

Client Briefing

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Construction Fire Risk Management

The recent fire at the Auckland International Convention Centre is a stark reminder of the potential consequences of a fire occurring during construction, and the need to manage this risk.

Managing Fire Risk

For a fire to occur there needs to be four elements – fuel, heat (the ignition source), oxygen, all of which are common on construction sites, and a chain reaction. From a practical perspective, preventing fires from occurring focuses on managing and controlling potential ignition sources and the accumulation of fuel, and having a prompt response plan to deal with any incidents that do occur.

Pre Construction

Managing fire risk should start during the initial design when decisions are being made on:

WHAT IS TO BE BUILT

- The selection of materials
- The type and location of the passive and active fire protection measures to be incorporated into the asset



- The size of individual fire cells¹
- The expected fire load of the building's contents

WHERE THE ASSET IS TO BE BUILT

- The effect the construction will have on existing assets
- The proximity of the new asset to utilities and firefighting resources
- The general accessibility of the site

HOW THE ASSET IS TO BE CONSTRUCTED

- Construction methods required
- Sequencing of activities
- When life-safety systems can be activated

¹ A fire rated barrier or enclosure designed to contain and prevent spread of fire for a specified time duration. To be effective any penetrations of the enclosure (such as doors or services conduits) need to be designed and installed correctly to prevent the spread of fire.

Regulations correctly focus on the safety of occupants, but sometimes give little consideration to resilience of the asset itself.

We recommend that the design process should include a rigorous review of insurable risks during the concept design phase. This has the benefit of improving understanding of and addressing risks that influence insurers' perceptions of risk during the project's construction and operating phases. Insurers' perceptions of risk are generally based on losses they or the insurance industry have underwritten and paid claims on in the past for similar projects in similar circumstances. Addressing the interests of insurers at the concept design phase will not only help reduce the insurance costs for the project, but can reduce the likelihood and extent of uninsured consequences that would arise in the event that an actual loss occurs. Our Marsh Risk Consulting practice can assist with a Concept Design Review Exercise.

Undertaking an insurable risk review provides an opportunity to holistically consider whether some aspects of the overall project concept design (such as selection of insulation materials) may compromise the reliability of other design aspects (such as the reliability of fixed fire suppression systems), compromising the overall safety of occupants and resilience of the asset. Issues that are identified can then be addressed in a cost efficient manner.

During Construction

Fire prevention methods during construction focus on

- Preventing ignition from occurring, or where ignition does occur, ensuring fires are detected early and extinguished while they are still small, avoiding delays in either alerting the fire service or tackling the fires will result in fire taking hold and spreading
- Managing the amount of accumulated combustibles

The core measures that a principal should be requiring to be taken during any construction project are:

- Implement formal hot work procedures including using designated areas for hot work, clearing away flammable materials from the site of hot works, and maintaining a dedicated fire watch during the hot works and after hot works have been completed; these procedures should be robust and tested with audits undertaken periodically
- Maintain first aid fire-fighting supplies (potentially including hose reels, fire blankets, and adequate numbers of extinguishers) throughout the site and ensure the work-force are trained in how and when to use these supplies
- Maintain good house-keeping on site to prevent the build-up of flammable materials and to prevent access throughout the site from being impeded

It is important that these measures be monitored and enforced.

Other specific measures that can be taken include:

- Conducting randomized fire drills on a regular basis to ensure that the work-force are familiar with the process
- Maintaining an up to date inventory of HSNO materials that can be quickly accessed by the fire brigade
- Consider progressively activating sprinkler protection systems as sections have been completed once the structure is watertight and first fix has been undertaken
- Consider the installation of a building riser
- Consider the use of an IP connected CCTV fire detection system

Insurance Policy Requirements

It is a standard policy requirement in both property and liability policies that insureds take reasonable precautions to prevent loss or damage, and insurers expect insureds to take prudent measures to manage the risk of damage occurring during construction. The wordings of these clause vary: sometime a general obligation is referred to, and other times the requirements are more specific.

The courts in New Zealand and elsewhere do not tend to allow insurers to use reasonable precautions requirements to decline claims in the case of carelessness; because after all, negligence is a major cause of insurance claims and therefore reason for insurance. But claims can be validly declined if the insured is reckless or grossly irresponsible.

A recent (March 2019) New Zealand High Court case² decided by Justice Ellis, involving Hawk Packaging and its liability insurer, helpfully explains the precedents and principles in some detail, before deciding that the insured had indeed been knowingly reckless in not taking steps to prevent a large fire at its premises. The court found that inadequate and defective fire-fighting equipment, storage practices and the continued use of a paper storage room without a roof were (individually and together) directly and substantially causative of the spread of the fire.

For some projects, insurers will be prescriptive in their approach and seek to impose specific measures to be taken to manage fire risk. The nature of the insurers requirements and the effect of failing to comply with these measures depends on the wording of the clauses used.

The least prescriptive approach sets out good risk management measures but does not have any pre-determined penalty in the event that the measures have not been observed. However, it is far more common for insurers to require specific risk management measures be taken, with failure to comply with these measures reducing the policy coverage.

² T&G Processed Foods Ltd v Hawk Packaging Ltd [2019] NZHC 643 [29 March 2019]

Where an insurer is seeking to impose specific risk management measures for a project, the practicality of the requirements need to be considered in view of the constraints of the site and the nature of works being done. If site constraints mean that the insurer requirements cannot be met, this needs to be raised with the insurer prior to works commencing so that risk management measures that are appropriate to the type of works and the site constraints can be agreed with the insurer and implemented on site in advance. Any specific policy requirements need to be conveyed to all insureds.

The effect of a breach of the insurer's requirements depend on the exact wording of the clause in question (these clauses can refer to "hot work" or "fire safety" or "firefighting" in their name). Some are set out as an exclusion, while others can be expressed as a condition precedent or a warranty. While the legal implications vary somewhat, any breach can potentially put some or all of the coverage at risk.

Where the clause has the effect of an exclusion, section 11 of the Insurance Law Reform Act 1977 can assist the insured where there is a breach of the policy but the breach didn't cause or contribute to the insured loss. However, in the case of Hawk Packaging, the judge found that the lack of effective fire precautions obviously did cause the fire, so section 11 was found not to be applicable.

Finally, it is also important to note that if there are relevant facts or practices that the insured knows about but does not tell its insurer about or misrepresents, then the insurer may be entitled to avoid the entire policy for material non-disclosure or misrepresentation.

This obligation on the insured of full disclosure applies not just to fire protection issues, but to all material facts relating to the risk to be insured, and the premium and conditions that the insurer would apply if it was fully informed.

Protection for Innocent Parties

Where there are multiple parties that are insured under a single policy (such as the owner or principal, the contractor, and subcontractors), it is common practice for the policy to state that each insured is treated separately so far as complying with policy conditions are concerned. Depending on the exact wording of that clause, this often means that provided that they did not play a part in the failure to comply with policy conditions, the innocent party will not be affected by another party's failure to comply, although the practicalities of how a claim is settled in such circumstances can be challenging. However, while these clauses are very desirable, not every policy will provide this by default, so it is something to look out for and to ask your broker about if it appears to be absent.

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