

Safety in Design – WHS Act 2011

WHS LEGISLATION AND DUTY OF THE DESIGNER

This practice note is intended to provide an overview on the new WHS legislation 2011 and what is required of the structural engineer in their duty as the designer.

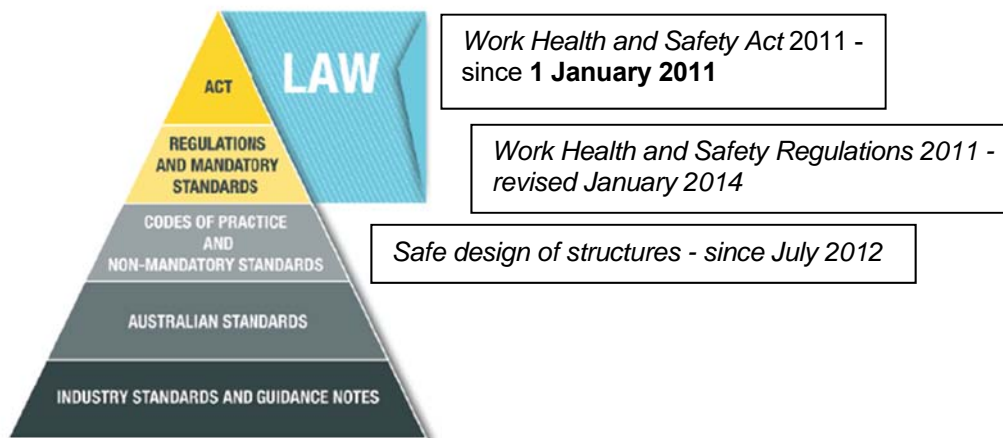
Overview of the WHS legislation

The harmonisation of work health and safety (WHS) legislation was proposed to reduce regulatory burdens, protect the health and safety of workers and workplaces, reduce the compliance costs for business and improve efficiency of regulators.

WHS legislation has been enacted in seven jurisdictions, refer to map below. Victoria and Western Australia had yet to enact the legislation (although these states do have safe design obligations). State and territory regulators are responsible for adopting and enforcing their own laws.

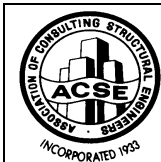


The triangle diagram below shows the legislation, including the Act, Regulation, codes of practice, standards and guidance notes and how they all fit together. The codes of practice provide a guide to how the legislation should be implemented. Other Australian and industry standards should also be used for guidance.



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Duty of the designer – WHS Act 2011

A designer has a duty under the Act and Regulations to:

- Consider that the structure designed is to be without risk to health and safety at any time that it is to be used as or at a workplace i.e. for those who construct, alter, convert, fit-out, commission, maintain, refurbish, renovate, repair, demolish, dismantle or dispose of the structure, etc.
- Be familiar with the legislation in particular section 22 and 46 of the WHS Act and regulation 61, 64, and 294-296 of the WHS Regulation (or those of the relevant state Act and Regulation).
- Be familiar with the Code of Practice for Safe Design of Structures which should be used as a practical guide to meeting the obligations under the WHS Act.
- Design structures to be safe¹ “so far as reasonably practicable”²
- Provide adequate information about purpose and safe conditions
- Give current, relevant information to any person using the plant, substance or structure
- Perform calculations, analysis, testing & examination necessary for the performance of the duty & provide results
- Provide a written safety report to the PCBU³ specifying any hazards relating to the design of the structure

Key elements of safe design include:

- Identification of hazards
- Assessment of risks
- Mitigation of hazards to eliminate risk as much as is practicably possible
- Documentation of the risk mitigation procedure
- Continuous review during the design process

Further information and the documents noted above can be obtained from the following websites:

<http://www.safeworkaustralia.gov.au/>

<http://www.workcover.nsw.gov.au>

<http://www.safedesignaustralia.com.au/>

¹ Safe design is the integration of hazard identification, risk assessment and control methods early in the design process to eliminate or minimise risks to health and safety throughout the construction and life of the structure being designed.

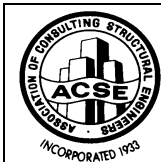
² reasonably practicable in this context means that which is, or was at a particular time, reasonably able to be done to ensure health and safety, taking into account and weighing up all relevant matters including:

- (a) the likelihood of the hazard or the risk concerned occurring
- (b) the degree of harm that might result from the hazard or the risk
- (c) what the person concerned knows, or ought reasonably to know, about the hazard or risk, and ways of eliminating or minimising the risk
- (d) the availability and suitability of ways to eliminate or minimise the risk, and
- (e) after assessing the extent of the risk and the available ways of eliminating or minimising the risk, the cost associated with available ways of eliminating

³ PCBU - person or an organisation conducting a business or undertaking who commissions the design; in this context this is generally the client (who also has a duty under the WHS legislation).

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Documentation

It is important that the designer documents the steps taken in the design process to identify and mitigate any risks associated with their design and then summarise any “residual” risks that could not be designed out and therefore need to be identified in the project documentation.

Common risks that are residual are such items as working at heights, excavations, temporary stability and propping, hazardous materials, and excavations.

It should be noted that it is not sufficient to merely state somewhere on the drawings that “the contractor is responsible for all temporary works”. Suggested sequences of the works and propping need to be highlighted - sufficient to demonstrate that the proposed design can be constructed safely and that the risks associated with the construction of the design have been identified and mitigated as far as “practicably possible”.

Documentation may also need to be provided at the completion of the project to identify any risk future users of the building may be exposed to during future works including contractors involved with demolition of the structure eg cantilevers, hanging structures, unusual load paths.

Risk matrices are commonly used to identify the risk, the probability of the risk occurring and the seriousness of risk should it occur. Each risk can then be categorised, and the steps taken to mitigate it documented.

Notes on drawings that identify WHS issues are a good way of ensuring that any issues are identified, and can be used in conjunction with risk registers, matrices and other documentation that demonstrate the appropriate steps have been taken in the design process.

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