



**Annual Report by the  
Engineering Associates Registration Board  
For the Period from 1 April 2007 to 31 March 2008**

**Contents**

**Executive Summary & Commentary**

- 1. Legislative Context**
- 2. Introduction**
- 3. Board Business**
- 4. Financial Aspects**

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## **Executive Summary and Commentary**

The Engineering Associates Registration Board is pleased to present the annual review for activities for the year to 31 March 2008.

### **Shortage of Technical Engineers**

The shortage of experienced technical engineers continues to impact negatively on industry and local government in New Zealand. An engineering consulting company has estimated that the New Zealand engineering sector has a shortage of 500 to 1000 engineers and technicians.

There has been an increase in students undertaking engineering trade apprenticeships following a significant boost of funding support from government. However, there are still insufficient students completing the National Diploma in Engineering courses and associated practical and professional training, and the numbers of technical engineers are growing too slowly. The shortage of technical engineers is likely to remain a significant problem for industry over the next five years.

The new Licensed Building Practitioner (LBP) requirements in the Building Act may produce an incentive for technical engineers to gain the REA credential as evidence of their ongoing competency for registration in a building related field. Technical engineers have so far, mainly been excluded from the LBP requirements. A switch to require the registration of IQP technical engineering practitioners in technical fields such as boilers, lifts and ventilation systems, could improve competency and boost the numbers of REAs.

### **Review of the Act**

The Department of Building and Housing (DBH) is conducting a greenfields review of the Engineering Associates Act. The Board made a comprehensive submission and assisted the Department as appropriate. The review has been delayed due to other DBH priorities.

The Board's submission to DBH emphasised that a revised Act would benefit from the inclusion of mechanisms that required the Board to assess REAs against a measure of ongoing competency and adherence to a code of ethics. The Board also promoted an extension of coverage of the Act to include both engineering and science technologists.

The Board has already introduced a voluntary competency assessment scheme (REAcap) so that the Board could confirm the ongoing competency of individual REAs within their respective discipline, and that they have agreed to operate under the Board's Code of Ethics. The Board considers that continuing competency assessment of REAs should be an essential element of any replacement Act. As of 31 March 2008, 123 REAs had been assessed and provided with REAcap certification.

### **Board Operations**

As of 31 March 2008 there are a total of 1778 registered REAs.

The Board achieved a surplus of \$21,497 for the financial year, increasing the Board's reserves to \$86,098. The annual audit by Audit NZ was completed during June 2008. The audit identified no matters of concern.

## **1. Legislative Context**

The Engineering Associates Registration Board (the Board) is appointed under the Engineering Associates Act 1961 (the Act). The Board's objectives are to encourage, support and promote excellence in technical engineering in New Zealand.

Registration as an Engineering Associate (Registered Engineering Associate or REA) is a quality credential providing evidence that the person has met academic standards plus practical competency and supervisory experience as specified in the Act.

REAs are generally senior technical engineers employed in a wide range of disciplines such as engineering infrastructure design or implementation or in engineering management roles within New Zealand and around the world.

The Act is administered by the Department of Building and Housing (the Department) reporting to the Minister for Building & Construction.

## **2. Introduction**

The Engineering Associates Registration Board operates under the Engineering Associates Act 1961 and its amendments (the Act). The purpose of the Act is to encourage, support and promote excellence in technical engineering in New Zealand.

The Act authorises the registration of persons with an academic-plus-practical-experience qualification, equivalent to New Zealand Certificate in Engineering (NZCE) as well as completing a significant period of "responsible experience" in the engineering workplace. The Registered Engineering Associate (REA) credential indicates that a person is a senior technical engineer. Most REAs are employed in infrastructure design and implementation and engineering management roles in New Zealand. There are many REAs located in the international engineering market.

The reduction over recent years in the total number of registered persons continued in the 2008 year. This trend is the result of:

- Changes to engineering training during the restructure of government departments in the 1990's resulting in a steady drop in numbers of persons entering this field. Although industry is beginning to encourage new entrants this is not keeping pace with the rate of retirement of older REAs. The current Act does not include mechanisms to facilitate the Board remaining in touch with new technical engineering graduates until they meet the "10 years experience" period for new REA applicants.
- Changes to technical engineering education qualifications replacing the New Zealand Certificate of Engineering (NZCE) with a new National Diploma in Engineering (NDE). The new NDE qualification does not include the same requirements for completion of practical experience, which has caused the Board to reassess the experience requirements for ensuring that new REAs meet the "equivalent to NZCE" criteria specified in the Act.
- Lack of funding for ITOs to support the practical training components of NZQA Level 5-and-above qualifications, has also resulted in a drop in candidates following technical engineering careers, with a flow on reduction in REA registration applicants.

