

██████████  
 ██████████  
 ██████████

12 August 2012

The Commissioners  
 Canterbury Earthquakes Royal Commission

**Re: Submission – Training and Education of Engineers and Organisation of the Engineering Profession.**

I would like to raise the following issues relating to the above topic.

**Academic Requirements for Chartered Professional Engineers**

I am concerned that a Chartered Professional Engineer in New Zealand does not necessarily have any academic qualifications. There is no mention of any specific academic qualification required in either the legislation or the rules under which candidates are admitted. The IPENZ rules specifically ask for ..."Evidence of the following (if applicable) – Academic and other relevant qualifications." The pre-qualifier "if applicable" removes the compulsion to supply evidence of academic qualifications and does not even specify the level of qualification that need not be provided!!!

Definitions of "Profession" vary but the general thrust is that a profession is a vocation founded on specific educational training.

The educational training aspect is ignored by the IPENZ rules

IPENZ relies on "Competence Standards" to assess if a candidate meets the requirements of CPEng.

Professional Engineers are competent to deal with "complex" engineering activities.

Engineering Technologists are competent to deal with "broadly defined" engineering activities.

This system relies completely on value judgments.

It would be a challenging role for any mortal to decide the difference in any **measurable** and **repeatable** fashion and yet both these parameters are vital in achieving a quality standard.

IPENZ has signed as a member of the Washington Accord which recognises equivalency of engineering degrees and that these degrees meet the "academic requirements for entry to the practice of engineering."

This qualification is an independent benchmarked statement that a candidate is capable of "complex" engineering thought.

IPENZ should require that obtaining a Washington Accord degree (or approved equivalent) is a pre-requisite for obtaining the Chartered Professional Engineer qualification.

The next stage in the qualification assessment, which is the application of the "complex" thought process to engineering outcomes, can then be assessed by value judgments of suitably experienced professional engineers.

**Chartered Professional Engineer and International Professional Engineer**

IPENZ maintains registers of Chartered Professional Engineers (CPEng) and International Professional Engineers (IntPE)

The CPEng is "the most important quality mark attesting to the current competence of a professional engineer in New Zealand" (IPENZ Website)

The IntPE engineer "meets the requirements of two international agreements ( >15 countries involved) and lists professional engineers meeting the IntPE competence standard and additional specific qualification and work experience requirements. These are that the registrants "must hold a Washington Accord accredited qualification....." and so on.

**Three Questions**

1. Why does New Zealand accept a lower standard for Professional Engineer than the (>15) countries who require a Washington Accord degree for entry to the International Professional Engineer's Register??
2. Why does New Zealand's "most important quality mark" does not meet the academic standard of the rest of the world??
3. Would you allow a "surgeon" to remove your appendix if he/she had not graduated from Medical School??

Yours Faithfully



Matt Furness  
 B E(Mech) MIPENZ, CPEng, IntPE, RPEQ