

**A. MANAGEMENT SYSTEMS STANDARDS**

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**A2. RISK MANAGEMENT**

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**1.0 Scope**

To protect all who work on our sites from occupational illness in a cost-effective manner, a control programme based on exposure assessments is required. The basis of the occupational health-risk programme is that the potential risk to a person's health is a function of both the magnitude and frequency of the exposure to the hazard and the inherent capacity of the hazard to cause harm. Businesses must develop control systems designed to eliminate or reduce exposure to hazardous agents / conditions, appropriate for the degree of risk to health. This Standard details the requirements for a suitable programme to manage the risks to health.

**2.0 Programme Design**

2.1 A risk management programme requires the following elements:

- (a) Hazard identification;
- (b) Exposure characterisation;
- (c) Risk assessment;
- (d) Risk control or treatment;
- (e) Monitoring and review of controls; and
- (f) Documentation.

2.2 People with adequate knowledge and experience in determining risk levels are required for both the initial risk assessment and to address the implications of plant and equipment upgrades and modifications.

**3.0 Hazard Identification**

3.1 The hazards in each work area must be defined and a hazard inventory that includes all the chemical, physical, biological and ergonomic hazards compiled.

3.2 A health effect rating, the inherent capacity to cause harm, for each hazard must be determined. Special attention must be given to carcinogens and reproductive hazards.

**4.0 Exposure Characterisation**

4.1 Exposures must be characterised for worker groups who have similar responsibilities and so would be expected to have similar exposure to the same range of hazards, termed 'Similar Exposure Groups' (SEGs). SEGs must be based on payroll classifications or Personnel employee job (occupation) codes plus job observation / interview.

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- 4.2 Exposure characterisation must use qualitative or quantitative methods as appropriate. Quantitative assessment must be conducted for SEGs where:
- (a) Exposures could exceed, or have exceeded, an occupational exposure limit (OEL);
  - (b) Exposures have aroused complaints or adverse symptoms directly or indirectly related to chemical or physical agents in the workplace;
  - (c) Exposures are the result of a change in activities or processes that could potentially increase exposures;
  - (d) Exposures are to carcinogens, ionising radiation or crystalline silica; or
  - (e) Required by regulations.
- 4.3 Hazards with very low exposure potential must be documented but need not be further assessed. However, this assessment must be reviewed periodically.

### **5.0 Risk Assessment**

- 5.1 Risk assessment is the evaluation of the probability of adverse health consequences occurring because of conditions identified on the site. The following steps are required:
- (a) All the monitoring data for employee health checks, the general workplace, personal monitoring and specific operations, and their relevance with regard to toxicity (OEL, duration of exposure, individual susceptibility, etc.) must be reviewed;
  - (b) An exposure rating for each SEG for each relevant hazard must be determined. This rating must record existing control equipment and procedures;
  - (c) A health risk assessment using a risk matrix to determine relative (not absolute) risk must be performed; and
  - (d) Action identification and prioritisation must then be determined.
- 5.2 The assessment must be repeated at appropriate intervals.

### **6.0 Risk Control or Treatment**

- 6.1 Where risk assessment indicates the need for controls or treatment, these must be assessed as to their efficacy in minimising or eliminating the risk of adverse health effect in a staged manner according to the hierarchy of controls:
- (a) Removal or substitution of the hazard - the permanent solution;
  - (b) Isolation (eg. process automation, enclosure or local exhaust ventilation);
  - (c) Administrative controls such as rotation of personnel; and then
  - (d) Personal protective equipment (PPE).
- 6.2 PPE must only be used to achieve compliance with OELs in situations where the use of higher level controls is not commensurate with the degree of risk and cost, while higher level control options are being developed and implemented, or for short duration tasks.

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- 6.3 Control systems must be:
- (a) Designed to be compatible with process and maintenance requirements;
  - (b) Designed according to good occupational hygiene engineering practices;
  - (c) Cost effective at achieving control of potentially hazardous exposures; and
  - (d) Regularly maintained and monitored.
- 6.4 Whenever practicable, purchasing criteria must be developed such that new equipment brought to site will not expose workers to more than the OEL in operating mode.
- 6.5 Administrative controls must be appropriate. Where work practices are used for exposure control, they must be understood and followed as a result of training and enforcement. Safe handling procedures and precautions must be included in standard operating procedures (SOPs).
- 6.6 Where risk assessment indicates the need to reduce exposures to toxic substances, good personal hygiene must be enforced. The programme must include:
- (a) No smoking, eating or drinking in designated hazard areas;
  - (b) Washing of hands and face prior to eating or smoking;
  - (c) Showering at work post shift or after exposure to 'dirty' conditions; and
  - (d) Laundering of contaminated clothing by the Business or site.
- 6.7 Where PPE is required, it must be provided, be appropriate and be managed effectively, such that:
- (a) A single individual / function must be assigned overall responsibility for the PPE programme for the site;
  - (b) The programme must be adequately documented, to include contractors;
  - (c) The programme must specify selection, administration, maintenance of PPE, training, and designate responsibilities, and include signposting for PPE use;
  - (d) The programme must be consistent with local standards or regulations;
  - (e) PPE of the proper types must be readily available and their use (where required) must be enforced. Defective or damaged PPE must not be used;
  - (f) Protective equipment requirements must be indicated in operating manuals, and procedures must be posted in hazardous areas and included in employee training;
  - (g) Employees must be trained in the health effects of exposures to specific hazards, when to use which PPE, how to fit it correctly, what to do if it fails and how to maintain it; and
  - (h) PPE use must be reviewed regularly for continued relevance.

### **7.0 Monitoring and Review of Controls**

- 7.1 The risk assessment must reach one of the following conclusions for each SEG exposure:
- (a) The risk is controlled by engineering standards;
  - (b) The risk is controlled only by the use of personal protective equipment (PPE) or administrative controls. Substitution / engineering controls must be considered and any reasons for their not being adopted documented;

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- (c) There are insufficient data to make a valid assessment. This must be coupled with a statement on the time scale over which valid data will be acquired; or
  - (d) There is a health risk at current exposures. This must be coupled with an action plan and time scale to control the identified risks.
- 7.2 For carcinogens and reproductive toxicants (known and suspected), meeting an OEL is not adequate; exposures must be “as low as reasonably achievable or practicable”. There must be an annual documented review of exposure controls for these substances.
- 7.3 Performance standards and indicators for all control programmes must be developed and reviewed regularly.

### **8.0 Documentation**

- 8.1 The risk management process must be documented in a comprehensive ‘Risk Register’ that lists all of the key risks that could impact on worker health, and an occupational health improvement action plan, with clear accountabilities, to deal with these must be derived.