There has been a significant change of attitude in the employment market, principally due to the lack of qualified tradespersons and technologists, and many employers now fill these positions from off-shore.

During the year, the Department's in-depth review of the EA Act 1961 was placed in abeyance due to a shift in priorities. The Board recognises that the Act needs revision, and that the review should include provisions to provide public assurance that individual REAs continue to meet the ongoing competency standards equivalent to those required for initial registration. A voluntary competency recognition system has been developed to allow the Board to offer recognition of on-going competency, although this is outside the scope of the current Act (details below). The Board will continue to provide on-going assistance to officials in their review of the Act.

The Department had already identified some aspects of the EA Act that could conflict with other current legislation and some minor 'Technical Amendments' were enacted as the 'Engineering Associates Amendment Act 2007' in September 2007.

### 3. Board Business

The Engineering Associates Registration Board continued normal operations during the year.

#### Members of the Board

Following a process in which the Associations and Institutes named in the Act nominate suitable individuals, the Minister appoints a Board with a range of relevant knowledge and experience. Board Members' terms of appointment are for a nominal 2 years and can be extended at the discretion of the Minister.

The Members of the Board at 31 March 2008 were:

Board Member	Position	Nomination Body
Mr I C Shearer FIPENZ	Chair	Ministerial appointment
Mr T G Adson REA; MNZIRHACE	Member	NZ Institute of Refrigeration, Heating & Air Conditioning Engineers Inc
Mr A D Blackler REA; MNZIHEEM	Member	NZ Institute of Health Estate & Engineering Management Inc
Mr R W Grant FNZIM&PE	Member	NZ Institute of Marine & Power Engineers Inc
Ms F B L Johnstone	Deputy Chair	Ministerial appointment
Mr H T Knight MNZElectns	Member	NZ Electrical Institute Inc
Ms W L Steadman GIPENZ	Member	Ministerial appointment
Mr G D Wells REA FDANZ	Member	Design Association of NZ Inc
Mr M B Wheeler	Member	NZ Electronics Institute Inc

A vacancy for the position nominated by the Institute of Measurement and Control Inc was not filled.

## **Responsibilities and Operation of the Board**

The Members of the Board are accountable to the Minister for the performance of their duties including direction, oversight and implementation of the Act. The Board oversees the operations of the Registrar.

The Chair and the Registrar continue to have effective working relationships with the Department of Building and Housing.

The Board has a Staff Committee that meets for annual review of the Registrar's conditions of employment.

The Act requires the establishment of an Investigation Committee (effectively a tribunal) if there are appeals against decisions of the Board. The Committee has not been required to date and there were no appeals against any decision of the Board during the year.

## **Technical Engineering Institutions Recognised in the Act**

Technical Engineering Associations currently recognised under the Act are:

- Design Association of New Zealand Inc
- New Zealand Electrical Institute Inc
- New Zealand Institute of Engineering Sciences Inc
- New Zealand Institute of Marine & Power Engineers Inc
- Institute of Measurement & Control Inc
- New Zealand Inst of Health Estate & Engineering Management Inc
- New Zealand Institute of Refrigeration, Heating & Air Conditioning Engineers Inc
- New Zealand Electronics Institute Inc
- Institute of Automotive Mechanical Engineers of New Zealand Inc
- New Zealand Institution of Gas Engineers Inc
- Society of Licensed Aircraft Engineers & Technologies Inc

The Board has an ongoing responsibility to keep the recognized associations informed of its activities and to encourage the advancement of technical engineering issues and standards.

## **Board Meetings**

The Board held four meetings during the year - April, July, October and November 2007. The Registrar attended all Board meetings.

Apart from the routine overview and approval of the registration of REAs, the Board has reviewed the future industry needs for technical engineers, continued to seek mechanisms to encourage more experienced technical engineers to become REAs, and presented a submission to the Department related to the review of the Act.

## **Output Agreement**

In line with other such organisations, the Department, for the Minister, is developing an output agreement for the Board's performance to be introduced next year.

## Registration Statistics

Registration categories under the Act:

- R(a) Technical engineers who have not completed a recognized technical engineering education qualification but have completed basic engineering training, and have at least 12 years of engineering experience, including 6 years in a responsible position, and were born before 1 January 1936.
- R(b) Technical engineers who have completed NZ Certificate of Engineering or First Class Marine Engineer's Certificate (or an equivalent qualification), plus a basic engineering training and at least 6 years of engineering experience, including 1 year in a position of responsibility.
- R(c) Technical engineers who have not completed a recognized technical engineering education qualification but have completed a basic engineering training, and have at least 12 years of engineering experience, including 6 years in a responsible position. The (c) applicants submit a 4,000 word written statement on an approved engineering topic, in lieu of the education qualification.

<b>Category</b>	<b>Number Registered as at 31 March 2008</b>
<b>R(a)</b>	114
<b>R(b)</b>	1565
<b>R(c)</b>	99
<b>Total</b>	<b>1778</b>

## Technical Engineering Education and Training Standards

Structural changes to engineering training coinciding with the restructuring of government departments in the 1990s have resulted in a significant decline in the numbers of technical engineering trainees entering tertiary education facilities.

Changes to technical education qualifications resulted in the NZCE being replaced by a variety of tertiary education provider diplomas in engineering. These qualifications do not include the practical experience required to meet the "equivalent to NZCE" criteria in the Act. This creates a challenge for the Board to ensure that applicants for REA also meet the practical engineering criteria.

## Code of Ethics

The Code of Ethics for Registered Engineering Associates issued by the Board has remained unchanged for the period under review. The Code of Ethics is published on the Board's website and is in the information sent out to prospective applicants for registration

## **Current Competency Assurance – REAcap**

The Registered Engineering Associates competency assessed practitioner scheme (REAcap) was implemented by the Board to provide assurance to the public and potential engineering employers that a currently registered REA remains competent in their chosen discipline. REAcap is, at present, voluntary with competency reassessment undertaken every four years. The competency principles embedded in the Act for initial registration are also the standards used for REAcap competency assessment including knowledge development, experience and responsibility performance. Continuing work in the engineering industry is also a requirement for REAcap recognition.

The Board believes that, in the current engineering market, the lack of ongoing competency assessment provisions within the Act disadvantages the REA credential compared with other recent occupational registration legislation.

REAcap was implemented during 2005, and at 31 March 2008 the total with REAcap validation was 123. REAcap applications continue and the website list of REAs is regularly updated to indicate successful REAcap validations.

## **Promotional & Communication Activities**

In an effort to arrest the drop in REA registration numbers, the Board continues to distribute a brochure promoting the values of the REA credential, updates the website, and ensures the REA applicant's information packs encourage registration and the REAcap scheme.

In addition the Board ran listings in public directories, and made press releases announcing such things as the List of REAs on the website.

Communication with REAs continued through the annual circular delivered with the annual fees renewal notice. This method, while cost effective, is limited to communication once per year. The use of email addresses of REAs for informal communications is increasing.

## **Website**

The Engineering Associates website, <http://www.engineering-associates.org.nz>, received a monthly average of over 10,000 'hits' which is a significant increase over previous years.

The 'List of REAs' is a feature of the website, providing web access to the list names of currently registered Engineering Associates. Details provided include surname and initials, regional location (with non residents listed as overseas), registered engineering discipline, certificate of registration number, the commencement year for continuous registration and the applicable REAcap validation. The list of REAs on the web is updated following each Board meeting.

Feedback indicates that the REA list has been well received by REAs and its use by employers is starting to increase. The Board is developing this aspect further with communications targeting employers advertising vacancies for technical engineers.

## **Registrar**

The position of Registrar, held by Mr John V. Edgar REA, continued unchanged during the year. The EARB office remains staffed for 3 days per week.

## 4. Financial Aspects

### Auditors

The Board has contracted Audit New Zealand as its auditors.

### Fees for Registration Services

Fees charged for registration during the period to 31 March 2008 remained as gazetted in the Engineering Associates Fees Amendment Regulations 2006.

Audited accounts for the Engineering Associates Registration Board for the year ended 31 March 2008 are appended to this report. The annual audit by Audit NZ was completed during June 2008. The audit identified no matters of concern.

Revenue increased by 2.8% despite fewer numbers of registered REAs, being compensated by the higher interest rates and REAcap revenue. Operating expenditure increased resulting from an increase in office rent, remuneration increases, and higher audit fees as well as depreciation due to a new replacement computer.

The increase in fees resulted in an overall surplus of \$21,497 for the year. This reversed the previous steady decline of total net assets, which were \$86,098 at the end of the year, returning the Board's reserves to an acceptable level.

### Summary of Financial Statements at year end.

Income:	Fees	\$94,426	
	Interest	<u>\$ 6,504</u>	\$100,930
Expenditure:	Operating expenses		<u>\$79,433</u>
	Income less expenses		<u>\$21,497</u>

<u>Statement of Financial Position</u>			
Fixed Assets	\$ 3,804	Current Liabilities	\$ 7,777
Current Assets	<u>\$82,294</u>	Accumulated Fund	<u>\$78,321</u>
Total Assets	<u>\$86,098</u>	Total Liabilities & Equity	<u>\$86,098</u>

In conclusion, I would like to record my appreciation to the members of the Board for their energy, contributions and support throughout the year, and to the staff of the Department of Building and Housing for their advice and support.



I C Shearer  
Chair, Engineering Associates Registration Board.