

# Managing Health, Safety, Security & Environment Risks

The *Dangerous Substances (Safe Handling) Act 2005* and Regulations require you to prevent harm to people, property and the environment. You must achieve an acceptable level of risk, meaning that risk is minimised as far as reasonably practicable.

The safety management system that you implement in your facility or location should be effective in managing the risks of harm to people, property and the environment across all the operations conducted at the facility.

Uncontrolled risks to health, safety, security and the environment (HSSE) may lead to harm, and potential prosecution.

Risk management that is integrated into the organisation's standard operating procedures, will see better outcomes than systems that are separately developed, maintained and audited.

Identifying hazards is the starting point to controlling risk.

The substances themselves are hazards (dangerous or hazardous) and the properties of the substances pose risks to health, safety, security and the environment.

Other hazards may include:

1. Structural – arising from the nature of the premises, its age and condition; lighting; noise; manual handling; slips/trips/falls; electrocution; drowning; fire; contact with moving objects; vibration etc.
2. Design-related – lay-out or design of facility or premises; space; ventilation; access/egress; design of handling systems.
3. Process-related
  - systems of work

- organisational structure and lines of communication

4. Plant in use and maintenance schedules
5. Acquisition or procurement of plant, substances, maintenance services by providers,
6. Production, storage, use and disposal processes

HSSE risks may be associated with each of these hazards, for example:

- Health – risks associated with inhalation of fumes, skin contact with dangerous substances
- Safety - risks of explosion or fire
- Security – theft, sabotage, power supply, cyber security
- Environment – spills, land contamination, escape of vapours, dusts, outside the facility

The elements of an effective HSSE management system include:

- Organisational commitment displayed and shared at all levels - often called 'policy' or 'culture'
- Accountabilities
- Resources – people and time management
- Communication – information, notification and consultation
- Emergency plans and procedures
- Periodic monitoring
- Performance based on relevant standards
- Review

# Managing HSSE risks

- Education and training of personnel - ensuring competence
- Supervision
- Document control – records
- Incident and accident reporting, investigation that is followed by process or systems improvement

## Assessing risks

The occupier must document or be able to demonstrate the way in which the obligations to assess and minimise risks have been achieved.

**AS 4360: Risk Management** identifies two steps in the risk management process:

1. Risk analysis – (likelihood and consequence); and
2. Risk evaluation - (comparison of the level of risk against pre-determined standards to determine the levels of priorities to be allocated to each risk)

Methods of assessment may include:

- Visual inspection
- Review of dangerous substances emergencies and dangerous situations at the facility
- Analysis of MSDS information
- Analysis of injury data
- Review of relevant case law and findings
- Testing process
- Technical or scientific evaluation
- Seeking expert opinion or information – manufacturers, importers, suppliers, and relevant public authorities

## Critical Risks

The methodical nature of risk management processes

will identify and assess all risks. Some, while they may be assessed as very unlikely or remote, may pose severe or catastrophic consequences.

These deserve special attention and are often called 'critical risks' because control of these may be critical to the whole facility and the avoidance of an emergency.

In large complex facilities where dangerous substances are handled, the potential for minor failures to impact on other aspects of operations cannot be overlooked.

## FURTHER READING

See *Guide C: Systematic Risk Assessment* and *Guide F: Safety Management Systems* in the series of MHF guides produced by Workplace Standards Tasmania.

These guidelines are available at <http://www.justice.tas.gov.au/wst>

Andrew Hopkins, *Lessons from Longford*, CCH, Sydney, 2000.

Michael Tooma, *Safety, Security, Health and Environment Law*, The Federation Press, Sydney, 2008)

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