Australian Government

BSBWHS609A Advise on the application of safe design principles to control WHS risks

Release 1

INDUSTRY SKILLS COUNCILS
Creating Australia's Future

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Modification History

Release	Comments
Release 1	This Unit first released with *BSB07 Business Training Package version 7.0*. Replaces and is equivalent to BSBOHS607B Advise on application of safe design principles to control OHS risk.

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to advise on applying safe design principles to control work health and safety (WHS) risks during a product's life cycle.

Application of the Unit

The central feature of safe design is the application of relevant information and data about human experience, capabilities and behaviour to the design of objects, facilities, procedures and environments that people use. The unit applies to individuals who are in a position to provide advice on the application of safe design principles in their organisation, which may be involved in one or more stages of the product life cycle.

NOTE: The terms Occupational Health and Safety (OHS) and Work Health and Safety (WHS) are equivalent and generally either can be used in the workplace. In jurisdictions where the National Model WHS Legislation has not been implemented RTOs are advised to contextualise the unit of competency by referring to the existing State/Territory OHS legislative requirements.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Element	Performance Criteria
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.*

Elements and Performance Criteria

1. Advise on WHS requirements of the design process	1.1 Inform ***decision makers*** about their responsibility for the safety of downstream users 1.2 Advise decision makers of their legal duties, under commonwealth and state or territory WHS legislation and at each stage of the product ***life cycle***, to identify WHS hazards, assess and control WHS risks, and control for residual WHS risks 1.3 Promote WHS within the design requirements and the inclusion of a ***WHS risk assessment*** across the life cycle of the designed product 1.4 Source and make available to decision makers the most current information and data on WHS principles, materials, technology and systems for application in product design 1.5 Identify and make available required education and training to enable decision makers to identify WHS hazards, and to assess and control WHS risks in the design phase 1.6 Identify and access relevant ***sources of information and data*** 1.7 Consult known and/or potential users of the product during the design phase 1.8 Identify situations where ***specialist and other advisors*** may be required
2. Advise on the development of a systematic WHS hazard identification and WHS risk assessment system for safe design	2.1 Advise on the identification of WHS hazards and the conduct of a WHS risk assessment across the life cycle of the designed product 2.2 Advise on the selection and implementation of the most appropriate WHS risk controls for the designed product from a systematic analysis of the risk (the likelihood and consequences of injury or illness) arising from exposure to identified WHS hazards 2.3 Advise on ensuring WHS hazard identification, WHS risk assessment and WHS risk controls include potential alterations to the designed product during its life 2.4 Advise on ***documenting decision making*** during the WHS risk-assessment process and making documentation accessible to all ***parties*** 2.5 Advise on the establishment of a residual ***WHS risk register*** and the distribution of this information to those involved in the downstream or subsequent life cycle stages 2.6 Advise on monitoring the design as it evolves to identify potential new WHS hazards and risks and to manage WHS hazards and risks if they become evident

3. Advise on the principles of WHS risk controls	3.1 Use the ***hierarchy of control*** to advise on WHS risk controls in design 3.2 Advise on minimising the impact of possible failure or defect by ensuring the designed product includes fail-to-safe action
4. Advise on consultation processes 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 Advise on arranging consultation between all parties during the concept and detailed design phases to identify WHS hazards and control WHS risks 4.3 Advise on appropriately communicating residual WHS risks in the designed product to those who will use or interact with the designed product throughout its life cycle
5. Advise on procurement systems to minimise 'purchased' WHS hazards and risks	5.1 Advise decision makers involved in ***purchasing and contractual arrangements*** to include a requirement to identify WHS hazards, control WHS risks, and provide information and data on residual WHS risks 5.2 Advise on including an agreement to carry out a safe design approach in the ***design brief or draft specifications***

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
  - make observations of workplace tasks and interactions between people, their activities, equipment, environment and systems
- communication skills to:
  - conduct effective formal and informal meetings and communicate effectively with personnel at all levels of the organisation and WHS specialists
  - prepare reports for a range of target groups, including health and safety committees, health and safety representatives, managers, supervisors, and persons conducting businesses or undertakings (PCBUs) or their officers
  - use language appropriate to the work team and the task
- information technology skills to:
  - access and download internal and external information and data on WHS
  - use a range of media
- organisational skills to manage own tasks within a timeframe
- project-management skills to achieve continuous improvement and change in WHS matters
- research skills to:
  - access relevant WHS information and data
  - identify areas for improvement
  - interpret information and data
  - pay attention to detail when making observations and recording outcomes
  - use information and data-gathering techniques, such as brainstorming, polling and interviewing.

