

An Independent Review into Relationships in the Plumbing, Gasfitting and Drainlaying Industry



Alan Knowles 2006

Commissioned for Hon Michael Cullen,
the Minister for Tertiary Education

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LIST OF ACRONYMS

ANTA	Australian National Training Authority
DBH	Department of Building and Housing
DEST	Department of Education Science and Technology (Australia)
EFTS	Equivalent Full Time Student
ITO	Industry Training Organisation
ITP	Institutes of Technology and Polytechnics
MED	Ministry for Economic Development
MOH	Ministry of Health
NC	National Certificate
NQF	National Qualifications Framework
NZCTU	New Zealand Council of Trade Unions
NZQA	New Zealand Qualifications Authority
PGD Act	Plumbers, Gasfitters, and Drainlayers Act 1976
PGDB	Plumbers, Gasfitters and Drainlayers Board
STM	Standard Training Measure
TEC	Tertiary Education Commission
The ITO	Plumbing, Gasfitting, and Drainlaying Industry Training Organisation
TOR	Terms of Reference

Introduction



On 26th January 2006, Hon Michael Cullen, Minister for Tertiary Education, advised parties that an independent review had been commissioned into the apparent breakdown in relationships between the Plumbing, Gasfitting and Drainlaying Industry Training Organisation and the Plumbers, Gasfitters, and Drainlayers Board and to investigate other matters that impact on that relationship.

The reviewer presented this report to the Hon Michael Cullen on 24 May 2006.

The Terms of Reference of this review are:

- 1 • The current relationship between the Plumbing Gasfitting and Drainlaying Industry Training Organisation (the ITO) and the Plumbers, Gasfitters and Drainlayers Board (the PGDB).
- 2 • The PGDB's plans for the proposed introduction of the Australian Qualifications and Competencies, and what this potentially means for those currently training for the National Certificate in Plumbing Gasfitting and Drainlaying, the PGDB, the ITO and government funding in support of tertiary education.
- 3 • The appropriate level of communication and co-operation required and/or expected of each organisation to meet the needs of government and to implement their respective roles appropriately.
- 4 • Whether the ITO or the PGDB are working outside of their respective statutory roles.
- 5 • The identification and management of conflicts of interest by the PGDB in relation to the proposed introduction of Australian Qualifications and Competencies.
- 6 • To identify any legislative aspects relating particularly to the PGDB that might be reviewed under the Energy Safety Review Bill or accompanying regulations.
- 7 • Any other issues that the reviewer considers relate to, or arise out of, the above matters.

1 • Executive Summary



TOR.1 • The current relationship between the ITO and the PGDB.

The reviewer will conclude that the current relationship between the ITO and the PGDB is dysfunctional. Strong personalities play a role in this dysfunction, but there are also structural reasons underpinning the problem. The Plumbers, Gasfitters, and Drainlayers Act 1976 (the PGD Act) gives powers to the PGDB without the necessary accountability and requirement to consult. Where regulatory bodies are established with the power to register personnel, e.g. the PGDB, the Civil Aviation Authority, the Maritime Safety Authority and the Electrical Workers Registration Board, their legislation can be at odds with the powers provided to ITOs under the Industry Training Act 1992. The overlapping jurisdiction creates the potential for confusion and conflict, for example (depending on the exact detail of the relevant legislation) there can be overlapping jurisdiction concerning: qualification and curriculum development, programme approval or accreditation, assessment processes or recognition of training providers. In most circumstances the two bodies find a way to resolve the conflicts, but in this case they have simply been unable to work together successfully which has led to a paralysis that is now affecting the industry. The situation is sufficiently serious to warrant the Minister for Tertiary Education to request that an independent review be undertaken.

The review will recommend changes to the membership of both the ITO and the PGD Boards. It will also suggest that the PGDB appoint a permanent Registrar who is not concurrently the Chairman. Changes in key personnel in both organisations could assist to unlock the impasse.

TOR.2 • The PGDB's plans for the proposed introduction of the Australian Qualifications and Competencies and what this potentially means for those currently training for the National Certificate in Plumbing Gasfitting and Drainlaying, the PGDB, the ITO and government funding in support of tertiary education.

The review will recommend further investigation led by the ITO involving the Tertiary Education Commission (TEC) along with the New Zealand Qualifications Authority (NZQA) and the PGDB into the adoption of the Australian Training Package, including the adaptation of the qualification into the National Qualifications Framework, on the grounds that:

- the adoption of the Australian Training Package is the preferred option of both the ITO and the PGDB;
- the industry has been consulted by the ITO and has indicated its support for this option;
- the materials are comprehensive;
- New Zealand electives can be added;

- its adoption will ensure greater consistency of training both within NZ and across the Tasman;
- the number of training hours is about the same¹;
- the materials are available; and
- they can be reviewed and amended subject to agreement.

The materials are owned by the Department of Education Science and Technology (DEST) which is a Federal body in Australia.

It must be stressed that the further investigation must be led by the ITO with the Government agencies monitoring the process and providing feedback to their Ministers. It is suggested that one Government agency take overall responsibility for monitoring the process, and it is the reviewer's recommendation that this should be the TEC. The reason for this recommendation is that there are at least five Government agencies who have some statutory oversight or interest in the outcome of this review: TEC, Department of Building and Housing, NZQA, Ministry of Health, Ministry of Economic Development.

In the interim the existing National Certificate should be updated.

TOR.3 • The appropriate level of communication and co-operation required and/or expected of each organisation to meet the needs of government and to implement their respective roles appropriately.

The reviewer has identified a systems failure: too few plumbers and gasfitters are moving through the training and registration systems to meet demand, despite significant Government and industry funding and support. There is an ageing workforce which is not being replaced by sufficient numbers of new entrants.

The disparity between the amount of Government funding for training and the resulting numbers of registered tradespersons is evidence of poor levels of communication and co-operation between the ITO and the PGDB. Government funding has increased almost three-fold between the years 2000 and 2005, yet the number of new registrations each year has remained largely static. In fact over the last three years the numbers of new registrations of plumbers, gasfitters and drainlayers has declined from 330 in 2003 to 276 in 2005.

TOR.4 • Whether the ITO or the PGDB are working outside of their respective statutory roles.

The reviewer concludes that the PGDB is working outside of its statutory roles in the following respects:

- it has taken the lead in exploring the introduction of an Australian Training Package;
- it has sought and obtained the sole rights to the Australian Training Package, in New Zealand; and
- it has taken full responsibility for the PGDB examination in 2005 without oversight from the NZQA.

The ITO is accountable to the TEC and there is no evidence that it is working outside of its statutory roles.

TOR.5 • The identification and management of conflicts of interest by the PGDB in relation to the proposed introduction of Australian Qualifications and Competencies.

Whilst the reviewer notes the potential for a conflict of interest, no actual conflict of interest has been identified.

TOR.6 • To identify any legislative aspects relating particularly to the Plumbers, Gasfitters and Drainlayers Board that might be reviewed under the Energy Safety Review Bill or accompanying regulations.

The reviewer has made recommendations to the Select Committee considering the Energy Safety Review Bill to remedy shortcomings in the existing and proposed PGD legislation:

- to increase accountability by the PGDB to the Minister;
- to empower the Minister to promulgate standards for registration/licensing;
- to require the PGDB to consult with persons likely to be affected in relation to licensing matters and the competence of a licensed person;
- to ensure greater clarity around the respective roles of the ITO and the PGDB in order to minimise duplication of functions and powers; and
- to emphasise that the prime function of the PGDB is the protection of the health and safety of the public.

TOR.7 • Any other issues that the reviewer considers relate to, or arise out of, the above matters.

The reviewer notes that in 2001/2 Audit NZ undertook a review of PGDB governance and the introduction of craftsman examinations. This current review may not have been necessary some 4 years later, had the PGDB fully implemented the Audit NZ recommendations.

It is submitted that the reviewer's recommendations ought to be formally considered by the Minister for Tertiary Education, the Associate Minister of Health, the Associate Minister for Energy, and the Minister for Building Issues. If the recommendations are accepted in whole or part, the relevant agencies should be tasked with monitoring their implementation, and providing feedback to the TEC.

The reviewer has been provided with no evidence of a current problem with the quality of workmanship or significant health and safety issues arising from the work of qualified persons.

2 • Review Process



Written submissions have been received from the following organisations and persons:

- The ITO dated 28/2/06; 9/3/06; 16/3/06;
- The PGDB and further written submission hand delivered 6/4/06, 3/5/06;
- The Master Plumbers Gasfitters and Drainlayers Inc;
- The New Zealand Council of Trade Unions (NZCTU);
- Robert Lingard, Head of School, Engineering and Electrical Trades, Christchurch PIT;
- Flora Gilkison, Dean, Faculty of Business and Technology, WINTEC;
- Graeme Perry, Plumbing Consultant;
- Ross Leslie, National Operations Manager, InfraTrain New Zealand; and
- Dr John Webster, Chief Executive, Unitec.

The reviewer met with the following organisations and persons:

- Elizabeth Valentine, CEO, ITO and John Simmis, Chairperson, ITO;
- Darel Hall, Executive Director, Industry Training Federation;
- George Verry, Chief Executive and Eric Palmer Technical Manager, Master Plumbers and Gasfitters and Drainlayers NZ Inc;
- Gas Association of New Zealand;
- Garry Cruickshank, Head of Building Services, UNITEC;
- Phil Routhan, Chairman and Acting Registrar, PGDB and Phil Cook, legal representative;
- Graeme Perry, Plumbing Consultant;
- Kern Uren, Craftsman Plumber, Gasfitter and Drainlayer;
- Ross Leslie, National Operations Manager, InfraTrain New Zealand;
- Linda Sissons, CEO and Neil Carroll, Academic Advisor WELTEC;
- Hon Harry Duynhoven, Associate Minister of Energy; and
- Katherine Rich, Chairperson, Commerce Select Committee.

The reviewer received assistance from the following Government Agencies:

- The TEC, in particular I wish to acknowledge the assistance of Richard Dirks;
- Department of Building and Housing (DBH);

- Ministry of Health (MOH), in particular I wish to acknowledge the assistance of Michael Chapman;
- New Zealand Qualifications Authority (NZQA), in particular I wish to acknowledge the assistance of Martin Eadie.

The reviewer received and considered submissions to the Select Committee overseeing the Energy Safety Review Bill, from:

- Colleen Upton, Hutt Gas and Plumbing Systems Ltd;
- the ITO;
- Master Plumbers, Gasfitters and Drainlayers NZ Inc;
- Electricity Supply Industry Training Organisation (ESITO);
- Electricity Engineers Association of NZ (Inc) (EEA);
- Wal Gordon, Plumbing Ltd;
- Ken Brokenshire, Plumber;
- Harold Thomas, Craftsman Plumber, Gasfitter and Registered Drainlayer;
- Gas Association of NZ;
- George Todd and others, Craftsman Plumbers and Registered Drainlayers;
- Apprenticeship Training Trust;
- Allan Day;
- D.E. Brennan, Craftsman Plumber, Advanced Trade Certificate, Craftsman Gasfitter, Registered Drainlayer; and
- the PGDB.

The reviewer considered the following reports:

- The PGDB Annual Reports 2000-2005;
- Department of Labour Skills Shortage Assessment 2005;
- ITO Profile;
- Report to the Ministry of Health on the conduct of the Examination for Craftsman Registration and the Governance of the PGDB, Audit NZ, 6 March 2002;
- Ministry of Health – Health Report Ref 20059309;
- TEC submission No B/03/36;
- Appraisal of the Provision of Programmes in Plumbing and Gasfitting @ Unitec, December 2004; and
- Tertiary Examination Review, NZQA 10/2/03.

Natural Justice

The PGDB was provided with a copy of the Draft Report. An extension of time was given to the PGDB to respond. Its submission was received and considered on and after 3/5/06.

3 • The interested parties to this review



Plumbers, who assemble, install and repair the pipes, fixtures and fittings to supply water and remove waste. Most plumbers are involved in residential rather than commercial work.

The plumbing industry plays an essential role in providing supplies of clean drinking water and safely disposing of foul water, wastes and excreta. Outbreaks of water-borne diseases can be traceable to inadequate plumbing.

Gasfitting work is undertaken downstream of the point of supply of the gas into the distribution system to the customer. Gasfitters do pipe installation, and repairs; appliance installation, repairs and commissioning with natural gas, CNG and LPG.

Drainlayers work to convey foul water or surface water to an outfall.

Numbers employed in the industry

In 2005 there were 5854 plumbers, 1945 gasfitters, and 4750 drainlayers².

