

Loss Prevention & Life Safety – The 10 Most Common Problems

ACE Risk Management Services (Asia Pacific) is part of the ACE Global Engineering Network (AGEN), one of the world's leading providers of risk engineering services and risk benchmarking programs. With property and liability Risk Engineering consultants throughout the Asia Pacific region conducting over 700 risk inspections a year – covering almost all industries and occupancies – ACE engineers assist clients in lessening the likelihood of a loss occurring.

In our experience, the 10 most commonly observed defects relating to property and life-safety hazards which we have encountered – and most of which could be easily rectified for little, if any, cost – are:

1. Open penetrations through fire rated compartments – could easily allow for the spread of fire and smoke to adjacent areas.
2. Unsealed vertical electrical riser shafts – these can provide a ready means for fire and smoke spread throughout the entire building.
3. Overdue fire sprinkler and hydrant system flow tests – these help to identify system problems such as partially closed street valves, pump degradation, pipe blockage etc. Some of these issues could have been caused by others and they could significantly affect the life safety and property protection systems covering your property.
4. Incorrect fire pump start pressure switch settings – could prevent your fire pumps operating as required and impact both hydrant and fire sprinkler systems.
5. Incorrect fire sprinkler pump pressure relief valve settings – can lead to inadequate performance and insufficient water to contain a fire.
6. Lack of emergency information at Fire Indicator Panels and fire brigade booster connections – this can hamper Fire Department fire fighting efforts and waste valuable time as they try to understand what systems are installed and available for their use.
7. Overdue fire alarm / building services interface testing – this is essential to ensure all your life safety and fire systems operate as an effective single unit to protect lives and your property.
8. Incomplete essential services maintenance records – to satisfy local or national requirements and certify that all your systems are properly maintained and in working order.
9. Sprinkler system design is inadequate for the storage heights, storage arrangements or the type of commodities being stored – owners, tenants and building use can change over time. What may have been an effective fire sprinkler system at one stage could now be rendered ineffective. Your fire sprinklers may not contain a fire and this could lead to a total loss of your site.
10. Poor housekeeping and storage of combustible materials in electrical cupboards or rooms, data risers, in emergency escape routes, between aisles of racks in warehouse or storage areas – all easy places to get things out of the way or provide extra storage space, but these areas are not designed for the safe storage of materials and lead to an increased fire hazard.

In addition to these 10 most commonly observed generic issues, for specific occupancies the following hazards also often arise:

Retail Centres, Food Outlets

- Poor housekeeping deficiencies in stock reserves, cooking areas and loading docks – provides an unnecessary hazard and fire loading.

- Stock stored within 50 cm of fire sprinkler heads – can block discharge pattern and render the sprinkler head ineffective. Additionally, a head could be damaged during stock movement and this could lead to water damage.
- Lack of regular cleaning of exhaust hoods and ducts located over cooking equipment – these can lead to an increased possibility of duct fires due to an accumulation of grease and oils.
- Inaccessible emergency gas isolation valves – the ability to shut-off gas in an emergency is vital.

Warehousing

- Solid shelves are used in storage racks where fire sprinklers are only installed at the roof level – in such cases if the sprinklers are activated to contain a fire, water cannot penetrate to pre-wet areas or get to the seat of the fire.
- High Intensity Discharge (HID) lamps are located in close proximity to combustible materials – a fault in an uncovered or standard HID light could lead to hot metal particles falling onto materials below. This can easily cause the ignition of combustible packaging or wrapping around stock.
- Forklift battery chargers located near combustible materials – an electrical fault in a charger could easily ignite nearby materials.
- Incorrect setting of automatic operation roof smoke vents – can prevent sprinkler operation or lead to excessive smoke damage.

General Manufacturing

- Inadequate storage and handling of flammable liquids & gases – high hazard materials which can lead to major fires.
- Outside combustible storage (e.g. timber or plastic pallets) located too close to external walls – these could be ignited by vandals and allow for fire to spread into your building.
- Use of insulated panels with combustible cores for walls and suspended ceilings – easily ignited and highly combustible.
- Lack of detailed business continuity / contingency plans – how will your business recover after a major loss?

ACE Risk Engineering Consultants can provide advice and assistance to help you address defects such as those outlined above, as well as the numerous other hazards to which your business may be exposed to. By addressing these issues early and maintaining an inspection routine to prevent them occurring, the risk of a major incident can be significantly reduced.

Note: The information contained in this document is general and is provided by ACE for informational purposes only. The reference to the above specific risks is in no way intended to imply that no other hazardous conditions or exposures exist.