Commercial Building Approval Review
Policy and Legislation Branch
Building and Energy
Department of Mines, Industry Regulation and Safety
Locked Bag 100
EAST PERTH WA 6892

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Reforms to the approval process for commercial buildings in Western Australia

ABOUT ENGINEERS AUSTRALIA

Engineers Australia welcomes the opportunity to provide a submission on the Consultation Regulatory Impact Statement (CRIS): *Reforms to the approval process for commercial buildings in Western Australia*.

Engineers Australia is the largest and most diverse body of engineers in Australia. As Australia's principal engineering association, we serve and represent around 100,000 professionals at every level, across all fields of practice. We are committed to advancing the science and practice of engineering for the benefit of the community. Engineers Australia is the trusted authority of a profession that shapes the lives of every Australian, with countless organisations, institutions and government agencies relying on our expertise to create, accredit and assess engineering programs and practitioners. Our proven dedication to engineers and the Australian industry is unparalleled.

REGISTRATION OF ENGINEERS

Engineers Australia recognises that the Western Australian Government has initiated three projects to consider options for reform. One of those projects is a review of registration requirements for a range of occupations which will be released later in 2020; at this stage we wish to note Engineers Australia's strong support for the introduction of a registration scheme for professional engineers.

RESPONSE TO THE CONSULTATION REGULATORY IMPACT STATEMENT

Engineers Australia believes there is a strong need for change as reflected in the report commissioned by the Building Ministers Forum (BMF), *Building Confidence: Improving the effectiveness of compliance and enforcement systems for the building and construction industry across Australia* by Professor Peter Shergold AC and Bronwyn Weir (Building Confidence report).

Engineers Australia has developed a paradigm for good practice of engineers across the building sector[1]. The paradigm proposed is to introduce two key professional engineering roles into the delivery and approval of a building project; engineer of record; and proof engineer. In our response to the CRIS this paradigm is promoted to work within the proposed regulatory changes. A more in-depth supporting paper will be sent as a follow up when available.

As noted in the CRIS, the recommendations to address from the Building Confidence report are 6, 8-11, 13-18 and 20, as they relate to commercial buildings. We have secured feedback from our members to form a consolidated response and develop a submission on the relevant proposals. Engineers Australia will provide comment on:

- 7.2 Fire authority consultation;
- 7.10 Third party review of design work;

[1] Building Confidence: How to use engineers to improve building and construction. See attached summary document.

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- 7.11 Mandatory inspections; and
- 7.12 Building manual for building documentation and operational information.

While other recommendations may be supported by Engineers Australia no specific comment is provided.

This main letter provides an outline response to the respective proposals. The answers to specific questions asked of each proposal are included in Addendum 1.

7.2 FIRE AUTHORITY CONSULTATION

Proposal 6 - Fire safety performance solutions be in accordance with IFEG

- Any initiative that supports Department of fire and Emergency Services (DFES) operational requirements and adherence to the International Fire Engineering Guidelines (IFEG) is supported.
- Guidance should be provided by DFES as to how "*Fire safety performance solutions be in accordance with IFEG"* should be achieved.
- Greater clarity of the following sentence is required*: 'expedite the process to issue a Certificate of Design Compliance (CDC), because DFES can advise earlier on how the design can meet the FES Commissioner's operational requirements.'*
- Certificates of Design Compliance are provided at Building Permit stage in the form of a BA3 by the building surveyor under Building Act 2011 and Building Regulations 2012. The building surveyor often requests CDCs from fire engineers and other design consultants which are currently not legislated documents. These design certificates should be required by legislation.
- A submission to DFES should be made at the Development Application stage prior to lodgement for a Building Permit. The submission would identify the need for a fire engineer to be engaged whilst also enabling DFES to flag non-compliances with the National Construction Code (NCC) and advise any DFES operational requirements not captured in the submitted design.

Proposal 7 – Fire and Emergency Services Commissioner's advice may be provided early

- There are no real benefits to this proposal. If DFES are consulted and have no comments, then this should be considered equivalent to receiving a certificate from the FES Commissioner in terms of approval of the design.
- This may be impractical as it raises the question as to who ensures the DFES requirements on the certificate are met.

Proposal 8 – Fire and Emergency Services Commissioner's advice may be provided at any time

- This proposal is supported.
- It is noted that project teams should always respond to the commissioner's advice, regardless of whether in agreement or disagreement.

Proposal 9 – Clarify content of response to DFES advice

- This proposal is supported. It is considered that, without it, Proposal 8 would be ineffective.