50% of plumbers are self employed. Of the enterprises 18% employed no one; 48% employed 1 person, and 20% employed 2 and 14% employed 3 or more.

Earnings

Salaries vary, but plumbers and gasfitters earn between \$45,000 and \$55,000 a year. Self employed plumbers and gasfitters may earn more than this³. The average turnover for each enterprise is \$330,000.

Age distribution

The proportion of plumbers aged 20-24 years fell from 15% to 9% between 1991 and 2001, while the proportion of plumbers aged 55 years and above almost doubled from 8% to 15%⁴.

The Plumbers, Gasfitters and Drainlayers Board (the PGDB) and the Plumbers, Gasfitters, and Drainlayers Act 1976 (PGD Act)

The PGDB is the registration board and licensing body for the plumbing, gasfitting and drainlaying industries. The PGD Act is structured as follows:

Interpretation

This section provides key definitions. Drainlaying, under the control of the Crown and Local Authorities, falls outside the jurisdiction of the PGD Act.

Part 1 – the PGDB

- It is constituted under section 5;
- The Board is appointed by the Minister of Health and its membership is set out in section 6;
- The Board consists of 10 members, one of whom may be a representative of a relevant training organisation;
- The Board functions are set out in section 11;
- Under Section 13 the Board appoints the Registrar. A member of the Board may concurrently hold the post of Registrar, or any other office of employment under the Board;
- Financial obligations are set out in section 15; and
- Section 18A requires the Board to annually elect its Chairman and Deputy Chairman.

Part 2 – Registration of Plumbers

Part 3 – Licenses and Limited Certificates

Part 4 – Disciplinary Provisions

Part 5 – Offences and Legal Proceedings

Part 6 – Exemptions

Part 7 – Appeals to High Court

Part 8 – Miscellaneous

- The Board may make arrangements to register and recognise plumbers, gasfitters or drainlayers from overseas with reciprocal recognition of registration and these powers are set out in section 64.
- Regulations may be prescribed and the scope thereof is set out in section 66.

Regulations 1977

- These set out the arrangement and subject matter for examinations; and
- The requirement for employer licences.

Schedules

- Schedules 1-7 set out the syllabus for examinations.

A new Plumbers, Gasfitters and Drainlayers Act is included in Parts 5-8 of the Energy Safety Review Bill. That Bill is currently at Select Committee. The Select Committee is due to report to the House of Representatives in August 2006.

At present the Associate Minister of Health is responsible for issues associated with plumbers, gasfitters and drainlayers and appoints the PGDB. All Board appointments are due to expire between March and July 2006. Its day to day oversight is provided by the Communicable Disease and Environmental Health Policy Group within the Ministry of Health. It is Government's intention to transfer the administration of the PGD Act from the Ministry of Health to the Department of Building and Housing.

Mr Phil Routhan has been on the PGD Board since 2000, he has been the Chair since 2002, and has been the Acting Registrar since on or around 26 October 2005.⁵

The PGD Act expressly permits a Board member to concurrently hold the post of Registrar, or any other office of the PGDB. However it does not appear to envisage that the Chairman of the Board would concurrently hold the post of Registrar. The PGDB has been without a permanent Registrar for six months, and has yet to take steps to fill this position on a permanent basis.

There is a potential for conflict of interest around finances and disciplinary matters when the Registrar is also the Chairman. Mr Routhan has taken steps to avoid these conflicts by not sitting on the PGDB's financial and disciplinary committees. It would be preferable that the PGDB appoints a permanent Registrar who is not also the Chairman. The amendment to the PGD Act, contained in the Energy Safety Review Bill, removes the right for one person to concurrently hold two positions: Registrar, and Board member. This is an indication that those drafting the legislation do not think the practice is desirable.

The PGD Act provides for five classes of registration: craftsman plumber, registered plumber, craftsman gasfitter, registered gasfitter and registered drainlayer.

Registered plumbers and registered gasfitters are required to work under the direction of a craftsman. The PGDB can issue limited certificates to enable unregistered tradespersons to practice under the supervision of a registered trades person.

In addition, gasfitters must retain a current licence to demonstrate ongoing competence.

The PGDB has legal oversight for domestic drainlaying only. Crown and Local Authority drainlaying works fall outside the jurisdiction of the PGD Act.

The Industry Training Act 1992

The Industry Training Act 1992 provides the legislative framework for the industry training system and Industry Training Organisations.

The Industry Training Act 1992 provides the following framework:

- The Minister for Tertiary Education recognises certain organisations as ITOs under section 5;
- Before recognising an organisation as an ITO, the Minister must be satisfied that the organisation can effectively and efficiently carry out a number of functions, these are described in section 6;
- Section 9 relates to the expiry and cancellation of recognition of ITOs; and
- Sections 11,13, 17 and 18 describe the powers of the TEC in regard to industry training and ITOs.

The Plumbing, Gasfitting and Drainlaying Industry Training Organisation Ltd (the ITO)

The roles of the ITO, under the Industry Training Act 1992, are to:

- Set standards and design qualifications for the National Qualifications Framework (NQF);
- Facilitate and manage training arrangements; and
- Provide leadership in relation to skill and training needs for the industries they represent.

The ITO has coverage for the plumbing, gasfitting and drainlaying industries. The four person board is appointed by the Environmental and Energy Services NZ Trust. The Chair has indicated that the Board of the ITO will be expanded to include a NZCTU representative in 2006, and it will also include a person with industry training expertise. The ITO was formed out of the Master Plumbers, Gasfitters and Drainlayers Inc on 1 July 2005. Elizabeth Valentine is contracted to be the Chief Executive of the ITO to September 2006.

Tertiary Education Commission (TEC)

The TEC allocates the industry training fund to ITOs allowing them to carry out their statutory functions.

The industry training fund is allocated on a calendar year basis with individual ITOs contracted to achieve an agreed amount of standard training measures (STMs) throughout the year. One STM is equivalent to 120 credits on the NQF. The STM rate of the ITO in 2006 is valued at \$3,020 (GST inclusive) per STM⁶.

The TEC provides funding based on the credit value (or STM value) of a programme of training. There is an expectation that each trainee will be involved in a programme of training leading towards a National Qualification comprising at least 20 credits a year. To receive STM funding, the National Certificate course must be unit standard based, and must be registered on the NQF. While funding to ITOs is paid on the basis of the STM calculation, ITOs are effectively bulk funded. The STM payment represents the government's contribution toward all ITO core activities, including: ITO infrastructure, on-job and off-job training, assessment and moderation, qualification development and standard setting, and more recently (since 2003) a leadership role relating to the education and training needs of their industries.

The TEC also provides Student Component Funding (EFTS) to Institutes of Technology and Polytechnics (ITPs) and other academic institutions who provide training for qualifications registered on the NZ Register of Quality Assured Qualifications. These are local (not national) qualifications. EFTS funding for trades training courses in 2006 is valued at \$9,619 (GST inclusive) per equivalent full time student.

4 • The issues underlying this review



The review commenced in January 2006. The following issues have been identified by the reviewer:

Skills Shortage:

- There are insufficient numbers of registered plumbers and gasfitters entering the workforce to allay the current skills shortage or meet future needs;
- There are declining numbers of registered plumbers, gasfitters and drainlayers per head of population; and
- There has been an acceleration in the trend of fewer registrations over recent years. The number of new plumbers who were registered in 2005 was 86, and the number of new gasfitters was 70.⁷

Increase in Government Funding for Training:

- There is a disparity between the investment by Government in training, and the numbers of newly registered tradespersons;
- Since 2000, annual Government funding increased three-fold, whilst the number of annual new registrations fell;
- Since 2000, Government provided funding of \$24,435,609 to train plumbers, gasfitters and drainlayers. However in that period only 2139 plumbers, gasfitters and drainlayers were newly registered; and
- More trainees are seeking their qualifications directly through the Student Component funding system (EFTS funding). This will increase the cost to Government without necessarily providing better value for money.

The PGDB's relationship with the ITO:

- The PGDB has lost confidence in the National Certificate as a prerequisite for registration;
- Almost 90% of National Certificate holders who sit the PGDB examination, fail to pass it;
- The PGDB determined that it would not ratify updated units standards for the National Certificate proposed by the ITO. PGDB endorsement is a prerequisite for amending unit standards;
- The PGDB has taken the lead in the promotion of an Australian Training Package; and
- An Australian Training Package is an option to replace the existing National Certificate.

The ITO

- In 2003, the TEC reported to their Minister that there had been long standing issues of poor performance by this ITO;
- In 1999, a substantial section of the industry in Auckland withdrew from the ITO and entered into an arrangement with Unitec to provide off job training for their apprentices, using EFTS funding;
- The NZQA would not register the amended unit standards proposed by the ITO, even though the existing unit standards required updating, because the PGDB would not endorse them; and
- If present trends continue, the ITO could become increasingly irrelevant.

The Energy Safety Review Bill:

- The Energy Safety Review Bill in its present form would extend the powers of the PGDB.

There is a systemic failure at the interface of the training and registration systems which is resulting in poor value for money for both Government and industry.

Even if more National Certificate holders succeeded in passing their registration examinations, NZ would still face a skills shortage. The training enrolment rate (this compares the numbers enrolled with the numbers employed) was 14.7% in 2003, which is slightly lower than the average for a trade. A comparison between the number of trainees achieving the National Certificate in Plumbing (level 4) and the numbers of plumbers employed, yields a training rate of 1%. This is lower than the 1.8% average for all trades. The Department of Labour suggests that training levels fall short of the growth in demand for plumbers⁸.

According to the ITO Profile, 2400 people will need to receive their National Certificates over the next 10 years to maintain the current number of tradespersons in the market. The ITO estimates that the required growth in trainee numbers for plumbing and gasfitting needs to increase from 1091 per annum to 2717 per annum.

5 • Industry Concerns



There is industry concern about the relationship between the ITO and the PGDB. This became apparent in submissions to the Select Committee considering the Energy Safety Review Bill. The following quotes are taken from several submissions to give a flavour of the concerns:

Colleen Upton of Hutt Gas and Plumbing systems says:

“This [ESR] Bill will give more power to the PGD Board - which in itself is of huge concern to the industry as a whole and our company in particular. As their powers are increased we see the introduction of a new training regime based on the Australian model which could spell the end of the Plumbing ITO as the Board will be able to contract direct to Polytechnics.”

The Electrical Supply ITO (ESITO) says in its submission:

“Any attempt to establish or invent an alternative competency achievement system and recognition system would devalue the current system and marginalise its strong key stakeholder commitment. This would confuse all the stakeholders involved in competency and standard achievement and place additional costs on the industry sectors covered by this Bill.”

“That the competency standards set by both the Electrical Workers Licensing Board and the PGD Board [should be] integrated with unit standards and qualifications registered on the NZQA managed National Qualifications Framework.”

“That training provision stipulated by these Boards should be linked to training providers accredited by ITO’s as standard setting bodies mandated by the NZQA.”

Mr D E Brennan said:

“The Plumbers Board has been in continual argument with the ITO over training in the last few years which has cost the industry a lot of money and made many potential new employers reluctant to train due to the heavy handed nature of the Board trying to make an outdated Act work in a modern environment.”

The Apprenticeship Training Trust said:

“The ITO and the NZQA provide a body of knowledge and expertise in the specialist processes of analyzing the industry’s training need and developing qualifications that meet these, as well as working with the industry and its accredited training providers in the course of these activities. It is considered that the Board should be required to consult with the industry on qualifications that have the potential to meet minimum licensing requirements. It is also considered that the Board should be required to work in collaboration with the Plumbing ITO, NZQA and the industry at large during the development of industry based qualifications so that such qualifications will also then axiomatically meet the minimum standards for licensing.”

6 • The Review Findings



TOR.1 The current relationship between the ITO and the PGDB.

The relationship break-down has many causes. The reviewer has chosen to focus on the immediate causes of the relationship break down, which in the reviewer's opinion, is based on the following:

1. The introduction of a registration board examination as a prerequisite for registration:

- In 2001, the PGDB lost confidence in the National Certificate as a prerequisite for registration;
- Subsequently, in 2002 and thereafter, the PGDB introduced an examination for plumbers, gasfitters and drainlayers;
- Prior to the reintroduction of the PGDB examination, the National Certificate had been accepted by the PGDB as evidence of competency for the purposes of registration;
- The PGDB requires the candidate to pass the PGDB's examination, as a prerequisite for registration;
- In 2005, the PGDB administered the examination itself without the NZQA. This contravenes its regulations. The NZQA is required to administer the examinations under the PGDB regulations;
- The ITO is concerned that the PGDB exam is becoming the standard setter in place of the National Certificate⁹;
- In 2005, only 11% of candidates with a National Certificate, who sat the plumbing registration examination passed; and
- In 2005, only 4% of candidates without National Certificate who sat the registration examination passed. These candidates have had 5 years practical experience in the industry.

