



Australian Government

Department of Education, Employment and Workplace Relations

BSBOHS607B Advise on application of safe design principles to control OHS risk

Release: 1

BSBOHS607B Advise on application of safe design principles to control OHS risk

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to advise on applying safe design principles to control occupational health and safety (OHS) risk during a product's life cycle. No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.
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Application of the Unit

Application of the unit	The central feature of safe design is the application of relevant information and data about human capabilities and behaviour to the design of objects, facilities, procedures and environments that people use. BSBOHS504B Apply principles of OHS risk management, and BSBOHS505C Manage hazards in the work environment, provide underpinning knowledge and skills for this unit. Knowledge of systematic approaches to managing OHS also underpins this unit.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Advise on the OHS requirements of the design process	1.1. Inform decision makers about their responsibility for the safety of downstream users and beneficiaries 1.2. Advise decision makers of their obligation under law to design and supply a safe designed product by eliminating OHS hazards and controlling for residual OHS risk 1.3. Promote OHS within the design requirements and include an overall risk evaluation of the designed product's life cycle 1.4. Source and make available to decision makers the most current information of OHS principles, materials, technology and systems for application in the design of the product 1.5. Identify and make available required education and training to enable decision makers to have the necessary skills and knowledge to identify and eliminate OHS hazards, and to control OHS risk in the design phase 1.6. Identify and access relevant sources of information and data, for equipment users in particular 1.7. Consult potential users of the equipment during the design phase 1.8. Identify situations where specialist advisors may be required
2. Develop a systematic hazard identification and OHS risk evaluation system for safe design	2.1. Identify OHS hazards and conduct a risk analysis of associated risks across the life cycle of the designed product 2.2. Guide the selection and implementation of the most appropriate OHS risk controls for the designed product from a systematic analysis of the likelihood and consequences of injury or illness arising from exposure to identified OHS hazards 2.3. Ensure hazard identification and risk analysis includes potential alterations to the designed product during its life 2.4. Document decision making during the OHS risk evaluation process and make accessible to all parties 2.5. Establish a residual risk register, recording OHS hazards not eliminated in the design together with possible control strategies, and distribute this information to those involved in the downstream or subsequent life cycle stages 2.6. Monitor the design as it evolves to identify potential new OHS hazards and to manage risks if they

ELEMENT	PERFORMANCE CRITERIA
	become evident
3. Advise on principles of OHS risk control	3.1. Base design to minimise risk on the <i>hierarchy of control</i> 3.2. Minimise the impact of possible failure or defect, by ensuring the designed product includes fail-to-safe action
4. Advise on consultation processes between people involved in the life cycle of the designed product	4.1. Advise decision makers to consider the needs of the range of people who will use or interact with the designed product 4.2. Arrange consultation between all <i>parties</i> during the concept and detailed design phases to identify and eliminate OHS hazards and minimise risk 4.3. Appropriately communicate residual OHS risk in the designed product to those who will use or interact with the designed product throughout its life cycle
5. Advise on contractual arrangements and procurement systems to minimise 'purchased' OHS risk	5.1. Advise decision makers involved in <i>purchasing and contractual arrangements</i> to include a requirement to eliminate OHS hazards, minimise OHS risks, and provide information and data on residual OHS risk 5.2. Include an agreement to carry out a safe design approach in the <i>design brief or draft specifications</i>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- analytical skills to analyse relevant workplace information and data and to make observations of workplace tasks and interactions between people, their activities, equipment, environment and systems
- research skills to:
 - access relevant OHS information and data
 - use information and data gathering techniques such as brainstorming, polling, interviewing
- communication skills to:
 - conduct effective formal and informal meetings and to communicate effectively with personnel at all levels of the organisation, OHS specialists and, as required, emergency services personnel
 - use language and literacy skills appropriate to the workgroup and the task
 - prepare reports for a range of target groups including OHS committee, OHS representatives, managers, supervisors and other stakeholders
- project management skills to achieve continuous improvement and change
- organisational skills to manage own tasks within a timeframe
- information technology skills to access and enter internal and external information on OHS and to use a range of media
- attention to detail when making observations and recording outcomes

Required knowledge

- basic human cognitive and perceptual capabilities relevant to the design of human-machine interfaces
- basics of anthropometry and biomechanics
- difference between hazard and risk
- direct and indirect influences that impact on OHS and the environment in the design of product/s
- ethics related to professional practice
- formal and informal communication and consultation processes, and key personnel related to communication
- hierarchy of control and considerations for choosing between different control measures, such as possible inadequacies of particular control measures
- human error and implications for design of equipment, work practices and controlling ergonomic hazards
- how the characteristics and composition of the workforce impact on risk and the systematic approach to managing OHS, for example:
 - labour market changes