7.10 – THIRD PARTY REVIEW OF DESIGN WORK

It is good practice that engineering designs should be checked, and that the design engineer should inspect construction to ensure that the system is put together and will work as designed. This is a normal part of the production process. Engineers Australia's Building Confidence paradigm calls for the role of an Engineer of Record who is engaged by the owner to endorse drawings, reports, or documents for a project.

Proposal 25 – Third-party review of high-risk design work

- Further clarification on what "Independent" would mean in relation to these reviews is necessary.
- Greater clarity on the definition of medium-high risk. This clarity will help determine when peer review or a proof engineer are needed.
- Third Party Review - Risk Table 2 on page 51: Including a definition of a building requiring third party review is supported because builders may not be in a position to properly assess structural or fire requirements. However, this requires further refinement.
    - For example, simply stating that any element using 60Mpa concrete is a trigger for third party review does not seem appropriate given that AS3600 permits design to higher strength concrete. Following the proposal as it stands would mean a third party review is required for a simple double storey building that has used 60MPa concrete for an isolated column, irrespective of complexity.
- The third-party review trigger should be based on building complexity and risk to life. For example, any building greater than three storeys, and/or occupied by more than 10 people within all classes of building (or select classes).
- Third party review requirements should be assessed by a committee of structural and fire engineers to come up with reasonable and concise requirements, most likely based on the class of building and degree of risk to life.
- Third-party reviews could form part of an auditing process whereby organisations that perform consistently well under third-party review do not require the same level of rigour for future third-party review. This will also provide an additional incentive for high quality design output.
- Apply a holistic risk-based approach to the document: Including the above-mentioned mandatory site inspections (and other measures), plus reasonable third-party review requirement, this will permit an overall risk-based approach to building safety and performance.
- There is no mention of performance solutions under high risk items. This is required for all deemed to satisfy buildings. It is requested that the review requirements also include review of any fire safety engineering solutions for all risk categories (as there is no reference to requiring the involvement of a fire safety engineer). For example, the fire separation is to be reviewed in atriums. Should a fire engineer be engaged for a performance solution or required to be the third-party reviewer, or is a BCA consultant or architect suitable? The third-party reviewer should be of equal or greater accreditation to that of the original designer.
- As mentioned above, the definition of a high-risk building should be more clearly defined. There are no specific references to requirements for stadiums, hospitals and aged-care facilities, so large high-occupancy buildings and/or where sleeping is a risk factor.
- Additional wording should be provided to clarify that the contract for the third-party review may be with an employer as opposed to the individual reviewer, unless that reviewer is a sole trader.

7.11 – MANDATORY INSPECTIONS

It is necessary to distinguish between inspections that are carried out as part of the production process and those needed by the building surveyor/building approval authority to be satisfied that the building is being constructed in accordance with the approval.

Proposal 26 – Introduce mandatory inspections for all class 2-9 buildings

- Site inspections of structural elements should be mandatory for all buildings and, if practical, by the original design engineer or a fully briefed alternative structural engineer. The ability to mandate site inspections should be extended to all engineers and consultants who submit documents in the CDC (as opposed to only the building surveyor).
- Fire safety inspections should only be conducted by registered professionals.
- It is noted that Metropolitan Fire Brigade regulation in Melbourne requires sign off that a fire engineer has inspected the site and the intent of the Fire Engineering Report has been constructed. The individual fire engineer determines the frequency of inspections. The sign off confirms that the requirements of the performance solution have been implemented.

7.12 BUILDING MANUAL FOR BUILDING DOCUMENTATION AND OPERATIONAL INFORMATION

Proposal 28: Amend the Building Act to provide for digital building manuals for all buildings.

- A proposal to have a digital building manual for all buildings is supported. It is suggested that it includes:
- Information surrounding the council approvals
- Include all aspects of engineering design and design changes during construction (engineering systems, structural, mechanical, electrical HVAC, plumbing and all Fire Engineering Systems etc.)
- All mechanical system manuals (including vertical transport, HVAC etc.)
- Documentation that supports the occupation certificate.
- A digital version is supported because it saves large paper documents and makes it easier to transfer. The document should be readily available to all subsequent owners of the commercial building.

Engineers Australia would welcome the opportunity to discuss these issues with the Department. I am contactable via the details below.

Yours sincerely,

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Addendum 1 – Answers to Proposal Questions

7.2 FIRE AUTHORITY CONSULTATION

Proposal 6 - Fire safety performance solutions be in accordance with IFEG

Do you think this proposal is likely to increase documentation costs? If so, by how much?