The PGDB attributes the low pass rate in its examination to an apparent failure by the ITO to ensure its candidates are being prepared appropriately for the registration examination. Whilst there may be some truth in this view, the evidence is that workers who have had 5 years in the industry, working under supervision, have twice the failure rate when they sit the registration examination. Neither National Certificate holders, nor persons with 5 years practical experience have a reasonable prospect of passing the registration examinations.

The introduction of the examination has been a fraught process. In 2001, the craftsman registration examination and the governance of the PGDB became the subject of an Audit NZ report. Audit NZ made 15 recommendations including the need to develop an agreement that specifies the accountability for the PGDB and the NZQA.

Audit NZ noted the requirement of the PGDB to comply with the range of questions in the first schedule of the regulations.

The Audit NZ report noted:

“We understand the Board’s concerns regarding the lack of moderation in the National Certificate process as well as concerns about the relevant Industry Training Organisation. The Board moved that, subject to the NZQA’s concurrence, the Board reinstate the Board examination for registration as a Plumber and as a Gasfitter for the year 2002. This will inevitably have an impact on the status of the National Certificate and introduces an additional requirement that complicates the structure. We understand that the Board is working with the NZQA and more recently with the Industry Training Organisation to progress these issues. The Board should conduct an extensive consultation including representation from industry and training organisations so that sufficient evidence and industry support is obtained in relation to the re-introduction of the registration examinations. Alternatively, if the moderation process in the National Certificate process is the main issue, the Board may consider assisting in recommending significant improvements in this area.”

The PGDB formed a view that the way to maintain standards in the industry was by introducing an examination for registration rather than relying on the National Certificate to demonstrate competency. It reintroduced registration examinations in 2002. The PGDB remains unconvinced that the National Certificate can be a prerequisite for registration, as evidenced by this quote contained in a letter dated 28 May 2004, from the PGDB to the Associate Minister of Health, Damien O’Connor:

“that the Board inform the Master Plumbers ITO and BCITO that they have until 8 July 2004 to demonstrate to the Board through a moderation process that the unit standard assessments for plumbing and gasfitting apprentices and trainee drainlayers meet the requirements for registration set out in Third, Fourth and Sixth Schedules of the Plumbers, Gasfitters and Drainlayers Regulations 1977.”

The PGDB did not follow the Audit NZ recommendations to consult prior to the reintroduction of the registration examination. It concedes that up until the 2003 registration examination it had not consulted with any other party. It took steps to consult in 2003 because of dissatisfaction expressed by candidates, training providers and industry. The PGDB consulted with a panel of tutors from Weltec, Wintec, Unitec and the Open Polytech. It did not invite the ITO to participate in this process.

Between May 2003 and June 2005 an examination database was established. The panel of tutors also discussed training content with the PGDB. The PGDB claim there has been no criticism of the contents of the questions from the training providers.

It is clear that the PGDB did not consult prior to the reintroduction of the registration examination. However it did consult after its reintroduction. But there is a question about the quality of the consultation given the low pass rates.

The NZQA provided the reviewer with little insight into the reasons why so few candidates succeeded in passing the registration examination, in spite of the fact it provided oversight of these examinations between 2002-2004.

In 2002, the NZQA and the PGDB entered into a contract for the administration of the registration examinations. In 2003 the NZQA undertook 65% of the work for the examinations and the PGDB picked up the remainder of the work. The pass mark was set at 60%¹⁰.

By 2005, the PGDB was taking full responsibility for the examinations without the oversight of the NZQA as envisaged by the 1977 Regulations. The PGDB ought to have ensured that the NZQA continued to provide oversight of registration examinations in order to meet its obligations under the Regulations.

Correspondence provided to the reviewer show that the NZQA was concerned that it was not cost effective for it to continue providing oversight for the PGDB examinations. Thus it took steps to extricate itself from this role. There is no indication that the NZQA was aware of its obligations under the PGD Regulations. The PGDB certainly did not point this out to them.

As stated above, the NZQA did provide an oversight function for the 2002 -2004 registration examinations. Its analysis of the results of the registration examinations in the wider context of the tertiary education sector is contained in a memorandum to its Board on 10 February 2003:

“a number of candidates enter and fail multiple times. The industries believe that if candidates paid more, the examinations would be regarded as more valuable and candidates would be better prepared, in turn producing better results for the sector.”

The NZQA provides no further insight about how candidates, training providers, the ITO and the industry itself could better prepare the candidates for the PGDB examination.

The following tables demonstrate the low pass rate for those sitting the PGDB registration examinations. The pass rate for plumbers has declined since the registration examination was reintroduced, with a significant decline when the PGDB took full responsibility for the examination without NZQA oversight. Gasfitters pass rates are higher than for plumbers.

Plumbing Registration 9192

Year	Qty sat exam	Qty passed	pass rate
2002	126	46	37%
2003	184	72	39%
2004	289	89	31%
2005	309	34	11%

Gasfitting Registration 9193

2002	69	37	54%
2003	121	85	70%
2004	160	104	65%
2005	161	93	58%

Source PGDB

The PGDB allows those holding limited certificates for five years to attempt the registration examination. Those with limited certificates have been working in the industry under supervision of a registered plumber and gasfitter for five years, their pass rate in 2005 was 4%. Of the 50 persons with limited certificates who sat their examination in 2005, only 2 passed.

Plumbing Registration 9192

Pass rates for Registration Examination in 2005 by type of training

	Qty sat exam	Qty passed	pass rate
Limited Certificate/5years	50	2	4%
NZ Trained	217	26	11.98%
Overseas trained	42	6	14.29%

Gasfitting Registration 9193

Pass rates for Registration Examination in 2005 by type of training

	Qty sat exam	Qty passed	pass rate
Limited Certificate/5years	9	7	77.78%
NZ Trained	131	68	51.9%
Overseas trained	21	18	85.71%

Source PGDB

Three times more persons with their National Certificates passed the examination in 2005, compared with those holding limited certificates, but even so only 11.98% passed.

The reviewer notes that the pass rate for gasfitters who have their National Certificate ranges from 54% to 70%.

The reviewer does not accept the PGDB submission:

“There can be no relationship between the non-sharing of examination questions and the high failure rate. The industry view, now widely held, is that the current unit standard based training has failed, highlighted now by the likely acceptance of the Australian Training Package. This rationale provides a more cogent reason for the high failure rate.”

Whether the candidate is prepared for the examination by their experience as a plumber or gasfitter with 5 years of supervised work on the job; or they are prepared by a combination of theoretical and practical experience as a trainee with a National Certificate, very few candidates will be successful when they attempt the registration examination.

The failure rate cannot be wholly explained by the “current unit standard based training.” The reviewer concludes, there is a mismatch between candidates knowledge, both practical and theoretical, and the requirements of the registration examination. The recommendations that arise from this analysis require the ITO and the PGDB to better align the training (in whatever form it takes) with the registration examination.

The NZQA, given that it does have a regulatory function in providing oversight of the registration examinations, should better utilise its role to assist with the alignment between the National Certificate and the registration examination.

2. The Australian Training Package

The second cause of the relationship breakdown between the PGDB and the ITO arose during 2005 with the investigation by the PGDB into an Australian Training Package.

- The PGDB believes it is a legitimate exercise for a regulatory authority to investigate a proposed Australian Training Package, and that this activity is consistent with its statute;
- The PGDB expressed an intention that it would consult with industry about the Australian Training Package;
- The PGDB told the ITO that access to the Australian Training Package was subject to the PGDB's copyright of the material.

The PGDB submits that its actions in investigating the Australian Training Package are explicable and reasonable. It summarises its reasons as follows:

- The Energy Safety Service survey released in 2003;
- Concerns raised in 2002 by the Gas Association of New Zealand over gasfitter competence;
- A Coroner's report making recommendations to the PGDB as to improvements to training;
- The ongoing concerns about the quality of unit standards generally, and the difficulties regarding moderation;
- The continuing poor examination results; and
- Increasing complaints received by the PGDB.

The PGDB submitted that the unit standards for the National Certificate had expired in 1999 and by mid 2004 were grossly out of date.

The reviewer asked for evidence about "increasing complaints received by the PGDB". The PGDB submission provided statistics for one year, 1/4/04 to 31/3/05 which showed 47 complaints against registered persons, and 13 against non-registered persons. Of these 18 concerned competency, resulting in 4 cases where remedial action was taken and 5 prosecutions arising from complaints. In all 5 cases where there were prosecutions, none of the persons were licensed. Therefore it is difficult to conclude that the quality of the unit standard based training bears any significant relationship to the complaints received by the PGDB. The PGDB did not do the appropriate analysis of the complaints, in order to justify its criticism that the "*unit standards based training has failed*", and that this failure is related to the increased number of complaints. Had the complaints raised significant safety issues, that could be logically sheeted home to the quality of the training, and in particular, the unit standard based nature of the training, then it would be explicable that the PGDB investigate and identify the gaps in the unit standards/quality of training. The PGDB could then recommend to the ITO amendments to improve the unit standards/quality of training.

The PGDB has not supported the ITO in its attempt to revise the out-of-date unit standards. The NZQA has confirmed that the PGDB has not put its objections about the proposed unit standards in writing either to the NZQA or to the ITO. The NZQA advised the Chairman of the PGDB that if the PGDB has concerns about the

proposed amendments to the unit standards it should tell the ITO specifically what these concerns are and that the NZQA should be copied in to this correspondence. The PGDB has yet to follow this advice.

A reasonable course of action for the PGDB would be to specify their concerns about the proposed unit standards so that the training providers and the ITO could remedy the defects. This is especially important if the PGDB has ongoing concerns about the quality of unit standards and moderation processes. It is difficult to reconcile the PGDB's concern about out-of-date unit standards with its lack of input into the process to update them, when invited to do so by both the ITO and the NZQA. In other words, the ITO and the NZQA are actively seeking recommendations from the PGDB, but the PGDB has not been forthcoming.

It is not the role of the PGDB to be a facilitator of training. Its role is to make recommendations concerning training. In mid 2005 both the ITO and the PGDB were discussing the Australian Training Package in forums convened by the PGDB.

In normal circumstances, ITOs, with the support of their respective Registration Boards, work on programme approval, recognition of training providers and assessment processes alongside the NZQA.

However, in this case, the PGDB embarked on functions that the ITO rightfully says falls within the scope of the ITO's legislative authority, and this caused confusion and conflict. The ITO is funded to set skill standards, make arrangements for delivery of industry training, and provide leadership on skills and training matters.

The ITO observed the PGDB taking the lead by performing functions that the ITO must undertake if it is to continue to remain recognised as the ITO for the industry and attract Government funding. In late 2005, the ITO attempted to wrest the initiative back and took steps to take the lead by consulting with industry about the Australian Training Package. It found that there is industry support for its introduction. This was an entirely appropriate action for the ITO to take. On the basis of this consultation, the ITO proposes that the Australian Training Package along with current/amended units standards form the basis for a revised National Certificate on the NQF.

3. Delivery of training

The ITO became so worried about its future, that it approached the Minister for Tertiary Education.

The ITO is concerned that the Australian Training Package could be registered with the NZQA as a local Polytechnic qualification that could be delivered by a Polytechnic without recourse to the ITO.^{11, 12} If a Polytechnic did register the Australian Training Package as a local qualification, there would be a dual system for attainment of a plumbing and gasfitting qualification. This would affect the ITO's leadership role and funding as it will only receive funding for trainees enrolled with the ITO working towards national (not local) qualifications. ITOs are the standards setters, and receive funding to manage and facilitate training for national qualifications only.

This would also be of concern to the Government as it could see training costs increasing as more students accessed their training directly through Polytechnics on EFTS funding. The Government is seeking high quality, nationally consistent, value for money education and training and could be faced with higher costs but no guarantee that it would result in larger numbers of qualified plumbers entering the labour market.

During the review the Hon Michael Cullen announced a change in focus for tertiary education funding. His press release dated 4 April 2006 said:

“There would be a shift away from funding places on courses to purchasing outcomes. No longer will success be measured by the numbers of students enrolled but by progress in lifting quality and meeting agreed goals. We need better ways of assessing the quality of teaching and learning experience to ensure our investments have the highest return. This could mean a change from the EFTS formula. We want to invest in organisations based on plans agreed with government.”

