

Greetings all.

On 24 November 2021, CICA CEO Brandon Hitch and Stuart Edwards, Director of Edwards Heavy Lift, and CICA Technical Committee Member - presented the Federal Safety Commissioner Hazard 2020 webinar on lift planning for crane risk management. You can watch this webinar [here](#).

Following on from [the webinar](#), today's Bulletin is about terms we use for lift planning.

There are **five common terms used in the crane industry** relating to lift planning:

- Designed lift – AS2550.1
- Engineered lift – AS3775.2
- Lift procedure – AS2550.5
- Lift plan
- Lift study

Some of these terms are explained in the Australian Standards (as noted above), but the examples given in the Australian Standards are not always in line with practical lifting practice, so there may be confusion on the scope, content, and application of these terms when planning a lifting task.



Among these terms, Designed Lift and Engineered Lift are to some extent interchangeable terms.

Designed lifts, as defined in AS2550.1 are extraordinary and temporary lifting operations requiring an assessment of the design of the crane,

which may require a temporary re-classification or re-rating or a change in the intended use of the crane.

This is a broader term used when usually engineers are involved as the competent person in the lift planning to develop the lift plan, but not all designed lifts need engineering involvement, some of the designed lifts could be executed by competent persons like the lift supervisor.

An engineered lift, on the other hand requires input from the engineer and the lift plan needs to be verified by the third-party reviewer. An engineered lift is a type of designed lift. Designed lift and engineered lifts should include a comprehensive documented Lifting Procedure outlining the requirements of the crane and equipment used with the lift, the method of lifting and personnel involved in the lift.

Lift plan is another broader term used by the industry, it could be a one-page document for simple lifts or could be a multi-page document for complicated lifts (i.e., designed lift/engineered lift). The lift plan is a written document that specifies the requirements and resources necessary to safely and efficiently to perform the lifting task (include information on % of crane rated capacity used, boom length, radius, pickup and placement arrangements). Lift procedures could be incorporated as part of the lift plan.

Lift Study is a comprehensive investigation of the different aspects of the lifting project, documentation of a lift study consists of a group of documents which includes lift plans and other documents such as project planning, equipment selection, various drawings, SWMS, and relevant project documentations. Sometimes a lift study is required by principal contractors at the planning stage for their feasibility study.

What type of lift plan or what level of lift planning is required for your lifting tasks should be based on the result of your risk assessment.

For example, for multi-crane lifts, if the same type of cranes are used and capacity requirements specified in AS2550.1 6.28 are adopted, a competent person like an intermediate rigger could develop a designed lift lift plan for the operation. If the lifting operation uses a capacity reduction factor different from those

specified in AS2550.1 then a lift plan for a Designed Lift/Engineered Lift should be developed by a competent engineer.



To make it easy for the industry, we recommend four levels of lift planning for the lifting tasks you do.

- HRWL – informal, done by the crane crew on-site before the job commences, based on knowledge of reading load charts and known loads trained in the HRWL. No documented lift plan required, managed through SWMS or SOP.
- Simple - a combination of verifying pre-start check, site hazards check and lift planning, it can be completed by an intermediate rigger or a crane operator. Use a simple lift plan when a documented lift plan is required to document lift details (load weight, % of the Crane rated capacity used, etc.). A simple lift plan is suitable for lifts where no load sharing (between main and auxiliary hooks, or between different cranes) and no complex rigging is required.
- Detailed –Use a detailed lift plan when the lifting task involves multiple cranes or complex rigging arrangements. A detailed lift plan could be part of a designed lift and/or engineered lift. It can be done by the lift supervisor or the lift engineer. A detailed lift plan should investigate the different load effects during the different stages of the lifting task (pick up, slew, place), including any reduction/or other contributing factors that apply to the crane and provide detailed information on the rigging arrangement.

- Engineered – Usually involves an assessment of the design of the crane, which may require a temporary re-classification or re-rating or a change in the intended use of the crane. An engineered lift plan is also applicable for sling designs that are intended for a dedicated or specific use (non-general-purpose conditions of use). Engineered lift planning should be completed by a professional engineer with experience in lift plans and a third-party should review the lift plan.



CICA has developed templates for simple lift plan and detailed lift plan, these lift planning tools are available [here](#).

To [download a copy](#) of this and other safety bulletins, click [here](#)

If you would like to subscribe to these safety bulletins please send an email [here](#).

To [become a CICA Member](#), click [here](#).

Stay Safe - CICA