Overfilling (with unleaded petrol) of a tank led to fuel starting to overflow. The protection system which should have shut off the supply did not operate and continued pumping led to the fuel cascading down the side of the tank leading to the rapid formation of a rich fuel/air mixture that collected in the bund.</p> <p>A large vapour cloud was formed which found an ignition source resulting in a violent explosion. This was followed by further explosions and a large fire that engulfed over 20 storage tanks.</p>
Key Lessons Learnt [1]	<p>The investigation is ongoing and the key lessons will be included in this factsheet when the final report is available. The initial report published in July 2006 identified three areas for recommendations:</p> <ul style="list-style-type: none"> • Design and operation of storage sites • Emergency response to incidents • Advice to planning authorities <p>The recommendations on design and operation of fuel storage sites were published in March 2007. The report details 25 recommendations which are grouped under six headings:</p> <ul style="list-style-type: none"> • Systematic assessment of safety integrity level (SIL) requirements (Recommendation 1) • Protecting against loss of primary containment using high integrity systems (Recommendations 2–10) • Engineering against escalation of loss of primary containment (Recommendations 11–16) • Engineering against loss of secondary and tertiary containment (Recommendations 17-18) • Operating with high reliability organisations (Recommendations 19–22) • Delivering high performance through culture and leadership (Recommendations 23–25) <p>Recommendations 1–16 emphasise the need to increase the protection provided by primary containment systems i.e. to make sure that liquid does not escape from the vessels in which it is normally meant to be confined.</p> <p>Recommendations 17-18 deal with improvements to secondary and tertiary containment.</p> <p>Recommendations 19-22 deal with human and organisational factors.</p> <p>Recommendations 23-25 deal with broader strategic objectives relating to sector leadership and culture.</p>

Reports & Links	<ol style="list-style-type: none">1) Recommendations on the design and operation of fuel storage sites, Buncefield Major Incident Investigation Board, March 20072) Progress Report, Buncefield Major Incident Investigation Board, February 20063) Second Progress Report, Buncefield Major Incident Investigation Board, April 20064) Third Progress Report, Buncefield Major Incident Investigation Board, May 20065) Initial Report, Buncefield Major Incident Investigation Board, July 2006
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