The numbers of trainees entering into training directly with Polytechnics is increasing. The numbers of EFTS-funded plumbing and gasfitting trainees has increased from 60 in 2000, to 230 in 2005.¹³ The total amount of direct funding to Polytechnics for all training, outside of the scope of the ITO, has increased from \$544,462 in 2000 to \$3,419,183 in 2005.¹⁴

UNITEC is one Polytechnic which is delivering training to plumbers and gasfitters accessing EFTS-funding. With \$9,619 per Equivalent Full-Time Student, UNITEC on the face of it, should be able to offer more support to their trainees, and provide higher quality resources than the Polytechnics who work with the ITO and receive a share of the ITO funding of \$3,020 for per STM.

Recommendations

In order to address the issues that arise from the breakdown in the current relationship between the ITO and the PGDB, the following recommendations are made:

- That the TEC and NZQA work with the ITO to build its capability and raise its performance to enable the PGDB to regain confidence in the National Certificate;¹⁵
- That the Minister for Tertiary Education appoint a person to the ITO Board. The Chair of the ITO has indicated that he would welcome a Ministerial appointment to augment his Board. The purpose of any Ministerial appointment would be to assist the ITO build its capability and to ensure resolution of current issues;
- That the objectives for any persons appointed onto the Board of the ITO should be to bring the National Certificate into alignment with the registration exam;
- That the ITO take the lead and work with the TEC, NZQA and PGDB to further investigate the adoption of the Australian Training Package and the facilitation of the process for the Australian Training Package to be registered onto the NQF as a NZ National Certificate;

- That the TEC set higher performance standards for credit and qualification achievement for the ITO which it would closely monitor;
- That the Associate Minister of Health and Department for Building and Housing confer on future PGDB appointments (as terms are expiring in mid 2006) to ensure that those appointed have:
 - Greater clarity of respective roles of the PGDB and the ITO;
 - Focus on core statutory functions;
 - Avoid potential conflicts of interests; and have a
 - Preparedness to work with the ITO as the organisation responsible for standard setting and leadership in regard to the education and training for the industry;
- That the PGDB take steps to appoint a permanent Registrar who is not also the Chairperson of the PGDB; and
- That Government task the TEC with monitoring the ongoing relationships between the ITO and the PGDB, and the process surrounding the Australian Training Package, and to work with and keep other relevant Government agencies informed, such as the MED, NZQA and DBH.

TOR.2 The PGDB's plans for the proposed introduction of the Australian Qualifications and Competencies and:

- (a) what this potentially means for those currently training for the National Certificate in Plumbing Gasfitting and Drainlaying,
- (b) the PGDB,
- (c) the ITO, and
- (d) Government funding in support of tertiary education.

The approved training programmes include:

- a National Certificate in Plumbing (level 4) 193 credits
- a National Certificate in Gasfitting (level 4) 110 credits
- a National Certificate in Drainlaying (level 3) 88 credits

The National Certificates are unit standard based. It is recognised in the industry that the current National Certificates are in need of updating¹⁶. Both the ITO and the PGDB want to move forward on the basis of an Australian Training Package. Not only is the Australian Training Package well regarded, it will also standardise qualifications between NZ and Australia.

The Australian Training Package is the preferred option of those surveyed by the ITO. The ITO commissioned a survey undertaken by BRANZ, which was issued on 21st March 2006. The survey of 210 respondents¹⁷ identified the direction for plumbing gasfitting and drainlaying qualifications: 81% wished the ITO to register a NZ National Certificate based on Australian units of competency on the National Qualifications Framework, and include unit standards where there are identified gaps in the Australian prescription. The least preferred option was for a Trans-Tasman certificate or diploma purchased by the PGDB and registered at a local level by individual Polytechnics on the New Zealand Register of Quality Assured Qualifications. This option, the respondents said would require apprentices to spend extra time away from work. The respondents also thought it would increase costs. Concern was expressed about the PGDB having full control of the qualification.

However, the PGDB wishes the Australian Training Package to be introduced with little modification. It does not consider that the Australian Training Package should be unit standard based, effectively limiting the engagement by the ITO in the process. It would be open to Polytechnics and Private Training Establishments to have it registered through the appropriate quality assurance and accreditation system. Any training undertaken would be funded through the Student Component Funding system (ie EFTS funding).

Included in the PGDB's submission to the review is a letter from Graeme Perry, who is a consultant for the Plumbing Industry. In describing the Australian Training Package, he states:

“It gives teachers/tutors a clear guidance to the standard required by the industry and the consumer. It has a complete set of learning guides and assessment guides for all competency standards. I believe both countries require moderation of the process and final assessment for the candidate that is provided by ANZRA.”

The Australian Training Package was developed over the period from November 2002 to July 2003, at a cost in excess of \$A1m. It was developed so that Registered Training Providers have a common set of resources across all State jurisdictions. It consists of:

- Three Certificate 11 qualifications, addressing drainage, urban irrigation and metal roofing and cladding;
- Five Certificate 111 qualifications;
- Plumbing. The plumber must register in four plumbing categories, one of which must be water;
- Mechanical services. A mechanical services specialist plumber, as with plumbing, requires registration in four categories, of which water and mechanical services are compulsory;
- Gas fitting;
- Roof plumber; and
- Fire protection.

From March 2005, 84 learning and assessments guides were completed. An additional 19 units will also be available. These guides are freely available.

The ITO would have to modify the Australian Training Package to the extent that the NZQA would register it on the National Qualifications Framework. In its supplementary submission dated 24th March 2006, the ITO said:

“the ITO using established and approved NZQA processes can provide deliver [sic] updated national certificates using a blend of NZ unit standards and Australian competency standards to make up the building blocks of the updated qualifications. NZQA already have an approved process for registering this type of Trans -Tasman qualification made up of a combination of Australian and NZ units on the NQF... The NZQA cover sheet process allows ITO’s to cross refer Australian units of competency to unit standards on the framework for use as the building units in NZ qualifications such as national certificates...”

The ITO proposes the following process to permit delivery of the National Certificate incorporating the Australian Training Package by 2007:

- Register NZ unit standards and Australian units of competency on the NQF;
- Hold sector meetings including training providers to endorse content of units of competency and unit standards;
- Submit to NZQA the NZ unit standards and the Australian units of competency;
- Register 3 National Certificates onto NQF;
- Hold sector meetings including training providers to endorse the content of the qualifications;
- Submit National Certificates to NZQA;
- Develop assessment guidelines for unit standards, and utilise assessment materials for Australian units of competency subject to permission from DEST;
- Providers training materials updated, using one training package;

- ITO moderates the assessments;
- Transition arrangements for all trainees completing current National Certificates to move to new National Certificate;
- Accreditation and Moderation Action Plan revised;
- Accreditation of training providers so trainees can access training nationally;
- Employer and trainee support material including ;
- Training plan for employer and employee; and
- Assessment of current skills including numeracy and literacy.

Recommendations

TOR.2 • The PGDB’s plans for the proposed introduction of the Australian Qualifications and Competencies and:

- (a) **what this potentially means for those currently training for the National Certificate in Plumbing Gasfitting and Drainlaying:**
That the ITO develop a transition plan for those trainees currently in the system for submission to the TEC and the NZQA;
- (b) **the PGDB:**
It is recommended that the PGDB be asked by the ITO and the Associate Minister of Health to co-operate in the process of reviewing the current National Certificate to incorporate the Australian units of competency;
- (c) **the ITO:**
That the ITO develop a project plan with input from the NZQA and TEC with a timeline and actions to achieve the transition from the current National Certificate to one incorporating Australian units of competency and the accompanying assessment materials;

That the ITO in consultation with the TEC and NZQA take steps to immediately discuss with DEST the availability of the Australian Training Package for incorporation into the National Certificate;
- (d) **Government funding in support of tertiary education:**
The objective of any amendments to the National Certificate would be that the Government achieve its objective of higher quality education for its investment.

TOR.3 • The appropriate level of communication and co-operation required and/or expected of each organisation to meet the needs of government and to implement their respective roles appropriately.

The disparity between the number of those in training, those achieving National Certificates and the resulting numbers of registered tradespersons, is evidence of poor levels of communication and co-operation between the ITO and the PGDB.

A further signal that the ITO and PGDB are not working effectively together is that Government and industry investment has increased and this is not matched by outcomes. In 2000 the total Government funding was \$2,178,445; by 2005 it had risen to \$6,171,906.¹⁸ Industry are also affected by this as they directly invest an average of \$650,000 per year in industry training and over \$1million per year (\$1,402,608 in 2004) in revenue to the PGDB for competency assessments, examination fees, license fees and registration fees.¹⁹

Despite this high investment, numbers of registered plumbers and gasfitters are falling in real terms. In 2000 there was one plumber per 757 people in NZ; by 2005 this had fallen to 1 plumber per 854 people in NZ.²⁰

There are about 1500 trainees in the system. About 470 sat registration examinations in 2005. Only 11% of those who sat the PGDB plumbing examination passed in 2005, 58% passed the gasfitting examination. With such low pass rates there is no hope of meeting labour demand.

This outcome is also unsatisfactory for the trainees. The ITO estimates that up to 600 trainees have failed the PGDB examination between 2002 and 2005.

An improved level of communication and cooperation must be a priority for both organisations. Government agencies such as NZQA and TEC have an interest in assisting them to take the necessary steps to achieve higher numbers of successful entrants into the industry.

Recommendation

- That the PGDB and ITO along with the TEC and NZQA identify trainees who have failed their registration examination between 2002 and 2005 with the objective of assisting them to enter the industry if they choose to do so;
- That the ITO and PGDB meet performance targets set to achieve increasing numbers of entrants into the industry while ensuring that trainees have the high quality training and appropriate skills required; and
- That the NZQA (in consultation with the TEC) arrange with the appropriate organisations to contract an independent examiner to re-mark those candidate's scripts it deems should be re-examined; and following this exercise the NZQA, along with the TEC, should make appropriate recommendations to the PGDB concerning the examinations.

TOR.4 • Whether the Plumbing, Gasfitting and Drainlaying Industry Training Organisation or the Board are working outside of their respective statutory roles.

The PGD Act

The key provisions in the PGD Act and its Regulations are as follows:

11: Functions and powers of Board

- (1) The functions of the Board shall be:
 - (a) To make arrangements for the examination of persons practising or intending to practise the plumbing, gasfitting or drainlaying trades:
 - (b) To present or issue, either independently or in conjunction with any other examining body, diplomas or certificates to any such person in recognition of his proficiency in any of those trades:
 - (c) To make recommendations to any person or body concerned with the education or training of any person wishing to enter the plumbing or gasfitting or drainlaying trades, or with regard to any other matter affecting such trades:
 - (d) To receive applications for registration under this Act, and to authorise registration in proper cases:
 - (da) To ensure that craftsmen gasfitters, gas inspectors, and registered gasfitters maintain an adequate level of competence in the field of work in respect of which they are registered:
 - (e) To exercise disciplinary powers in accordance with the provisions of Part 4 of this Act:
 - (f) To institute prosecutions against registered persons or other persons for the breach of any Act or regulation relating to sanitary plumbing, gasfitting or drainlaying:
 - (g) To make recommendations to the Minister with respect to the making of regulations controlling sanitary plumbing or drainlaying under the Health Act 1956:
 - (h) Generally, within the scope of its authority, to do whatever may in its opinion be necessary for the effective administration of this Act:
 - (i) To perform such other functions as may be conferred on it by any other enactment.
- (2) The Board shall have all such powers as may be reasonably necessary to enable it to properly carry out its functions.

13: Registrar and other officers

- (1) The Board shall from time to time appoint a person to be the Registrar of Plumbers, Gasfitters, and Drainlayers, and may from time to time appoint such Deputy registrars and other officers, employees, and agents as it thinks necessary for the efficient performance of the Board's functions, and may pay them such remuneration as it considers appropriate.
- (2) A member of the Board may concurrently hold the post of Registrar, or any other office of employment under the Board.

15: Finance

- (3) All money received under this section and all other money received by the Board may be applied by the Board for any of the following purposes:
- (a) the payment of remuneration and any travelling allowances and its expenses to its members, employees, and agents, including any person referred to in section 14 of this Act.
 - (b) The payment of contributions for the purposes of superannuation
 - (c) The payment of all costs and expenses incurred in doing whatever the Board considers expedient to best accomplish the purposes for which it is established.
 - (d) Contributing towards the cost of educating or training any person wishing to enter the plumbing or gasfitting or drainlaying trades, and providing scholarships or bursaries and making donations for any such purpose.
- (10) As soon as practicable after the end of each financial year, the Board shall cause to be prepared and submitted to the Auditor General full and true statements and accounts of all its income and expenditure in that year, together with a statement of financial position as at the last day of that year.

