

Structural Engineering Certification – Discussion Points

The Building Certifier's viewpoint

Building Certifiers (let's call them PCA's but that's not always the technically correct term) do not have niche engineering expertise and hence rely on certification from appropriately qualified structural engineers to ascertain compliance with Part B and aspects of Part C1 and C2 of the BCA.

These certificates need to have the following characteristics

- Be clearly worded
- Clearly and unambiguously identify that Part B and the Fire resistance requirements of Part C of the BCA are met, including all referenced Australian Standards
- Especially in the case of final certification, not exclude any elements of the building
- Be signed by a NER registered engineer

Problems that can arise with Structural Certification include the following.

Multiple engineers on the one project

This often arises when subcontractors employ their own engineers for certain aspects such as piling, post tensioning, shopfronts, balustrading or the like

The PCA will require that one engineer provide a complete overarching certificate, acknowledging that in doing so they are relying on component certification from the other engineer.

PCA's need clear certification that applies to all structural elements of a building. Where a design engineer wishes to exclude elements certified by others, these exclusions would need to be clearly articulated and the "interface" aspects between the different elements still clearly included in the certificate. Theoretically this would allow the PCA to understand how the different certificates complement each other and ensure that there are no gaps.

In practise this is beyond the comfort level of most PCA's.

Elements not excluded but not looked at properly

These can include balustrades, signs, shopfronts, etc. Engineers need to look out for these elements.

Structural fire resistance

This is a key engineering design criteria. PCA's don't want to show up at the end and find that structural elements have not been treated because it was not considered by the design engineer.

Interpretational calls

Design input criteria such as Importance Levels and Crowd loading have cost implications for the engineering design. Structural engineers need to step up and make these calls in a robust and professional manner, rather than passing the buck on to the PCA so the engineer can pretend the PCA is the bad cop.



Conclusions

Engineers need to ensure they are retained with a sufficient scope on a project to be able to provide a meaningful sign off at the end of the project. The risk is that a project cannot be granted an occupation certificate if a suitable certificate is not provided and this could be a contractual rock/hard place situation for an engineer at the end of a project, particularly if the client was relying on the engineer to provide a suitable return brief and fee for the construction phase of a project.

Project Structural Engineers also need to consider the total nature of the certification required on completion, and therefore consider how they will interface their inspection and sign off regime with the work undertaken by other component Structural Engineers.

PCA's, developers, contractors, end users and the community demand and deserve clear certificates demonstrating that appropriate due diligence has been conducted in both the design and construction of the structural elements of a building.

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