

ENGINEERING PROFESSION

Opening.

This hearing will inquire into aspects of the management of the engineering profession.

This arises from the requirement in the Commission's Terms of Reference to inquire into the adequacy of the current legal and best-practice requirements for the design and construction of buildings in CBDs in New Zealand.

The commission has to consider;

- The extent to which the knowledge of seismic events is used in setting those requirements and
- The roles of central and local government, the building and construction industry and other elements of the private sector in developing and enforcing those requirements.

The Commission is also required to consider how these matters compare internationally.

These are important matters. Some of the Royal Commission's hearings into building failures, in particular the CTV hearing, have highlighted some serious questions, including:

- Should an engineer should be required to undertake additional training and qualification before he/she can design high-rise or complex structures?
- How can we ensure an engineer does not work outside his/her areas of competency?
- Should a reviewing engineer be required to notify a Territorial Authority of a critical structure weakness that could affect the safety of users of a building?

These, and other issues, will be the subject of discussion and debate in the panel sessions today.

In anticipation of this hearing the Commission has received a report from IPENZ – the Institute of Professional Engineers of New Zealand – entitled “IPENZ Standards and Regulations for Building Construction in New Zealand”

This includes information about IPENZ's role as both the registration authority and professional body for engineers, the education and competency requirements for registration as a CPEng – Chartered Professional Engineer – and the role of learned professional societies.

The Commission has also received information from the Universities of Canterbury and Auckland on their academic requirements for engineering qualifications and their views on future requirements.

Some 22 submissions have been received from individuals and entities covering a range of issues in relation to the engineering profession.

These include submissions from;

- IPENZ and APENZ (Association of Consulting Engineers of New Zealand)
- Ministry of Business, Innovation and Employment
- SESOC (Structural Engineering Society)
- Opus
- Derek Bradley
- David Brunson
- John Scarry
- Beca
- CCANZ (Cement and Concrete Association of NZ)
- NZ Concrete Society
- NZ Historic Places Trust
- Joanne MacGregor of the construction company C. Lund and Son Ltd

I have not mentioned all submitters. The submissions are on the Commission's website.

All of this material has been considered in the formulation of a number of topics for discussion and debate in the panel sessions today.

The proposed topics are set out in a document entitled Hearing Topics which also sets out a number of questions designed to stimulate discussion on these issues but not intended to limit it to those issues.

It is intended to hold two panel discussions;

- This morning's panel will comprise:
 - Andrew Cleland, Chief Executive of IPENZ
 - Stuart George of SESOC
 - Win Clark of NZSEE (New Zealand Society of Earthquake Engineering)
 - John Gardiner of Ministry of Business, Innovation and Employment
 - David Prentice, Chief Executive of Opus
 - Mark Spencer, General Manager- Building Structures, Beca
 - Professor Andy Buchanan of Canterbury University
 - Derek Bradley
 - Joanne MacGregor.

The proposed topics for discussion (and some of the issues to be covered) are:

Regulation of the Profession

- Should more be done to encourage engineers to attain CPEng registration?
- Is the current assessment process for CPEng registration robust enough?

- Should it include the kind of in depth examination such as are required in the USA or UK to ensure better technical abilities? (Derek Bradley)
- Does the present system for assessing the on-going competence of CPEngs lack transparency and should it include the development of “scopes of practice”(MBIE)
- Is more assessor training required? (Derek Bradley)
- Should the CPEng register record such scopes or areas of practice (MBIE)?

Recognising specialist skills

- Should there be higher entry requirements for engineers engaging in areas such as:
 - the design and analysis of high-rise or complex structures
 - the assessment of such structures pre and post disaster
 - emergency management
- Should there be a tiered chartership within the structural discipline? (Opus and Derek Bradley)
- How would that be defined and audited?

Code of Ethics

- Do the IPENZ and CPEng ethical codes require “tightening up” as suggested by Trevor Robertson when giving evidence at the CTV hearing?
- Should there be an obligation of disclosure to territorial authorities (and others) of safety issues such as critical structural weaknesses?
- Should the requirement for an engineer to work within his/her area of competence be more closely defined and enforced? (MBIE)

Complaints and disciplinary processes

- Does the current system require changes?
- Are the current processes sufficient to ensure that incompetent structural engineering is identified and dealt with?

Training

- Should there be a structured programme of supervised practice after graduation prior to registration as a CPEng? (MBIE submission)
- Is training / continuing professional development adequate? Is it encouraged and supported by employers?
- Should continuing professional development be prescribed by IPENZ?

Engineering education

- Is there merit in the view expressed by Canterbury University that a Masters degree in earthquake engineering should be required as the entry point into the structural engineering and geotechnical engineering professions or by Auckland University that such a degree should be required before specialist engineers can design complex structures?(a view supported by MBIE and Opus).

For the panel session scheduled for the afternoon the panelists will be Messrs Cleland, George, Clark, Gardiner, Prentice, Spencer and:

- David Sheppard of the NZ Institute of Architects and
- Peter Millar of Tonkin and Taylor.

This panel will discuss:

Professional and learned societies

- Is Standards New Zealand ineffective in keeping design standards up to date so that it is falling more to the societies to try and provide design guidance to fill the gaps? (SESOC submission)
- Should the processes of the societies be more formalised and subject to independent review?
- Is there a need for clearer distinction between the roles of industry guidance and Standards or the Building Code and more support given to the appropriate people to be involved in developing each? (SESOC)
- Should more interaction between the engineering and construction related professions be encouraged?