Registration

Sections 20-25 concern Registration. The Board must be satisfied that the person has passed such examination or examinations as may be prescribed, or as may be approved by the Board.

64: Reciprocity

The Board may from time to time make arrangements with the appropriate authorities controlling the registration or recognition of drainlayers, gasfitters, or plumbers elsewhere than in New Zealand for the reciprocal recognition of registration, certificates, or other evidence of proficiency in drainlaying, gasfitting, or sanitary plumbing.

66(f): Regulations

The Governor General may from time to time by Order in Council make regulations for all or any of the following purposes:

- (e) Prescribing examinations for the purposes of this Act, the bodies or persons by whom any such examinations are to be conducted, the conduct of any such examinations, and the fees payable in respect of any such examinations:
- (f) prescribing the nature and duration of any training or experience necessary for the purpose of obtaining registration under the Act, and relating any period so prescribed to the time of undertaking any examination for such purpose.

Plumbers, Gasfitters, and Drainlayers Regulations 1977

2: Interpretation

“Examining Authority” means the New Zealand Trades Certification Board constituted under the Trades Certification Act 1966.

The Trades Certification Act was repealed by the Education Amendment Act 1990. The New Zealand Trades Certification Board was dissolved with the introduction of the NZQA.

Section 295(6) Education Act 1989- Transitional Provisions consequential on repeal of Trades Certification Act 1966.

This section ensures that regulations applying to the Trades Certification Board, continue in force and apply thereafter to the NZQA.

3: Arrangement for Examinations

- (1) The Board shall from time to time make arrangements with the Examining Authority for the Examining Authority to hold at least once in every calendar year, examinations of candidates for registration-
 - (a) as Craftsman plumbers under section 21 of the Act
 - (b) as craftsman gasfitters under section 22 of the Act
 - (c) as plumbers under section 23 of the Act
 - (d) as gasfitters under section 24 of the Act
 - (e) as drainlayers under section 25 of the Act
- (2) The place at which any such examination is to be held, the advertising of the intention to hold any such examination, the manner of making and receiving applications to sit for any such examination, the charging of fees in respect of any such examination, the remuneration of examiners, and subject to any other provisions of these regulations, ancillary matters relating to any such examination shall be in accordance with the practice and procedure of the Examining Authority acting under the Trades Certification Act 1966 and in consultation with the Board.

4: Subject matter of examinations

The subject matter is set out in schedules to the regulations

Although the PGD Act allows for regulations to prescribe the nature and duration of any training or experience necessary for the purpose of obtaining registration, no such regulations have been passed.

Financial Accountability

Section 15 allows the PGDB to finance costs and expenses to enable it to accomplish its purposes.

Section 15(c) allows the PGDB to make payment of all costs and expenses incurred in doing whatever the Board considers expedient to best accomplish the purposes for which it is established. Thus it could make payments for the following purposes:

- Making arrangements for the examination of persons practising or intending to practise the plumbing, gasfitting or drainlaying trades;

- Presenting or issuing, either independently or in conjunction with any other examining body, diplomas or certificates to any such person in recognition of his proficiency in any of those trades; or
- Making recommendations to any person or body concerned with the education or training of any person wishing to enter the plumbing or gasfitting or drainlaying trades, or with regard to any other matter affecting such trades.

As part of the review, the PGDB was asked for their Annual Reports and Statements of Financial Performance.

The 2001 Annual Report notes that pursuant to section 15(d) it made a \$40,000 contribution to the ITO. Section 15(d) allows the PGDB to contribute towards the cost of educating or training any person wishing to enter the plumbing or gasfitting or drainlaying trades, and providing scholarships or bursaries and making donations for any such purpose.

In its submission to the review the PGDB said:

“The PGDB understands that following the payment (of \$40,000) in 2001, members of the Board queried the legality of the payment, notwithstanding that a payment of an equivalent or lesser amount had been made annually for nearly 20 years. The Board then sought legal advice which recommended that the Board not make any further payments. The Board ceased payments at that time and, despite the ITO providing a contrary legal opinion, the Board has not resumed them.”

The reviewer agrees with the advice proffered to the PGDB in respect of these payments under section 15(d).

The 2004 Annual Report does not provide sufficient information to enable an analysis of whether the PGDB is acting inside or outside its statutory role pursuant to section 15. Whilst the financial statement says it has been prepared in accordance with section 15 of the Act, it does not provide sufficient information to ensure expenditure was made in conformity with section 15. For example, \$122, 686 was spent on “projects”, and the projects were for “registration, licensing and the Board.” The PGDB submits that reports comply with Generally Accepted Accounting Practice. Even so, the information provided in the Annual Report as a whole, is not sufficiently transparent to allow the reviewer to make a judgment on the nature of this “project” spending.

The PGDB provided its Annual Report and Statement of Financial Performance for the year ending 31 March 2005 to the reviewer, on 3 May 2006. Section 15(10) requires the PGDB to produce a report as soon as practicable. The reason stated for the delay is that during the 31 March 2005 financial year, the PGDB was granted charitable status. This entitled the PGDB to a refund on all fringe benefit tax paid to IRD, and it was entitled to a refund on GST paid on the fringe benefit tax. Audit NZ was not prepared to issue an audit opinion until the financial statements reflected the refund and were signed off by the PGDB. The accounts show that it received a Fringe Benefit Refund of \$173,498 for the year ended 31 March 2005. Whilst a delay of over one year is not consistent with best practice, the PGDB has provided a reasonable explanation for the delay.

Leadership on matters relating to training

The December 2005 PGDB newsletter describes how it established a Plumbers Educators Forum and it noted that the PGDB had stepped into a leadership role. This group, it said:

“will grow to become a very important sounding board for the Board as training becomes more of the Board’s focus.”

The newsletter listed matters that the PGDB had been involved in:

- Moderation of exam papers
- Moderation of training package
- Common terminology
- Examination supervision
- Dyslexic issues
- Pathway to registration
- Theory distant learning package
- Qualifying examinations
- Practical assessment
- Plumbing in NZ text book
- Limited certificate issues
- Energy Safety legislation
- Education in general

This is an extensive list, which stretches their functions under section 11.

The PGDB believe that their statutory authority to review training materials and to seek copyright of the Australian Training Package arises from section 11(c) of the PGD Act.

Section 11 sets out the Functions of the Board – subsection (c) says:

“to make recommendations to any person or body concerned with the education or training of any person wishing to enter the plumbing or gasfitting or drainlaying trades, or with regard to any other matter affecting such trades.”

The PGDB argues that it would not be in a position to make recommendations unless it undertook the work to investigate the Australian Training Package and take steps to secure its copyright. It is the reviewer’s conclusion that the PGDB is acting outside of its intended role in relation to the leadership it is taking in respect of industry training. It is clearly within the statutory role of the ITO to provide leadership on matters relating to skill and training needs. The PGDB is usurping the ITO’s function in this respect.

It would be expected that the PGDB, which only has the power to make recommendations, ought not to be at the forefront of promoting or securing training packages.

The PGDB sought copyright release to use and reproduce in whole or in part the Australian Training Package and its support materials from the Australian National Training Authority (ANTA). ANTA provided permission to the PGDB to use the material subject to conditions as to use and amendments. It advised the PGDB that

the material is ANTA copyrighted and it would be reproduced by the PGDB with its “kind permission”.²¹ All ANTA copyright transferred to DEST in June 2005. DEST has confirmed that it has given permission to the PGDB to use and reproduce part or whole of the Australian Training Package and any of its support materials. The copyright remains with the Commonwealth of Australia.

The PGDB liberally interpreted the “kind permission” to reproduce the material when it informed the ITO by letter that it had been granted “copyright” of the training package by ANTA. Furthermore, the PGDB provided a copy of the training package to the ITO subject to a signed agreement by its Chief Executive, that the training package could not be copied or amended in any way without the specific written permission of the PGDB and that the package could not be provided to any third parties.

The reviewer has not seen any correspondence from Australian authorities that expressly says that the PGDB has been granted copyright to this material. In fact the correspondence provided by the PGDB to the review from the Construction and Property Services Industry Skills Council says that 84 learning and assessment guides for the Australian Qualifications Framework level 3 Plumbing and Services package are available free of charge on the resources generator; and the additional 19 units will also be available on the resource generator.²²

The PGDB submits that it is entitled to own property by way of its powers under section 5(2) of the PGD Act. But the PGDB can only exercise this right if it is acting pursuant to its statutory functions. The PGDB submits that its action in acquiring copyright was reasonably necessary to ensure that any future implementation of the Australian Training Package was not impaired in the event that recommendations were made to, and accepted by, the appropriate bodies. Further the PGDB submits that it has auxiliary functions under section 11(1)(h) relating to the effective administration of the Act, and the opportunity to secure these rights could not sensibly be overlooked.

The reviewer concludes that section 11 does not provide authority to the PGDB to acquire the copyright in the Australian Training Package, or to assume the power to enable it to dispense a training package to training providers. The PGDB submitted that:

“the Board will back to back copyright, free of charge to whomever is to deliver the package in New Zealand, if it were to proceed.”

It is accepted that the PGDB must have the powers necessary to carry out its statutory functions, and in relation to training, its statutory functions are restricted to making recommendations. It is not empowered to be a facilitator of training.

The PGDB gained support and endorsement from all NZ training providers for the Australian Training Package. This activity goes beyond its statutory role of making recommendations to any person or body. There is an important distinction between the PGDB making a recommendation to a body, and the PGDB asking a body to endorse its recommendation. If anyone is to seek the endorsement of a proposed course from training providers, it ought to be the ITO.

Examinations

Whilst it is within the PGDB's statutory powers to prescribe examinations, the 1977 Regulations require these to be arranged with the Trades Certification Board. The PGDB accepts that the NZQA partially replaced the Trades Certification Board. However, the PGDB submitted that the current regulations are "erroneous". As a matter of law the transitional provisions in this respect replace the Trades Certification Board with the NZQA.

The Regulations require the PGDB to make arrangements with the NZQA once each calendar year for examinations for 5 classes of candidates.

Under the Regulations, the NZQA, in consultation with the PGDB, is required to establish a practice and procedure for:

- The place at which the examinations are to be held;
- The advertising of the intention to hold any such examination;
- The manner of making and receiving applications to sit for any such examination;
- The charging of fees in respect of any such examination;
- The remuneration of examiners; and
- Any other ancillary matters relating to any such examination.

The PGDB assumed full responsibility for the 2005 examination cycle. In so doing the reviewer has concluded that the PGDB was acting outside its statutory authority.

The PGDB submitted that it had no choice but to take over the examinations when NZQA decided to withdraw from the role. However, the PGDB did not advise the NZQA of its responsibilities under the Regulations.

In the same year that it administered the registration examinations in contravention of its Regulations, the PGDB sought an amendment to the Regulations to allow it to administer the examinations without oversight.

In 1995 the MOH had advised the PGDB of the process for preparing and making of Regulations. The MOH said:

"In submitting proposals to amend regulations full reasons and justification needs to be provided. It is not, for example, sufficient to provide the Ministry with a copy of the registering body's resolution. It is preferable that the Ministry be supplied with more information rather than less. The results of any consultation should be included and areas of difference clearly identified."

The PGDB submitted to the MOH the bare amendment sought, without any reasons, justification, or results of consultation. The MOH took no action on their recommendation to amend the Regulations to transfer the powers and functions of the NZQA to the PGDB because the PGDB supplied no supporting information and because of the pending Energy Safety Review Bill.

Board arrangements

One other issue of concern is that the Chairman of the Board is also Acting Registrar. The PGDB intends to recruit a permanent Registrar before the end of 2006.

Recommendations

- That the PGDB refocus on its core statutory functions;
- That the PGDB work with the NZQA in making arrangements for the examination of candidates. That in making arrangements for examinations they are required to consult with relevant parties such as training providers and the ITO;
- That the PGDB Annual Reports and Statement of Financial Performance reference its activities against its statutory functions;
- That the Energy Safety Review Bill provide for a purpose statement in the PGD Act;
- That the Minister provide in an output agreement with the PGDB that it demonstrates that it has regard for the statutory functions of the ITO;
- That the PGDB make recommendations, including a proposed plan of implementation with set milestones, to the Minister concerning regulations which would facilitate an improved interface between the National Certificate and the PGDB examination; and
- That the Minister promulgate the standards for registration purposes. This would require an amendment to the PGD Act.