REQUIRED SKILLS AND KNOWLEDGE

- structure and organisation of workforce e.g. part-time, casual and contract workers, shift rosters, geographical location
- language, literacy and numeracy
- communication skills
- cultural background/workplace diversity
- gender
- workers with specific needs
- interdependent relationships between ergonomics and workplace stressors such as psychosocial factors, occupational violence, shift work, repetitive work, awkward postures, lighting, thermal environment and work layout
- internal and external sources of OHS information and data
- key personnel, including identifying 'change agents', within workplace management structure
- legislative requirements for OHS information and data, and consultation
- organisational behaviour and culture as it impacts on OHS and on change
- pertinent sections of relevant Australian and other standards such as AS/NZS 4360: 2004 Risk management, National Standard for the Storage and Handling Workplace Dangerous Goods [NOHSC: 1015(2001)] and National Standard for Manual Handling [NOHSC: 1001 (1990)]
- principles and practices of a systematic approach to managing OHS

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the following is essential:

- application of OHS risk controls within a collaborative safe design process
- products developed for effective application of knowledge and skill in applying OHS risk controls in a safe design process
- use of these products
- knowledge of professional liability in relation to providing advice.

Context of and specific resources for assessment

Assessment must ensure:

- access to reports from other parties consulted in developing appropriate interactions between people involved in the life cycle of the designed product
- access to relevant legislation, standards and guidelines, research or industry data
- access to workplace documentation.

Method of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- analysis of responses to case studies and scenarios
- direct questioning combined with review of portfolios of evidence and third party reports of on-the-job performance by the candidate
- demonstration of techniques used to apply principles to control OHS risk
- observation of performance in role plays
- observation of presentations
- oral or written questioning to assess knowledge of direct and indirect influences that impact on OHS and the environment in the design of product/s
- review of information made available in relation to OHS principles, materials, technology and systems for application in the design of the product
- evaluation of consultation of potential users of the

EVIDENCE GUIDE	
	equipment during the design phase • review of residual risk register established • assessment of decision making documented during the OHS risk evaluation process.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example: • BSBOHS504B Apply principles of OHS risk management • BSBOHS505C Manage hazards in the work environment.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Decision makers</i> may include:	- any party with influence over the specifications of the designed product including: - designer - client or commissioning agent - financier - manufacturer - supplier - purchaser - installer - user - insurer - importer - erector - maintainer - regulator - employees of these agents.
<i>Hazards</i> may include:	- source or situation with a potential for harm in terms of: - human injury or ill health - damage to property - damage to the environment - a combination of the above.
<i>Sources of information and data</i> may include:	- Australian and international anthropometric databases - commonwealth, state and territory OHS and other regulatory bodies - employer groups and unions - government and other advisory bodies such as Commonwealth Scientific and Industrial Research Organisation (CSIRO), National Health and Medical Research Council (NHMRC), Australian Consumers Association,

RANGE STATEMENT	
	Australian Safety and Compensation Council • industry advisory bodies • international and Australian Standards, codes of practice and guidance material • professional associations such as Ergonomics Society of Australia, Engineers Australia, Safety Institute of Australia • research literature.

RANGE STATEMENT	
<i>Specialist advisors</i> may include:	• architects, interior designers and builders • building surveyors and certifiers • design professionals • drafts people, quantity surveyors and surveyors • engineers (such as design, acoustic, safety, mechanical, chemical, civil) • health professionals • insurers • legal practitioners • maintenance and trades personnel • manufacturers • occupational hygienists • specialist ergonomists • suppliers and distributors • technical professionals • workplace trainers and assessors.
<i>Risk analysis</i> may include:	• defining the range of consequences • assessing the effectiveness of existing controls • deciding the likelihood of each consequence • combining these in some way to obtain a level of risk.
<i>Life cycle</i> may include:	• design • construction/manufacture • supply/installation • use • maintenance/servicing • decommissioning/dismantling • disposal.
<i>Documenting decision making</i> may include:	• assumptions • description of consequences and their likelihood • effectiveness of existing controls • factors affecting level of risk • further information and data, and investigation required • groups involved/consulted • information and data used in estimates • methods used • uncertainty in analysis.

RANGE STATEMENT	
<i>OHS risk evaluation</i> involves:	• comparison of risk with pre-established criteria for tolerance (or as low as reasonably achievable) and the subsequent ranking of risks requiring control
<i>Risk register</i> may include:	• list of the risks including: • an indication of the likelihood of the consequence/s occurring • possible consequence/s or outcome/s in terms of injury or damage • scenarios or circumstances under which damage or injury may occur.
<i>Hierarchy of control</i> may include:	• eliminating the hazard • and where this is not practicable, minimising risk by: • substitution • isolating the hazard from personnel • using engineering controls • using administrative controls (e.g. procedures, training) • using personal protective equipment (PPE).
<i>Parties</i> may include:	• builder • commissioning agent • contractors • designer • disposer • importer • installer • maintenance agencies • manufacturer • supplier and/or distributor • user.
<i>Purchasing and contractual arrangements</i> may include:	• purchase order • specifications • statement of work • supplier pre-qualification • tender documentation.
<i>Design brief or draft specifications</i> may include:	• form or outline of document for design brief • instructions • technical requirements or specifications for a designed product, structure, item, system or

RANGE STATEMENT

	process.
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Unit Sector(s)

Unit sector	
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Competency field

Competency field	Regulation, Licensing and Risk - Occupational Health and Safety
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Co-requisite units

Co-requisite units		