

# Managing OHS Risks in the Design of Buildings and Structures Standard

Last Update: 16 April 2014.

Owner: Manager Health, Wellbeing and Safety

## Introduction

The purpose of this standard is to make clear, the requirement for design consultants to have a systematic process in place that demonstrates the management of OHS risks during the design of a building or structure. Under section 28 of the OHS Act, 2004 designers of buildings and structures which are going to be workplaces are required to comply with this regulation. This duty is to make sure that the design does not pose risks to people when using the workplace for a purpose for which it was intended. The focus is for the designer to eliminate at the source, any risks to health and safety or welfare of employees and other persons who work in buildings and structures.

## Scope

This procedure applies to the design and construction of all University infrastructure including but not limited to structures such as buildings, bridges, dams, silos tunnels, pits, telecommunications towers, roads, electrical services and temporary structures to be used as workplaces.

## Definitions

Contractor	A person or organisation engaged to undertake work for the University.
Design Consultant	A person or organisation contracted by the university to develop design specifications for a building or structure or, An employee of Deakin University who is responsible for designing specifications for a building or structure. The consultant could be an architect, engineer, building design professional, draughtsman, or designer-builder who works on designs of buildings or structures which are not private dwellings but are intended to be used as a place of work.
In Scope hazards	Hazards that are affected by the design of the building or structure
Project Manager	The University's officer or person nominated to oversee and coordinate a project.

## Responsibility

The Director Facilities Services Division is responsible for ensuring any company contracted to undertake work in relation to the design of buildings and structures for Deakin University is aware of this standard and the requirement to comply with it.

## Risk Management in Design

The application of a risk management process to designs is to ensure the University has an appropriate response to risks that may impact the ongoing safety to general users and members of the public that will access the facility once it has been constructed or be affected during its construction.

A risk management approach incorporates the process of identification, risk assessment and control to be undertaken during the design of a building or structures. The University's risk management template and risk matrix is to be used for this purpose. In addition, the designer must ensure compliance to **Deakin University's Design Standards for Facilities**. Any designs that depart from the Deakin University's design standard or other relevant standards must be identified in the risk assessment.

The risk assessment must take into account the following factors:

- That the building or structure is designed to be safe and without risks to the health of person's using it as a workplace
- The range of work activities associated with the intended uses of the building or structure and account for these in preparing a design
- The provision for maintenance, repair service and cleaning activities that will need to be undertaken in and on the completed building or structure
- What is reasonably practicable to implement as risk mitigation
- Identify any matters that give risk to health and safety risks particularly any high risks

For further information please see [University's Risk Management Guidelines](#).

### **Design OHS Risk Register**

The designer must document the risk management process using the University's [Design Safety Risk Assessment Template](#). If the designer has a template within use in their business, the designer can use this providing the process reflects the university's procedure. Prior approval to use the designer's template is required from the Project Manager.

### **Competency of Design Consultant**

Regardless of whether the design consultant is a Deakin staff member or an external consultant, it is imperative that they have the appropriate skills and qualifications to identify all the hazards and risks associated with the project. If additional skills are required due to the specialised nature of the project, the designer responsible must seek out that advice from suitably qualified personnel, to ensure all foreseeable hazards and risks are identified.

Designers are required to verify the health and safety requirements of the project and supply this to the project manager in writing and in the format specified by Deakin University.

Professional associations such as those for architecture and engineering are a suitable source of information and education for those designers who require competency development. It is not the responsibility of the University to provide competency training and education to design consultants who are contracted to work for the University.

Further information can be found at:

<http://architecture.com.au/search?query=design%20safety>

<http://www.engineersaustralia.org.au/events/engineering-practice-risk-management-workshop-safety-design>

### **Designers and the Building Code of Australia (BCA)**

The focus of the BCA is to ensure designers of buildings and structures achieve acceptable standards of structural sufficiency, safety, health and amenity. In addition to BCA compliance, designers must also comply with section 28 of the OHS Act which imposes additional regulatory provisions in relation to occupational health and safety.

