

Responsibility and Accountability of Stakeholders in Construction Industry



WFEO / FMOI

The World Federation of Engineering Organizations

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The need for responsibility and accountability in the construction industry



The construction industry needs to ensure that its works are designed and built well to ensure the safety, and well being of all occupants and users.

This is essential for sustainable development



Grenfell Tower Fire London UK – Caused by inadequate regulatory oversight

On 14 June 2017, fire engulfed the 24-storey Grenfell apartment tower, causing 72 deaths, 70+ injuries. 223 people escaped. It was the deadliest structural fire in the United Kingdom since the Second World War.

The cause was the flammable external wall cladding (aluminum composite panels with expanded polystyrene insulation) that contributed to the fire's vertical and lateral spread.

The Grenfell Tower fire reinforced the need to ensure that buildings are safe from the risk of rapid fire spread not only in the United Kingdom but worldwide. It also emphasised the need for proper regulation of the design and construction of buildings.



See:

<https://www.nytimes.com/2017/06/24/world/europe/grenfell-tower-london-fire.html>



Collapse of CTV Building in Christchurch earthquake 22 Feb 2011



CTV Building Before Earthquake



CTV Building After Earthquake

See: <https://www.theguardian.com/world/2012/feb/09/christchurch-quake-ctv-building-substandard>

Findings of Royal Commission into collapse:

- The building's design was deficient and should not have been approved.
- The building's engineer, David Harding had no experience in designing multi-storey buildings and was left unsupervised, then pressured city officials to approve the building design even though several members had reservations about the design.
- the developers wanted a minimum-cost design to (just) meet the code; no extra reinforcing was to be added.



Structural defects result in cracks in Opal Tower Sydney

36 storey Tower evacuated 24 Dec. 2018 due to structural cracks

- Cracking observed in precast concrete panels on level 10, with fears that the tower could collapse.
- Investigation found that critical hob beams in the residential tower were prone to cracking due to their structural design, as well as the use of a lower-strength concrete.
- The decision to only partially grout between the beams and panels was also highlighted as “adding to the problem”.



See:

<https://www.smh.com.au/national/nsw/builder-of-sydney-s-cracked-opal-tower-blames-design-engineer-20191204-p53gs2.html>



Australia – Building Ministers Forum commissioned review of on building & construction industry in mid-2017

Terms of Reference of review

- a) roles, responsibilities and accountabilities of different parties;
- b) education and training;
- c) licensing and accreditation;
- d) accuracy of design and documentation;
- e) quality control and assurance;
- f) competencies of practitioners;
- g) integrity of private certification;
- h) inspection regimes;
- i) auditing and enforcement practices; and
- j) product importation and chain of custody.

See: <https://www.industry.gov.au/data-and-publications/building-confidence-building-ministers-forum-expert-assessment>

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Building Confidence – Review Report – Findings Feb 2018

Issues identified

- **Compliance** failures with the **National Construction Code (NCC)** - non-compliant cladding, water ingress leading to mould and structural compromise, structurally unsound roof construction and poorly constructed fire resisting elements.
- **Competence** – Builders, designers, certifiers - do not understand the NCC and/or have never had proper training on its implementation.
- Poor **design and documentation**.
- Builders **improvise**, making decisions on matters which affect safety without **independent oversight**.
- Inadequate information to guide the **future maintenance of safety systems** in buildings.
- Poor **oversight by licensing bodies**.
- Almost no **effective regulatory oversight** of the commercial building industry by regulators.
- **Enforcement systems inadequate**.

See: <https://www.industry.gov.au/data-and-publications/building-confidence-building-ministers-forum-expert-assessment>



Building Confidence – Review Report –recommendations Feb 2018

- 1—Registration of building practitioners
- 2—Consistent requirements for registration
- 3—Continuing Professional Development
- 4—Career paths for building surveyors
- 5—Improving collaboration between regulators (for consistent regulations in all States)
- 6—Effective regulatory powers
- 7—Strategy for the proactive regulation of Commercial buildings
- 8—Collaboration with fire authorities in the development of fire safety design
- 9—Integrity of private building surveyors
- 10—Codes of conduct for building surveyors
- 11—Role of building surveyors in enforcement
- 12—Collecting and sharing data and intelligence
- 13—Responsibility of design practitioners
- 14—Adequate documentation for performance solutions
- 15—Approval of performance solutions for constructed building work
- 16—Approval of documentation throughout the construction process
- 17—Independent third party review
- 18—Mandatory inspections
- 19—Inspection and certification of fire safety system installation
- 20—A building manual for Commercial buildings
- 21—Building product safety
- 22—Dictionary of terminology
- 23—Implementation of the recommendations
- 24—Implementation plan

See: <https://www.industry.gov.au/data-and-publications/building-confidence-building-ministers-forum-expert-assessment>



Design and Building Practitioners Act 2020 (NSW), 11 June 2020

1. **Statutory duty of care** on builders (including project managers, engineers, supervisors and co-ordinators), consultants and manufacturers or suppliers of building products to exercise reasonable care to avoid economic loss caused by defective building work.
2. Applies to **residential building**, additional classes of buildings may be added in future.
3. **Duties, warranties and other obligations cannot be delegated or contracted** out of and will have effect within 10 years from the start of the duty of care provisions.
4. **Registration and insurance requirements** for designers, builders, specialists and professional engineers.
5. **Compliance declarations** by designers and builders to effectively state whether a regulated design or building work (as applicable) complies with the requirements of the Building Code of Australia (BCA) and, whether the building work was built in accordance with the design.
6. Only **registered** building practitioners and registered design practitioners can provide these compliance declarations.
7. Additional provisions as listed in the Act.

See: <https://www.legislation.nsw.gov.au/#/view/act/2020/7>

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Design and Building Practitioners Act 2020 (NSW) – Requirement for engineer to be registered

1. Registration laws will initially apply to professional engineers in the fields of **civil, structural, electrical, mechanical and fire safety engineering**. Additional areas of engineering can be added via Regulation.
2. The laws will apply to anyone wishing to provide professional engineering services, unless if doing so under the direct **supervision of an appropriately registered engineer**, or if only applying a prescriptive design.
3. Although embedded in the NSW Government's building sector reform legislation, the new laws for engineer registration will **apply to engineers working in any industry**.
4. It will become an **offence for a person to falsely claim to be registered as an engineer** unless they are registered and have the **right qualifications and level of competency**.
5. The benchmark required to be registered will be provided in Regulations that are expected to be finalised in 2020. Engineers Australia will advocate for strong **minimum standards in terms of qualifications, experience and commitment to "Continuing Professional Development."**
6. The new laws are expected to commence on **1 July 2021**.

See: https://www.engineersaustralia.org.au/NSW_engineer_registration

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Sound buildings and infrastructure – essential for sustainable development



It is essential to ensure public trust through effective implementation of building and construction standards that protect the interests of those who own, work, live, or conduct their business in buildings and to continue to be an important driver of infrastructure development and economic growth.





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- **Participation**
- **Influence**
- **Representation**



The world's engineers
united in rising to
the world's challenges.
For a better,
sustainable world.



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