Required knowledge

- basic human cognitive and perceptual capabilities and other basic and fundamental factors relevant to the design of human–machine interfaces
- basic knowledge of psychosocial factors, occupational violence, shift work, repetitive work, awkward postures, lighting, thermal environment and work layout
- basics of anthropometry and biomechanics
- commonwealth and state or territory WHS Acts, regulations and codes of practice and other relevant publications and guidelines relating to information and data, consultation, participation and safe design, such as the Safe Work Australia Guidance on the Principles of Safe Design for Work and the Safe Work Australia model Code of Practice: Safe Design of Structures
- direct and indirect factors that impact on WHS and the environment in the design of products

- formal and informal communication and consultation processes, and key personnel related to communication
- hierarchy of control and criteria for choosing between different WHS risk controls
- internal and external sources of WHS information and data, and how to access them
- key personnel, including change agents, within workplace management structure
- legal liability in relation to providing advice
- organisational behaviour and culture as they impact on WHS and on change
- pertinent sections of relevant Australian standards and other standards
- risk management and the principles and practices of a systematic approach to managing WHS
- WHS legislative duties of PCBUs or their officers who are designers to eliminate hazards at the design stage.

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: • applying a range of WHS risk controls in a collaborative safe design process • providing advice on a range of safe design principles at different stages of the product life cycle • use of products developed in applying WHS risk controls in a safe design process • 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 • relevant legislation, standards, guidelines, research or industry data • 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 WHS 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 WHS and the environment in the design of products • review of information made available in relation to

	WHS principles, materials, technology and systems for application in the design of the products • evaluation of consultation with potential users of the equipment during the design phase • review of residual risk register established • assessment of decision making documented during the WHS risk-assessment process.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example: • BSBWHS607A Apply ergonomics to manage WHS hazards and risks • BSBWHS608A Assist with applying occupational hygiene to manage WHS hazards and risks.

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.

Decision maker may include:	• any party with influence over, or legal duties regarding the specifications of, the designed product, including:
	  • client or commissioning agent
	  • designer
	  • financier
	  • manufacturer
	  • supplier
	  • purchaser
	  • installer
	  • user
	  • insurer
	  • importer
	  • erector
	  • maintainer
	  • regulator
	  • worker, PCBU or their officer.

Life cycle may include:	• design • construction and manufacture • transport, supply and installation • use, maintenance and servicing • decommissioning and dismantling • disposal.
WHS risk assessment may include:	• identifying hazards and risks • defining the range and severity of possible consequences associated with identified hazards and risks • deciding the likelihood of each consequence • assessing the effectiveness of existing WHS risk controls • comparing WHS hazards and WHS risks against pre-established criteria for tolerance (or as low as reasonably achievable) and the subsequent ranking of WHS risks requiring control.

Sources of information and data may include:	• Australian and international anthropometric databases • Australian and international standards, codes of practice and guidance material • commonwealth, state or territory WHS and other regulatory bodies • employer groups and unions • government and other advisory bodies, such as Australian Competition and Consumer Commission, Safe Work Australia • industry advisory bodies • professional associations, such as Human Factors and Ergonomics Society of Australia, Engineers Australia, Safety Institute of Australia, Australian Institute of Occupational Hygiene, Australian and New Zealand Society of Occupational Medicine, Design Institute of Australia, and Australian Institute of Architects.
Specialist and other advisors may include:	• architects, interior designers and builders • building surveyors and certifiers • design professionals • drafts people, quantity surveyors and surveyors • engineers: design, acoustic, safety, mechanical, chemical, civil, lighting and electrical • ergonomists • health professionals, including occupational medicine physicians • insurers • lawyers specialising in product liability and associated areas • legal practitioners • maintenance and trades personnel • manufacturers • occupational hygienists • suppliers and distributors.
Documenting decision making may include:	• assumptions • description of possible consequences and their likelihood • effectiveness of existing WHS risk controls • factors affecting level of hazard and risk • further information and data, and investigation required • groups involved or consulted • information and data used in estimates

	• methods used • specifying the degree of uncertainty in analysis.
Parties may include:	• builder • commissioning agent • contractor • designer • disposer • importer • installer • maintenance agencies • manufacturer • supplier and/or distributor • user.
WHS risk register may include:	• indication of the likelihood of the consequence occurring • list of the hazards and risks • possible consequences associated with hazards and risks • possible consequence or outcome in terms of injury or damage • recording WHS hazards and risks not eliminated in the design together with possible WHS risk-control strategies • scenarios or circumstances under which injury or damage may occur.

Hierarchy of control includes:	• eliminating the hazard or risk and where this is not practicable, minimising risk by:
	  • substitution
	  • isolating the hazard from personnel
	  • using engineering controls
	  • using administrative controls (for example procedures and training)
	  • using personal protective equipment (PPE).

Purchasing and contractual arrangements may include:	• purchase orders • specifications • statements of work • supplier pre qualifications • tenders.
Design brief or draft specifications may include:	• form or outline of document for design brief • instructions • technical requirements or specifications for a designed product, structure, item, system or

	process.

Unit Sector(s)

Regulation, Licensing and Risk – Work Health and Safety