Worksafe Victoria has developed a guidance document called [Designing Safer Buildings and Structures](#) which has a section dedicated to assisting designers to implement a safety in design process.

Recommended Process to Assist Designers (WorkSafe Victoria, 2005)

Step 1: Preliminary Hazard Analysis

Establish the breadth of the workplace hazards	Pre Design Phase
Confirm designers responsibilities	
Conduct preliminary hazard analysis	<p><b>Conceptual and schematic design phase</b>                      Framework for hazard analysis:</p> <ul style="list-style-type: none"> <li>• Siting including impact on adjacent areas</li> <li>• High consequence hazards</li> <li>• Systems of work</li> <li>• Environment</li> <li>• Incident mitigation</li> </ul>
Identify 'in scope' hazards of Section 28 ('in-scope hazards are those that are affected by the design of the building structure)	

Step 2: Systematic Risk management

<p><b>Identify solutions from recognised standards</b></p> <p>Determine how in scope hazards will be eliminated or controlled through either</p> <ul style="list-style-type: none"> <li>• Implementing Standards solutions or</li> <li>• Conducting a full risk management for hazards:</li> </ul> <p>-no suitable solutions found in Standards and guidelines or                      -conflicting standards exist or                      -there is poor safety experience in the type of work place</p>	<p><b>Design Development Phase</b></p> <p><b>Implement Recognised Standards Solutions</b>                      Identify hazards that can be adequately addressed by applying solutions/guidelines in existing standards including Deakin Design Standards</p>
<p>Apply appropriate risk management techniques</p> <p>Ensure OHS requirements are included with other building or structure project requirements in the design process</p> <p>Review design solutions for ohs risks to establish whether Section 20 requirements are met that is risk elimination or reduction. If not, return to a review of risk management techniques.</p> <p>Final design</p>	

**Step 3: Preliminary Hazard Analysis**

Broad groups of workplace hazards are to be identified before the design scope begins. In addition, the project manager along with the designer must confirm what hazards are ‘in scope’ of Section 28 in relation to the project at hand.

Category of Hazards (sample)	Examples of Hazards
Siting of building(s) or structures(s)	Events or incidents occurring between multiple buildings or structures, arising from poor siting, or lack of separation.
High consequence hazards	The storage and handling of dangerous goods, or work with high energy hazards (eg temperature, pressure) and health hazards such as biological materials.
System of work	The systems of work (including cleaning and maintenance activities of the building or structure) that pose risks: eg. Inadequate pedestrian/vehicle separation; restricted access for building and plant maintenance; exposure to hazardous substances; manual handling, exposure to occupational violence, working at height.
Environment	Environmental conditions that are not part of the specific system of work, such as inadequate ventilation or lighting and welfare facilities that do not meet workplace needs.
Incident mitigation	The possibility of the building or structure to increase the consequences after an incident due to inadequate egress, siting of assembly areas, inadequate emergency services access.

**Step 4: Systematic Risk Management**

Once the preliminary hazard analysis has been completed a systematic risk management process is required. The use of a variety of consultative mechanisms to identify, assess and determine the final control mitigations will be undertaken.

The process is as follows:

1. Identify solutions from recognised standards
2. Apply appropriate risk management techniques
3. Discuss design options
4. Design finalisation
5. Potential or actual changes in construction phase must be assessed to ensure risk is not increased.

**Documentation**

A copy of this procedure and relevant templates will be provided to the Design consultant by the project manager. The document will form part of the project file and will be the property of Deakin University. The complexity of design risk assessment will vary depending on the size and complexity of the project. Each specialist designer is required to complete their own risk assessment unless otherwise agreed at the commencement of the project.

**Further Information**

[WorkSafe Victoria - Designing Safer Buildings and Structures.pdf](#)

**Deakin University’s Design Standards for Facilities (can be obtained from Facilities Services Division).**

[WorkCover NSW Chair Safety in Design tool 0976.pdf](#)

[Safe design of buildings at Universities– Malcolm Gallagher](#)