In respect of the ITO:

The ITO is required by legislation to:

- Set standards and qualifications;
- Arrange and purchase training;
- Arrange quality assurance (arrange to monitor training, assess trainees); and
- Provide leadership on matters relating to skills and training needs.

The ITO is subject to a funding agreement with the TEC. The agreement sets out the obligations, the amount of funding it will receive, reporting requirements, audit, and evaluation. The Minister can withdraw recognition of an ITO, and the TEC can withdraw funding support, or require the ITO to remedy non-performance. The fund schedule provided by the TEC to the ITO sets out the activities to be performed, the performance indicators, monitoring and reporting. The activities are set out in their profile which is publicly available on the NZQA website. The agreement requires the ITO to comply with NZQA quality assurance standards. These standards are also on the NZQA website.

There is plenty information about the ITO and its activities in the public domain, and the TEC is bound to monitor its performance. There is no evidence that it is acting outside of its statutory functions.

TOR.5 • The identification and management of conflicts of interest by the Board in relation to the proposed introduction of Australian Qualifications and Competencies.

The reviewer noted that a member of the PGDB is a representative of a relevant training organisation; and that this training organisation is delivering training to plumbers, gasfitters and drainlayers. The review will recommend that the PGD Act be amended to avoid any potential for conflict of interest and to give the Minister a wider pool of people to choose from for PGDB appointments.

Currently there are only 3 relevant training organisations to choose from, and inevitably any person nominated would be involved in the delivery of the training that the PGDB may wish to make recommendations to, pursuant to their powers under section 11(c) or under any regulations pursuant to section 66(f).

No actual conflict of interest has been identified.

TOR.6 • To identify any legislative aspects relating particularly to the Plumbers Gasfitters and Drainlayers Board that might be reviewed under the Energy Safety Review Bill or accompanying regulations.

The reviewer has had an opportunity to provide the following recommendations to the Select Committee, and to the Associate Minister of Energy who is overseeing this legislation.

The current provisions in the Bill result in overlapping jurisdiction of the PGDB and the ITO. The Bill allows the PGDB to accredit particular tertiary institutions to undertake training, which is an acknowledged role of the ITO.

The current provisions in the Bill do not give sufficient Ministerial oversight and accountability of the PGDB's activities and the standards set for registration purposes.

The Bill does not provide for consultation with the ITO.

Recommendations

The review has made recommendations to the Select Committee considering the Energy Safety Review Bill:

- Increasing accountability by the PGDB to the Minister;
- Requiring the PGDB to consult with persons likely to be affected in relation to licensing matters and the competence of a licensed person;
- Ensuring greater clarity around the respective roles of the ITO and the PGDB in order to minimise duplication of functions and powers;
- Including a provision providing that the prime function of the PGDB is the protection of the public in terms of health and safety; and
- Ensuring that one person on the PGDB is knowledgeable about both the tertiary sector and the industry.

TOR.7 • Any other issues that I consider relate to, or arise out of, the above matters.

The reviewer notes that in 2001/2 Audit NZ undertook a review of PGDB governance and the introduction of craftsman examinations. It appears that the PGDB was not required to report against the Audit NZ recommendations in 2001/2 to any agency providing oversight of its activities. The current review may not have been necessary some 4 years later, had the PGDB fully implemented the recommendations.

As no single Government agency had the lead responsibility in monitoring the interface between the ITO and the PGDB, the problems identified in the Audit NZ review were able to fester for many years affecting trainees, and the industry as a whole. The relationship problems resulted in a less than optimum outcome for Government and industry.

This current review was commissioned whilst the Energy Safety Review Bill was being considered by the Commerce Select Committee, and this gave both the reviewer and the Select Committee an opportunity to hear and consider the concerns being expressed by the industry. The submissions identified that the relationship problems may have been further entrenched as the Energy Safety Review Bill did not address the PGDB's accountability.

In order to avoid history repeating itself, it is submitted that the reviewer's recommendations are formally considered by the Minister for Tertiary Education, the Associate Minister of Health, the Associate Minister for Energy, and the Minister for Building Issues. If the recommendations are accepted in whole or part, the relevant agencies should be tasked with monitoring implementation, and provide feedback to the TEC. It is recommended that the lead agency providing oversight of the ongoing relationship between the ITO and the PGDB ought to be the TEC.

Drainlayers

An incidental issue that has been raised during the course of this review relates to drainlayers who work on Crown or Local Authority assets. They are excluded by the PGD Act from obtaining registration from the PGDB for this work. However, the PGDB has in the past "rubber stamped" their applications. This practice has now ceased. InfraTrain, the ITO responsible for these trainees submitted as follows:

"InfraTrain currently have 99 trainees signed into the national certificate in drainlaying. This is a technical qualification relating to drainage work between the street boundary and the house. The majority of our trainees work for general list contractors who work from the street boundary out. Unfortunately, the motivation behind the majority of trainees signing into this certificate, rather than obtaining technical skills, is to obtain registration (from the PGDB). Registration (having a registered drainlayer on the staff) is a stated requirement by a number of local authorities, before contractors are eligible to work in their assets. The anomaly occurs when, by definition, drainlaying (as defined in the Act) excludes Crown or Local Authority works. The result of this is that we have trainees applying for registration, as required by the local authority, when local authority work specifically excludes them from being eligible for registration.

Up until recently this has not been a problem because as I understand it, the PGDB had effectively rubber stamped the applications. Recently, however, the PGDB have applied the rules as defined by the Act, and rightly so, the majority of InfraTrain trainees have been denied registration. Understandably, this has caused a huge feeling of confusion and dissatisfaction amongst our trainees and their employers. It has also caused an immeasurable backlash from contractors against involvement in industry training. There is, however, no immediate solution for those involved. As an ITO, we are no longer signing people into the National Certificate in Drainlaying.”

The most obvious solution is to broaden the scope of the PGD Act to include these drainlayers for registration purposes.

Overclaiming for trainees

It was put to the reviewer that a number of parties have potentially overclaimed funding for plumbing, gasfitting and drainlaying education and training from the TEC over recent years. These issues are outside of the Terms of Reference of this review. However, the reviewer compiled information and created appendices to provide a picture of the numbers of learners and learning outcomes, and the government funding to support this activity. The TEC is tasked with allocating funding to tertiary education organisations and the information provided to the reviewer noted above has been forwarded to the TEC for consideration and action where appropriate.

7 • Summary of Recommendations



It is recommended that the following recommendations be formally considered by the Minister for Tertiary Education, the Minister for Building Issues, and the Associate Ministers of Health and Energy.

That the Minister for Tertiary Education task the TEC as the lead agency to monitor the implementation of those recommendations accepted in whole or in part by Ministers.

Government Agencies (TEC, NZQA and DBH)

1. The TEC and NZQA work with the ITO to build its capability and raise its performance.
2. The TEC set higher performance standards for the ITO for credit and qualification achievement which the TEC would closely monitor.
3. The TEC monitor the ongoing relationship between the ITO and the PGDB and would keep other relevant Government agencies, such as the MED, DBH, NZQA and MOH informed.
4. The TEC and NZQA would monitor the process surrounding the adoption of the Australian Training Package.
5. The NZQA (in consultation with the ITO, PGDB and TEC) identify trainees who have failed their registration examination between 2002 and 2005 with the objective of assisting them to enter the industry if they choose to do so.
6. The NZQA arrange with the appropriate organisations to contract an independent examiner to re-mark those candidate's scripts it deems should be re-examined; following this exercise recommendations should be made to the PGDB concerning the examinations.
7. The NZQA must comply with the regulations promulgated under the PGD Act.

ITO

8. The ITO take steps to immediately discuss with DEST the availability of the Australian Training Package for incorporation into the National Certificate.
9. Subject to its availability, the ITO take the lead and work with the TEC, NZQA and PGDB to enable the Australian Training Package to be registered onto the NQF as a NZ National Certificate.

10. The ITO should develop a project plan with input from the NZQA and TEC with a time line and actions to achieve the transition from the current National Certificate to one incorporating Australian units of competency and the accompanying assessment materials.
11. The ITO should develop a transition plan for those trainees currently in the system, in the event that the Australian Training Package is introduced, as a National Certificate in New Zealand. This plan is to be submitted to the TEC and NZQA, who will monitor progress against that plan.
12. The ITO continue with the process of updating the “expired” unit standards.
13. The Minister of Tertiary Education appoint a person to the ITO Board to assist the ITO to build its capability.
14. That the ITO and PGDB be required to meet performance targets set to achieve increasing numbers of entrants into the industry.

PGDB

15. The Associate Minister of Health and Minister for Building Issues confer on future PGDB appointments.
16. The Minister responsible for the PGDB direct it to immediately assist the ITO to update and amend the “expired” unit standards pending the development of the National Certificate incorporating the Australian Training Package.
17. The Minister responsible for the PGDB as part of an output agreement with the PGDB recommend that it co-operates with the ITO, NZQA and TEC in the transition from the current National Certificate to one incorporating the Australian Training Package.
18. The PGDB develop strategies to meet performance targets set to achieve increasing numbers of high quality entrants into the industry.
19. The PGDB refocus on its core statutory functions.
20. The PGDB work with the NZQA when making arrangements for the examination of candidates, and when so doing it should consult with relevant parties such as training providers and the ITO.
21. The PGDB make recommendations, including a proposed plan of implementation with set milestones, to the Minister concerning regulations which would facilitate an improved interface between the National Certificate and the PGDB examination.
22. The PGDB Annual Reports and Statement of Financial Performance reference its activities against its statutory functions.
23. The Minister provide in an output agreement with the PGDB that it demonstrates that it has regard for the statutory functions of the ITO.
24. The PGDB take steps to appoint a permanent Registrar who is not concurrently the Chairperson.

Energy Safety Review Bill

25. The Energy Safety Review Bill provide for a purpose statement in the PGD Act, ensuring that the prime function of the PGDB is the protection of the public in terms of health and safety.
26. The PGD Act be amended to allow the Minister to promulgate the standards for registration/licensing purposes.
27. The PGD Act be amended to increase accountability by the PGDB to the Minister.
28. The PGD Act be amended to require the PGDB to consult with persons likely to be affected in relation to licensing matters and the competence of a licensed person.
29. The PGD Act be amended to ensure greater clarity around the respective roles of the ITO and the PGDB in order to minimise duplication of functions and powers.
30. The PGD Act be amended to provide for a member who is knowledgeable about both the tertiary sector and the industry.
31. The Select Committee consider the scope of the PGD Act, as to whether it should be broadened to include drainlayers undertaking work on Crown and Local Authority assets.

End Notes

- 1 Robert Lingard, written submission and Graeme Perry, Plumbing consultant – verbal advice to review 6/4/06.
- 2 Refer Appendix 8.
- 3 www.kiwicareers.govt.nz/jobs/12c_bse/j48143h.htm, accessed on 21/02/06 p6
- 4 Department of Labour Skill Shortage assessment (February 2005), p5
- 5 Email to Ministry of Health 26/10/05 from Mr Routhan: “As you may be aware, Colleen Singleton left the Board on 14 October 2005. The Board has since appointed me Acting registrar and Chairman until such time as a replacement Registrar is appointed and commences office”.
- 6 The ITO sought 1288 STM’s for the 2006 year and has been allocated 1098 STM’s for the 2006 year.
- 7 Refer Appendix 2.
- 8 Department of Labour Skill Shortage assessment (February 2005), p4
- 9 The Economic Environment, ITO profile 2006-2008, p7, Appendix 1 of the ITO submission to the review
- 10 PGDB Annual Report 2004, p10
- 11 The Registration Board says in a document entitled “Australian Training Package”, hand-delivered 6/4/06. “The Registration Board would be prepared to recognise the National Certificate as a pathway to registration. The Australian Training package is internally assessed at the various training facilities by accredited assessors, during the first 2 and half to 3 years. The assessment is in the form of a theory (underpinning knowledge) test and a practical assessment with underpinning knowledge, and is audited by educational authorities. On successful completion of the programme, the regulator then exams [sic] each student to test both the practical ability and underpinning knowledge. If the Australian training package was adopted in NZ, the Board would undertake the final examination. If a Candidate passed the examination, he/she would attain national certificate and then registration.”
- 12 ITO written submission 28/2/06, p24
- 13 Refer Appendix 3
- 14 Refer Appendix 1
- 15 The ITO funding agreement requires the TEC to work with the ITO to continuously develop and improve its capability; in turn the ITO agrees to work collaboratively with the TEC to develop and improve its activities.
- 16 Flora Gilkison, WINTEC written submission 27/2/06.
- 17 BRANZ identified 23 companies who spoke on behalf of staff and board members; 1 education provider; 14 employers of apprentices; 4 employers of non-apprentices.
- 18 Refer Appendix 1
- 19 Refer Appendix 4
- 20 Refer Appendix 13
- 21 Andre Lewis, ANTA 17/2/05
- 22 Construction and Property Services Industry Skills Council letter to PGDB 22/2/06

APPENDICES

1. Government Funding for Plumbing, Gasfitting and Drainlaying Education and Training 2000 – 2005: Source TEC.
2. Numbers of new Registrations by Trade Area 1996 – 2005: Source PGDB Annual Reports and PGDB by email.
3. Students, Enrolments and National Certificate Achievement in Plumbing, Gasfitting and Drainlaying Industry 1996-2004: Source TEC.
4. Industry Cash Contribution: Source TEC.
5. National Certificate and NQF Credit Achievement: Source TEC.
6. 2005 Plumbing and Gasfitting Trainee Timeline: Source: ITO
7. 2005 Typical Plumbing and Gasfitting Apprenticeship Programme: Source ITO.
8. Licensed Craftsman and Registered Tradespersons including Limited Certificate Holders 1 April 2005 – present: Source: PGDB
9. Numbers of current apprentices and time since initial entry into training, by month: Source ITO.
10. Numbers of Drainlayer apprentices and time from initial entry as trainees by month as at 30 June 2005: Source ITO.
11. Number of Plumbing apprentices and time from initial entry as trainees by month as at 30 June 2005: Source ITO.
12. Number of Gasfitting apprentices and time from initial entry as trainees by month as at 30 June 2005: Source ITO.
13. 2000 – 2005 Population Ratios for Licensed Plumbers and Gasfitters: Source: PGDB
14. Number of Licensed Plumbers and Gasfitters for the 2000/1 to 2005/06 licence periods: Source PGDB.
15. Salary and Market Details for Plumbers and Gasfitters: Source Kiwi Careers.

Government Funding for Plumbing, Gasfitting and Drainlaying Education and Training 2000 - 2005

Year	Student Component funding NC in Plumbing & Gasfitting (\$)	Student Component funding NC drainlaying (\$)	Student Component funding Short Courses in Plumbing & Gas fitting (\$)	Other Student Component funding (Pre-Trade, Advanced Certificates etc) (\$)	Total Student Component funding (1) (\$)	Funding to ITO - Modern Apprenticeships included (2) (\$)	Total Government Funding (3) (\$)
2000	189,803	42,887	45,634	266,138	544,462	1,633,983	2,178,445
2001	365,939	178,361	77,126	181,219	802,644	1,384,014	2,186,658
2002	1,708,199	200,310	64,115	130,124	2,102,748	1,772,779	3,875,527
2003	1,691,885	303,531	93,390	278,215	2,367,021	2,071,800	4,438,821
2004	2,418,265	406,198	104,407	282,082	3,210,952	2,373,300	5,584,252
2005	2,204,296	534,031	89,498	591,359	3,419,183	2,752,723	6,171,906

Note: Figures provided by the Tertiary Education Commission

(1) Student Component Funding is EFTS funding and is valued at \$9,619 (GST inclusive) per equivalent full time student.

(2) Funding to the ITO is based on STMs, and each STM is valued at \$3,020 (GST inclusive).

(3) This column includes both student component funding (EFTS) and funding to the ITO.

Numbers of new Registrations by Trade Area 1996 - 2005

Trade Area	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Registered Plumber/ Gasfitter	70	65	36	128	64	49	-	-		
Registered Plumber	77	66	63	125	104	81	240	101	111	86
Registered Gasfitter	30	15	9	12	13	26	151	60	90	70
Registered Drainlayer	143	96	98	189	137	195	162	169	110	120
Total	320	242	206	454	318	351	553	330	311	276
Craftsman P/G	8	9	18	18	14	21	-	-		
Craftsman Plumber	56	64	67	110	69	65	85	70	54	53
Craftsman Gasfitter	30	14	26	57	31	38	47	37	39	40
Total	94	87	111	185	114	124	132	107	93	93

Note: Figures extracted from Plumbing, Gasfitting and Drainlaying Board Annual Reports and email dated 6/4/06 from Chairman/Acting Registrar.

Students, Enrolments and National Certificate Achievement in Plumbing, Gasfitting and Drainlaying Industry 1996 - 2004

Year	Total Number of Active Industry Trainees as at 31 December (1)	Enrolled students in NC Plumbing via ITO (2)	Enrolled students in NC Gasfitting via ITO (2)	Enrolled students in NC Drainlaying via ITO (2)	Achieved NC in Plumbing via ITO (3)	NC Achieved in Gasfitting via ITO (3)	NC Achieved in Drainlaying via ITO (3)	Enrolled students in Student Component funded NC Drainlaying (4)	Enrolled students in Student Component funded NC Plumbing and Gasfitting (4)
1996	1,379	497	497	750	53	53	162	-	-
1997	1,932	717	717	947	74	73	101	-	-
1998	1,590	467	500	780	201	192	228	-	-
1999	1,576	552	543	834	192	157	93	-	-
2000	1,087	474	496	405	57	35	50	44	60
2001	969	517	543	221	50	27	199	125	66
2002	1,101	537	565	290	107	105	92	273	72
2003	1,030	577	549	258	29	26	102	237	113
2004	1,314	707	626	287	75	73	90	370	160
2005	1,538	749	639	318	128	117	122	469	230

Notes: (1) Total Active Trainee numbers supplied by the Tertiary Education Commission. These provide a snapshot of individual, active trainees with training agreements with the Plumbing ITO as at 31 December of each given year. Trainees may be involved in on-job or off-job training, or a mixture of both depending on the learning needs of the individual trainee and the circumstances within the workplace.

(2) Enrolled trainee numbers in Plumbing include, in many cases, trainees also recorded as being enrolled in gasfitting and drainlaying qualifications. These figures relate to enrolments, not individual trainees.

(3) Industry Training Organisation Enrolled Students and Achievement figures provided by Plumbing ITO. Plumbing ITO National Certificate Achievement numbers in Plumbing may also include students who have also completed qualifications in gasfitting and drainlaying qualifications.

(4) Student Component Enrolled Student figures provided by the Tertiary Education Commission. Through the Student Component funded system, Plumbing and Gasfitting is recorded as a combined qualification. Data on Student Component enrolments before 2000 is unavailable through Tertiary Education Commission systems.

Source: TEC

Industry Cash Contribution

ITO – Industry Cash Contribution to Industry Training

Calendar Year	Industry Cash Contribution to Training
2000	\$658,565
2001	\$545,375
2002	\$519,836
2003	\$681,608
2004	\$649,029

The Industry Cash Contribution information collected by the TEC aims to capture the total industry cash cost of NQF Credit achievement and National Qualification achievement. Cash cost includes all industry costs incurred and recorded through the ITO and costs incurred through training providers and industry parties (whether it is the trainee, employer or other) where evidenced by an invoice.

It is important to note that a significant amount of in kind costs are also associated with Industry Training, including: time off work when attending off-job training, resources and equipment used during training on-the-job, in house support including wages and salaries for those undertaking training etc. These costs are not recorded, although research suggests that in kind costs are in excess of cash contributions.

Note: Information supplied by the Tertiary Education Commission

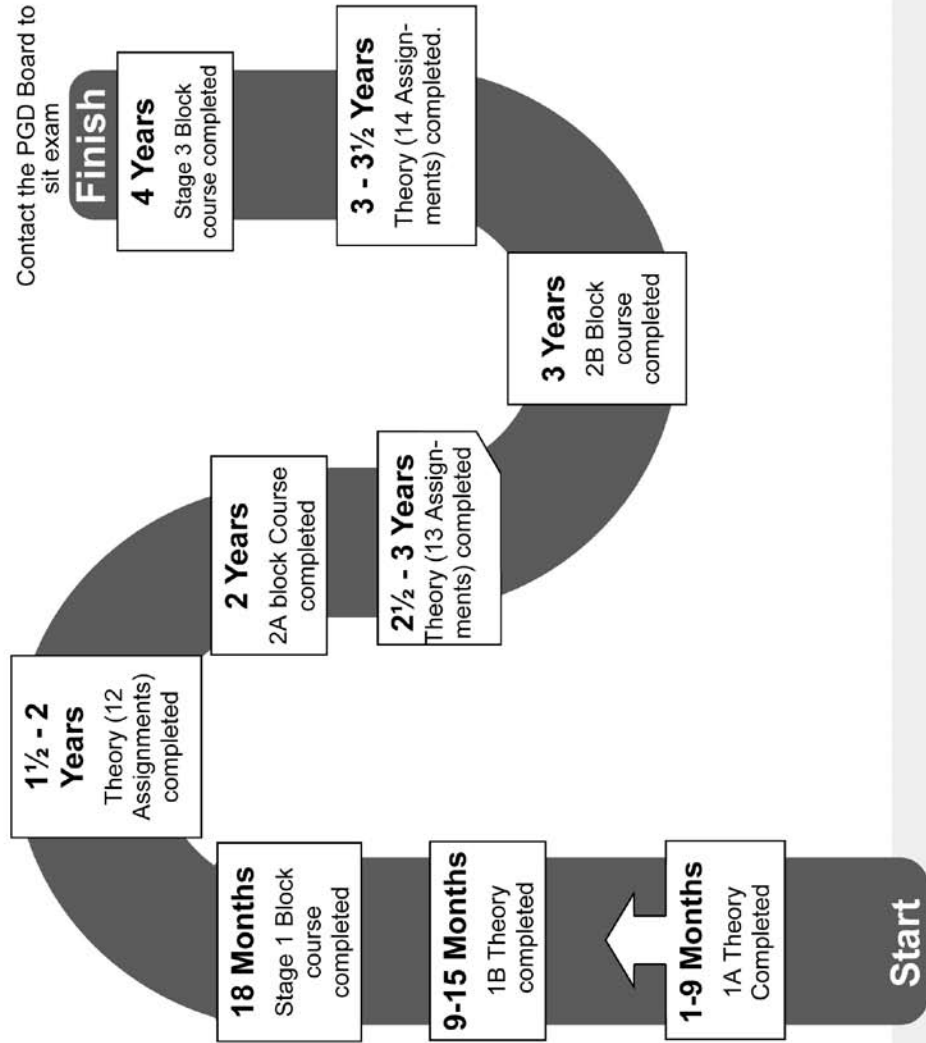
APPENDIX 5**National Certificate and NQF Credit Achievement****ITO: National Certificate and
National Qualification Framework Credit Achievement**

Calendar Year	Credit Achievement Level 3	Credit Achievement Level 4	National Certificate Achievement Level 3	National Certificate Achievement Level 4
2000	9,978	12,289	49	97
2001	13,786	15,859	200	107
2002	7,191	26,448	92	228
2003	8,318	23,819	100	100
2004	6,585	28,822	89	203

It is important to note that the ITO is not solely focussed on achieving the level 4 National Certificates in Plumbing, Gasfitting and Drainlaying. A significant amount of work within the ITO may be aimed at lower NQF level entry qualifications or packages of learning for those seeking top-up training within the industry. As such, Credit Achievement is also an important measure of ITO performance.

