

Benefits of a risk-based approach to managing dangerous goods in the built environment

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Guidelines for the management of dangerous goods within the built environment are typically based on historical incidents, often from other jurisdictions, with a measure of conservatism to cover the unknowns inherent in setting a generic guideline. This approach often leads to restricted land usage, which in the current climate of urban sprawl, housing shortages and environmental impact is increasingly difficult to justify when considering the greater societal impacts.

Adopting a risk-based approach removes the uncertainties and examines the complexities of these problems allowing a specific and focused approach to land use planning near dangerous goods. Approaching dangerous goods management problems on a case-by-case basis, completing detailed risk engineering assessments and comparing against an acceptable societal risk profile allows the nuance of each unique scenario to guide decision making, potentially unlocking currently restricted use land. A key factor of the risk-based approach is not increasing risk above an acceptable level and providing better understanding of the risk profile, empowering governments, developers, and users to make a more informed decision about their use of the space. This approach to the management dangerous goods will prove invaluable as we progress further toward a centralised urban environment with an increasing population.

This paper presents multiple case studies showing the benefits of a risk-based approach to dangerous goods management in the built environment. It demonstrates how detailed problem analysis and advanced modelling methodologies can remove the uncertainty around the potential consequences of dangerous goods incidents and how this approach has unlocked development areas currently restricted by generic rule of thumb approaches.