

SAFETY THROUGH DESIGN

Section 39 (Summary)

- (1) Applies to a PCBU (a designer) who conducts a business or undertaking that designs—
- (a) **plant** that is to be used, or expected to be used, as a workplace; or
 - (b) a **substance** that is to be used at a workplace; or
 - (c) a **structure** that is to be used as or at a workplace.
- (2) The designer must, so far as is reasonably practicable, ensure that the plant, substance, or structure is designed to be **without risks** to the health and safety of persons—
- (a) who **use** the plant, substance, or structure; or
 - (b) who **handle** the substance; or
 - (c) who **store** the plant or substance; or
 - (d) who **construct** the structure; or
 - (e) who **carry out any reasonably foreseeable activity** (such as inspection, cleaning, maintenance, or repair) at a workplace in relation to—
 - (i) the **manufacture, assembly, or use of the plant**, or the proper storage, decommissioning, dismantling, or disposal of the plant; or
 - (ii) the **manufacture or use of the substance**, or the proper handling, storage, or disposal of the substance; or
 - (iii) the **manufacture, assembly, or use of the structure**, or the proper demolition or disposal of the structure; or
 - (f) who are **at or in the vicinity of or who are exposed to** the plant, substance, or structure or whose health or safety may be affected by a use or an activity referred to in any of paragraphs (a) to (e).
- (3) The designer must carry out, or arrange the carrying out of, any **calculations, analysis, testing, or examination** that may be necessary for the performance of the duty imposed by subsection (2).
- (4) The designer **must give to each person** who is provided with the design for the purpose of giving effect to it **adequate information** concerning—
- (a) each **purpose** for which the plant, substance, or structure was designed; and
 - (b) the **results** of any calculations, analysis, testing, or examination referred to in subsection (3), including, in relation to a substance, any hazardous properties of the substance identified by testing; and
 - (c) any **conditions** necessary to ensure that the plant, substance, or structure is without risks to health and safety when used for a purpose for which it was designed or when carrying out any activity referred to in subsection (2)(a) to (e).
- (5) The designer must, on request, make reasonable efforts to give current relevant information on the matters referred to in subsection (4) to a person who carries out, or is to carry out, any of the activities referred to in subsection (2)(a) to (e).

HOW TO MEET YOUR DUTIES AS A DESIGNER

PLANNING AND COMMUNICATION

It is essential the clients work with the designers to identify and provide all known information relating to the potential hazards and risks of the proposed project so these can be included in the design process and passed on to the persons in the chain who are potentially exposed to the hazards. Information needs to be gathered such as existing hazards (asbestos, contaminated soil, earthquake prone, etc), maintenance requirements, intended purpose, its occupancy, and any other special considerations required to be taken in to account in the design phase.

MULTIPLE PCBU INVOLVEMENT

Section 34 of the HSW Act describes the requirement for PCBU's, who have a duty in relation to the same matter, must consult, cooperate, and coordinate activities with all other PCBU's who have a duty in relation to the same matter.

All PCBU's associated with the project, including clients, workers, contractors, and designers will be required to consult with each other on the hazards and risks associated with the structure and work together on appropriate solutions. This may involve the changing of the design to address health and safety risks.

MANAGING RISK

I recommend holding a register of all risks considered to be part of the design, build, maintenance, and disposal phase of work and structure life cycle. These should form a risk assessment for each phase of the structure life cycle.

The PCBU could hold a register of risks and control processes which are applied to projects to eliminate or minimize risks. This would become an internal guide as to how the company manage these risks in to the designs and apply them to structures as appropriate. The more serious the risk, the more time and effort will be dedicated to eliminating or minimizing the risk. Where a similar task or process apply for a number of projects, or the design is of a fairly routine nature, a generic risk assessment model could be applied.

The designer will ensure that the generic assessment is valid for the project before deciding to adopt it. Control measures for common hazards may be chosen from these known solutions. For other new or complex hazards, a risk assessment may be necessary to assist in determining the most effective control measures.



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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

MANAGING RISK CONT...

For designs that have unusual or atypical features which present unique hazards and risk further risk assessments should be carried out and these passed on to those parties who are impacted or exposed to the resulting risk.

Design options should be developed in accordance with the hierarchy of control, selecting the most suitable solution balancing the direct, and indirect costs of implementing the design against the benefits.

HOW TO MEET YOUR DUTIES AS A DESIGNER

DESIGNER RESPONSIBILITIES

- Consider safety throughout lifecycle as workplace.
- Consult with client, workers, principal contractor and other duty holders.
- Consider people in vicinity.
- Undertake research, testing and analysis.
- Provide safe design report on construction hazards to client.
- Provide safe design information on lifecycle to anyone issued with the design and on request

CLIENT RESPONSIBILITIES

- Consider safety throughout lifecycle as workplace.
- Consult with designer, workers, principal contractor and other duty holders.
- Consider people in vicinity.
- Provide information to designer.
- Provide information to principal contractor on safety including designer's safe design report.

PRINCIPAL CONTRACTOR

- Ensure construction work is managed in a way that eliminates or minimises risk to health and safety.
- Consult with other duty holders.
- Manage risks associated with the construction work.
- Secure the workplace.
- Comply with all Safe Work Method Statements for high risk work.
- Must comply with duties of designer when undertaking design work or modifying a design.

PRE-DESIGN PHASE

- Seek information from client about the project
- Its proposed purpose and use
- Known and potential hazards
- Maintenance requirements
- Special considerations
- Observation and monitoring requirements including level of involvement of designer in construction monitoring and observation.

DESIGN DEVELOPMENT PHASE

- Consideration of factors identified in pre-design phase
- Consideration of those who will interact with the structure throughout its life



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Reference material:

Safe Design of Structures – Code of Practice NSW Government

Designing Safety – Worksafe Australia Buildings and Structures

- Analysis and calculations
- Reference to internal risk management processes and applications.
- Risk assessments made
- All information provided and discussed with PCBU's including calculations, risk assessment, analysis etc.

TENDER PHASE

- Information as noted above given to potential tenderers
- Health and safety assessment of methodology to manage risks, training, skillsets, policies, procedures etc

BUILD AND VARIATION PHASE

- Information provided to contractor on an ongoing basis
- Calculations and specifications provided
- Ongoing consultation of variations
- Site inspections
- Continuous communication of hazards and control processes

PROPOSED PROCESS:

