

# Who's responsible for health and safety in design?

Health and safety in design does not end with the design phase. It should be an ongoing process involving all parties – including designer, contractor and client – throughout a project's life cycle.

**HEALTH AND SAFETY** in design (HSiD) is the process of managing health and safety risks throughout the life cycle of structures, plant, substances or other products.

## **Design safety for life of building**

HSiD is about incorporating safety into the design process by thinking about how a building or infrastructure project is safely built, operated, maintained and also decommissioned.

It's also about incorporating safety capacity into a design for events that may happen like a fire or earthquake and can include things like how to safely service and replace parts.

We need to think about how we will build but also how we will use the infrastructure safely. Understanding and considering infrastructure demands and safety is a complex process and project specific.

Road construction has different needs than buildings, while infrastructure such as ports, airports and large industrial sites have many safety facets that must be considered.

## **Designers need input from experts**

It is important to remember the design phase happens before construction and is based on what people think may be needed.

It is essential the designer has input from experts on how to safely build, use and maintain the site throughout the project and incorporate these factors into the design. We need to talk about HSiD with contractors at the start of the build phase.

Difficulties often arise early in a project when the final construction and infrastructure purpose may not be fully known. Designs are often generic, and safety assumptions are made. It is essential these uncertainties or assumptions are communicated early in the project and as it progresses.

Designers need to be able to communicate the design principles and assumptions with the contractor at the start of the building phase. This is because, when something unforeseen happens or conditions are different to those assumed, modifications

can be made together with the client, designer and contractor to ensure safety is maintained as a key project outcome.

HSiD is important and widely recognised and supported across the construction industry. A number of key initiatives are in place that cover the different elements of HSiD in New Zealand.

## **Who is responsible?**

HSiD is often considered the responsibility of the designer in isolation from the wider holistic role of users, clients, funders and contractors in design. However, if wider input is overlooked, not fully addressed, poorly communicated or not understood, there are significant cost and serious risk implications.

There are also implications for a person conducting a business or undertaking (PCBU) and the role of the designer under the New Zealand health and safety legislation.

It is important to point out design is based on a series of assumptions of what will happen and how a design will be used - its purpose. If



Health and safety in design should be part of an ongoing conversation.

operators and owners decide to change their infrastructure and its use or intended purpose, it is important to consider whether the design needs to change to make it safer to maintain.

We are all responsible for these conversations, which should be ongoing.

#### **Work needed to maximise benefits of HSiD**

As is evident in the risk registers of higher-performing players in the construction industry, designers put a lot of time and effort into the preparation of HSiD documentation. There is, however, an emerging discussion that the effort put into HSiD is siloed at the input design phase of a project.

As an industry, we are less effective in having HSiD discussions because design assumptions are confirmed elsewhere. The result is that we do not maximise the full benefits of HSiD.

This is evident once the outcomes across the life cycle of projects are clear and gaps appear between HSiD literature ideals and practice. More work needs to be done to understand how these processes work or do not work efficiently.

CHASNZ has formed an HSiD task group to define the problems with HSiD practice and understand the systemic and behavioural barriers limiting the effectiveness of safety in design, so we can improve safety outcomes.

#### **Further reading and resources**

- Engineering New Zealand's revised Practice Note 4: *Health and safety by design* will be released soon for consultation and is expected to be available later this year. For more, visit [www.engineeringnz.org](http://www.engineeringnz.org).
- WorkSafe has guidelines available at [www.worksafe.govt.nz/topic-and-industry/health-and-safety-by-design/](http://www.worksafe.govt.nz/topic-and-industry/health-and-safety-by-design/).
- Russell McMullan's thesis *Safety in design in recent transportation infrastructure projects in New Zealand*, see [www.chasnz.org/resources](http://www.chasnz.org/resources). ◀