- Documentation costs will increase only in cases where documentation is not currently of a high standard. It is widely accepted that documentation should follow IFEG guidelines. Any omission or deviation from the guidelines is likely due to poor practice. This puts more emphasis on the need for DFES to produce guidelines that are not overly onerous on documentation requirements.

Do you foresee any other costs or benefits to implementing this proposal?

- Additional time costs for a project will most likely occur with implementation of this proposal. Additionally, if DFES engagement is required for every performance solution modification/addition then resources will be more stretched.

Proposal 7 - FES Commissioner's advice may be provided early

What do you think should be the maximum allowable timeframe to elapse between the date of the FES Commissioner's certificate, and submitting the building permit application?

- A one to two-month period is recommended as appropriate if a design is changed as this is deemed sufficient time to prepare building permit documentation.

7.10 – THIRD PARTY REVIEW OF DESIGN WORK

Proposal 25 – Third-party review of high-risk design work

Do you think the proposed triggers and review requirements identified in Table 2 are appropriate? Is there anything that you would add or delete?

- It is onerous to specify basements alone as the trigger for third party review. It may be more appropriate to specify basements in excess of two storeys as the trigger.

Do you support reviewers being engaged privately? Why, or why not?

- Yes, this proposal is supported. Reviewers should be engaged privately given that this is currently undertaken by clients.
- As mentioned in main letter a paradigm is proposed which introduces two key professional engineering roles into the deliver and approval of a building project. One of these roles is an Engineer of Record who is engaged by the owner to endorse drawings, reports, or documents for a project. Endorsement means review and assessment for compliance with the performance objectives and capability with the concept design.

Do you think that proposed conditions to engage and terminate a reviewer are sufficient?

- Yes.

Proposal 25 is for independent peer review of medium-high risk design elements. Do you think there is a need for expert review, undertaken by a proof engineer appointed by the regulator, for any types of design work? Please specify.

- A building surveyor/building approval authority might obtain satisfaction by carrying out its own check or review of the building at design stage and at completion of construction. A building surveyor/building approval authority might also obtain satisfaction by relying on the advice of someone it trusts, such as an engineer. There is a long history of building surveyors/building approval authorities relying on "engineer's certificates". Commonly these have come from the design engineer, so the approval process has always been a bit of a mixture of independent review and self-certification. The Proof Engineer role clarifies this by being an independent peer reviewer, with the primary role of advising the building surveyor/building approval authority.
- Refer comments on Proposal 25 in main letter. Further advice on the definition of medium-high risk is necessary to be able to respond further.

7.11 MANDATORY INSPECTIONS

Proposal 26 – Introduce mandatory inspections for all class 2-9 buildings

Do you think the tests required for active fire safety systems are adequate?

- Table 6 appears to capture the key testing requirements however, it is requested that clarification of who is required to witness the tests and what documentation is required (i.e. test reports, certificates etc.) is provided.

What building professionals do you think are qualified to do inspections?

- This will depend on the person's qualifications and experience. It is recommended that minimum qualification / experience requirements for each fire system are developed.

Do you think WA has enough appropriately qualified people to inspect all building work?

- Engineers Australia's National Engineering Register (NER) currently has 165 registered Fire safety engineers Australia wide, with only 11 registered in WA. Based on these figures there are not enough qualified people to do fire safety inspections on all building works.

Do you think the proposed inspection notification points in Table 9 are appropriate? If not what changes do you suggest?

- The inspection points given in Table 9 are agreed. It should be proposed that construction cannot proceed beyond these gateways without receiving approval from the relevant approvers.

Should active fire safety systems form part of the prescribed inspections stages? If so, specify which active systems.

- On the basis that all active systems are tested prior to completion, this is agreed. This is considered sufficient rather than prescribing testing at set stages.

Do you think an inspection regime should require inspections of any types of off-site manufacture or prefabrication work? Please specify.

- It is expected that off-site manufacturing be subject to independent auditing already, rather than requiring this at a project level (unless required for bespoke project systems).

Do you support Option A, either in whole or in part? Please specify.

- Inspections should be carried out by both permit authorities and the private sector, i.e. a combination of both Option A and Option B. Both options are therefore supported, with the following comments on the proposals:
    - All parties should have a responsibility for the quality of the works. The designer should share the responsibility for ensuring the as-built condition matches their design. This includes checking the materials and products used on site are as per the specification and are implemented correctly. The inspections should be carried out by all design parties that have provided input to the fire safety of the design, most likely to be the fire engineer and building surveyor, and any other contributing disciplines e.g. mechanical, structural. A list of items to be inspected for each trade or discipline should be determined.