Note: Information supplied by the Tertiary Education Commission

Plumbing and Gasfitting Apprenticeship Timeline 2005



Source: ITO

2005 TYPICAL PLUMBING & GASFITTING APPRENTICESHIP PROGRAMME

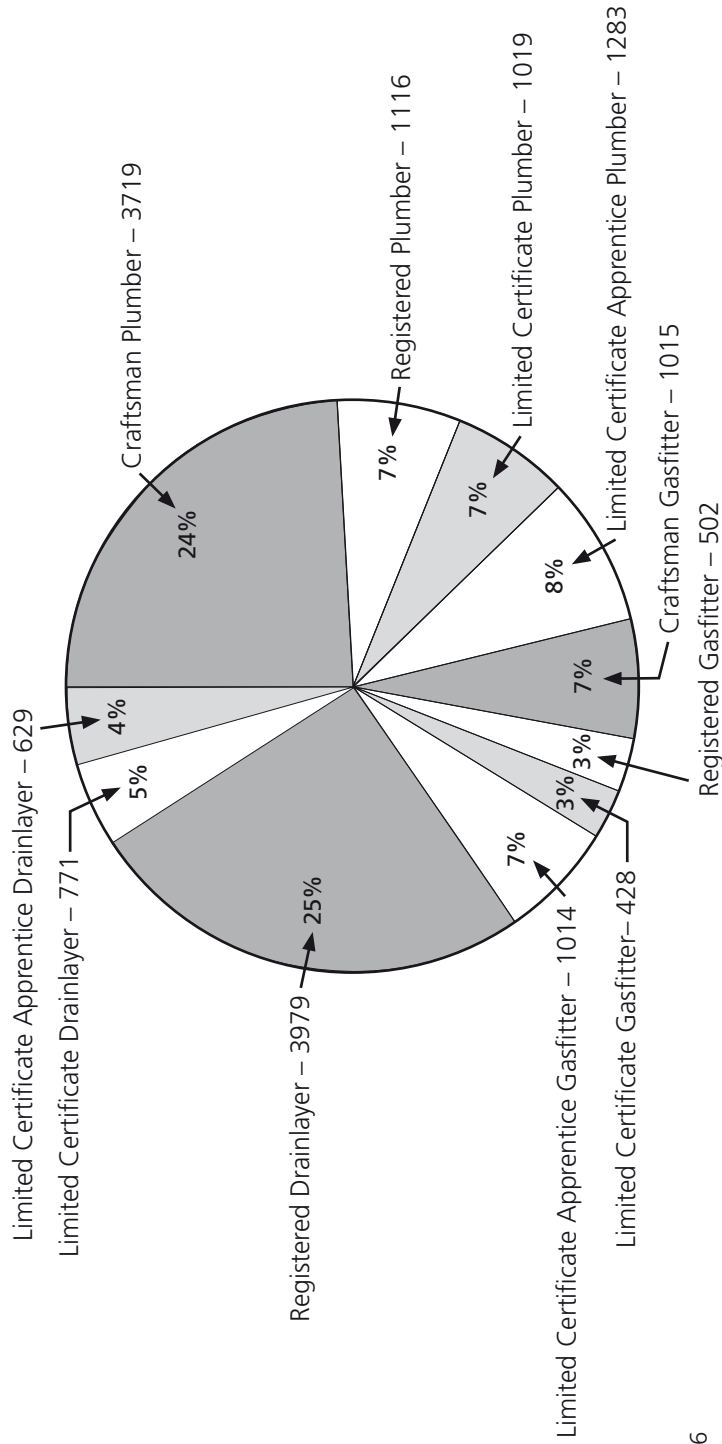
On-Job Training & Stage 1 Theory		Stage 1 Theory Applied in On-Job Training	STAGE 1	On-Job Training & Stage 2A Theory		Stage 2A Theory Applied in On-Job Training	STAGE 2A	On-Job Training & Stage 2A Theory		Stage 2B Theory Applied in On-Job Training	STAGE 2B	On-Job Training & Stage 3 Theory		Stage 3 Theory Applied in On-Job Training	STAGE 3
Assignment Topics			1	Assignment Topics			2	Assignment Topics			2	Assignment Topics			3
Study Guide Asbestos Soldering Sealants Capillary Corrosion Drawing Metals Gas Welding Health/Safety Gasfitting Hand Tools Pipe Joining Water Pressure/Flow Electrical safety Heat Sanitation Basic Calculations Arc Welding Cold water supply Hot water systems Parallel Line Development Gas Pipe work Flueless Gas Applications Purge/Commission Pattern Development			1 B L O C K C O U R S E	Gas Properties Combustion & Ventilation Burners Flues Sanitation Revision Stack Rules Stack Sizing Sanitary Fixtures Corrugated Iron Roofing Radial Line Development			2 A B L O C K C O U R S E	Gas controls Gas Safety Devices Gas Ignition Pipe & flue sizing 2 story AS/NZS 3500 Pan-deck Roofing Excavation Pumps Hot water Water pipe sizing Ventilation Triangulation Mig & Tig Welding			2 B L O C K C O U R S E	Gas Revision Gas Control Systems Gas Basics Fault Finding Commercial Gas Appliances Basics of Industrial Gas Revision of 2A Sanitation Revision of 2B Sanitation 3 storey AS/NZS 3500 Water supply & sizing info Hot water revision Back Flow prevention Compressed Air Drawing revision Calculation revision			3 B L O C K C O U R S E

APPENDIX 7

- * Assumes 8000 hour duration
1. This chart reads from left to right and describes the Plumbing & Gasfitting Apprenticeship Programme
 2. The programme consists of on-job training and experience, theory studies, and block course training and assessment.
 3. Block courses are key milestones during the apprenticeship. They culminate in formal assessments of skills acquired prior to the course. The theory learned prior to each block course is reinforced during the course.
 4. The assignment topics in Stage 2B and 3 are provisional. They are still in the process of being written.
 5. Apprentices without prior experience typically take 8,000 hours to achieve competence as programmed above. Those commencing with prior experience may be exempted part of the programme. The Training Agreement with the ITO provides for qualifications being conferred when competency has been demonstrated. The Employment Agreement between the employer and the trainee specifies the projected apprenticeship duration.

Source: ITO

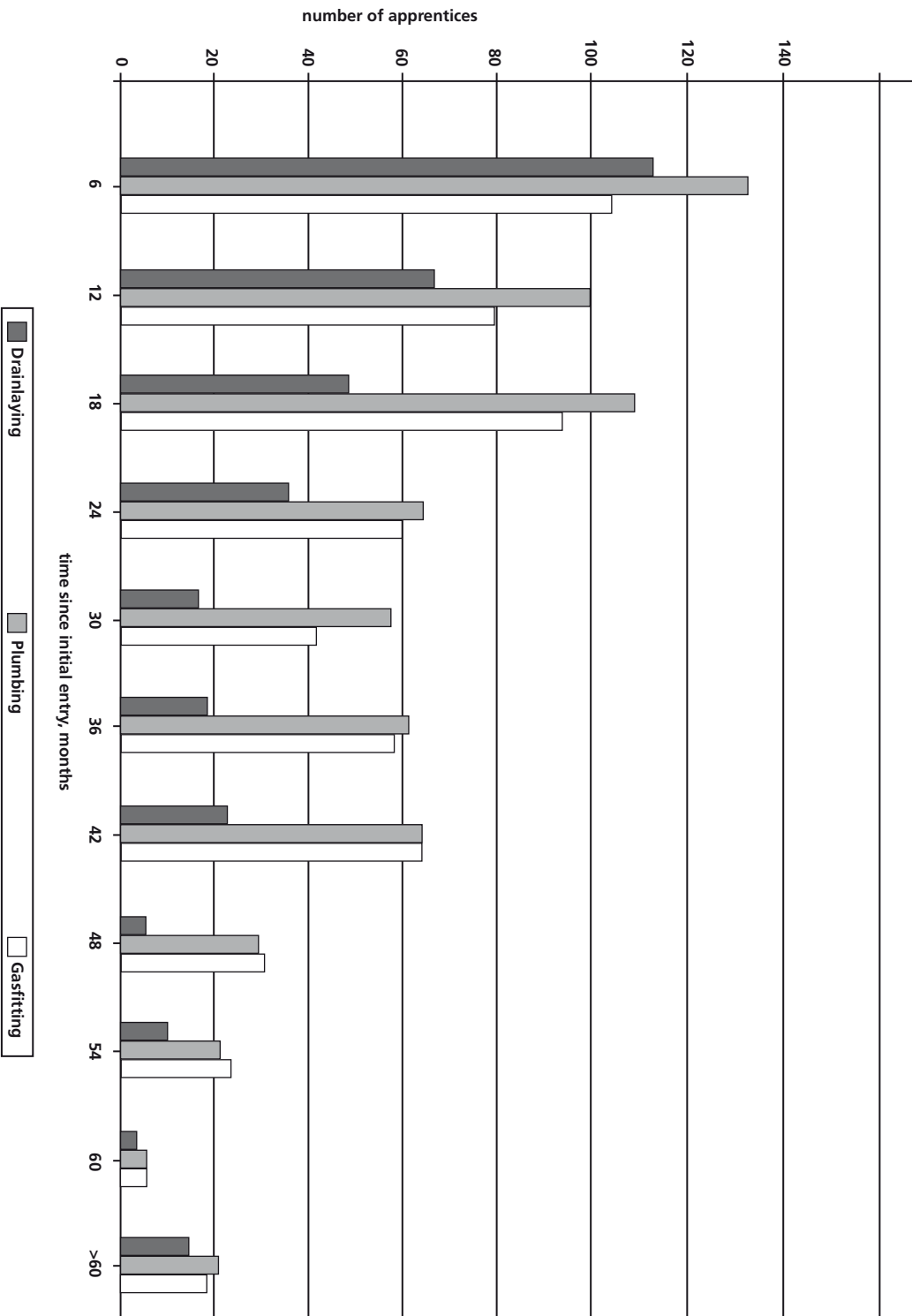
Licensed Craftsmen and Registered Tradespersons including Limited Certificate Holders – 1 April 2005 to Present



February 2006

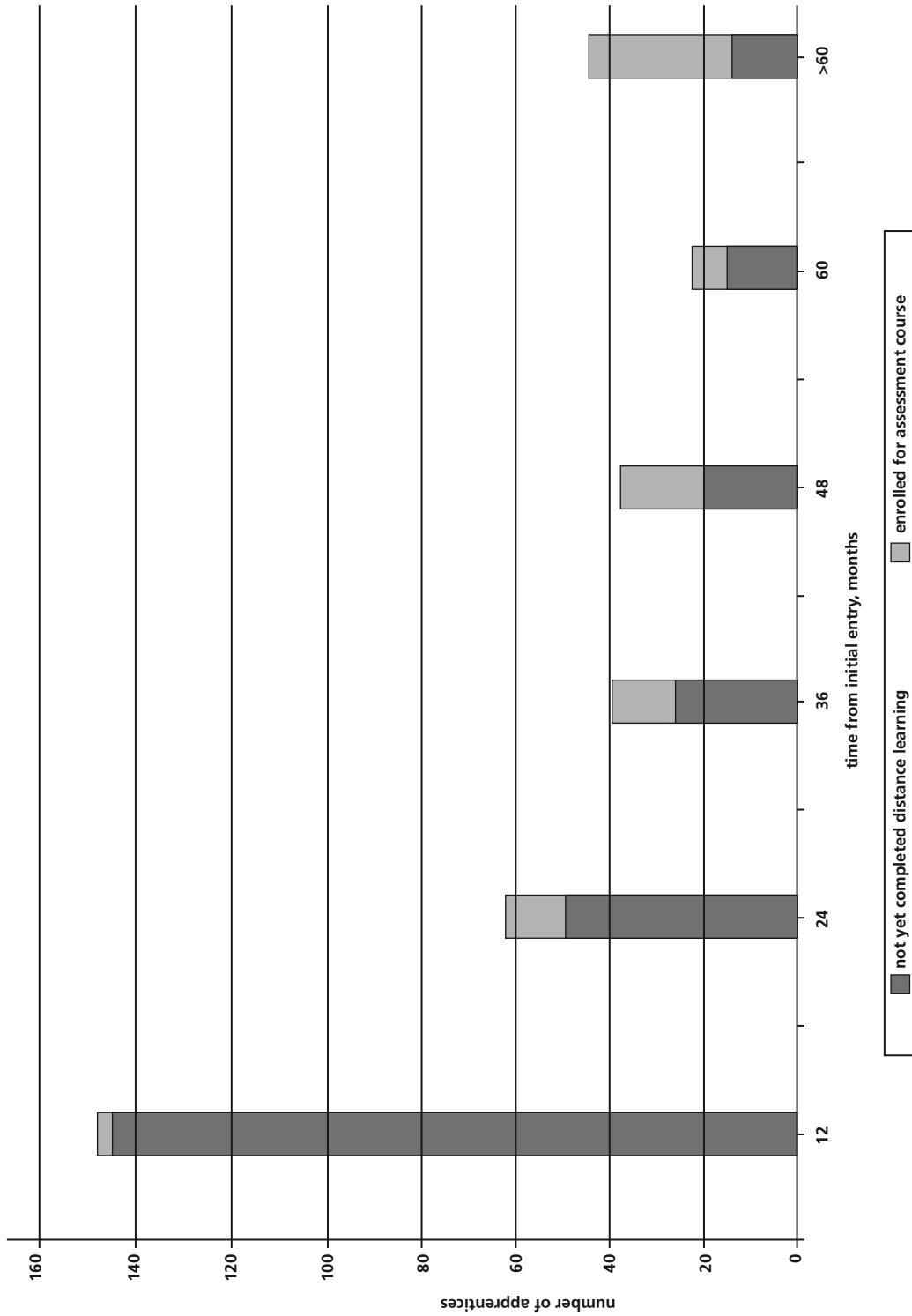
Source: PGDB

Current Apprentices



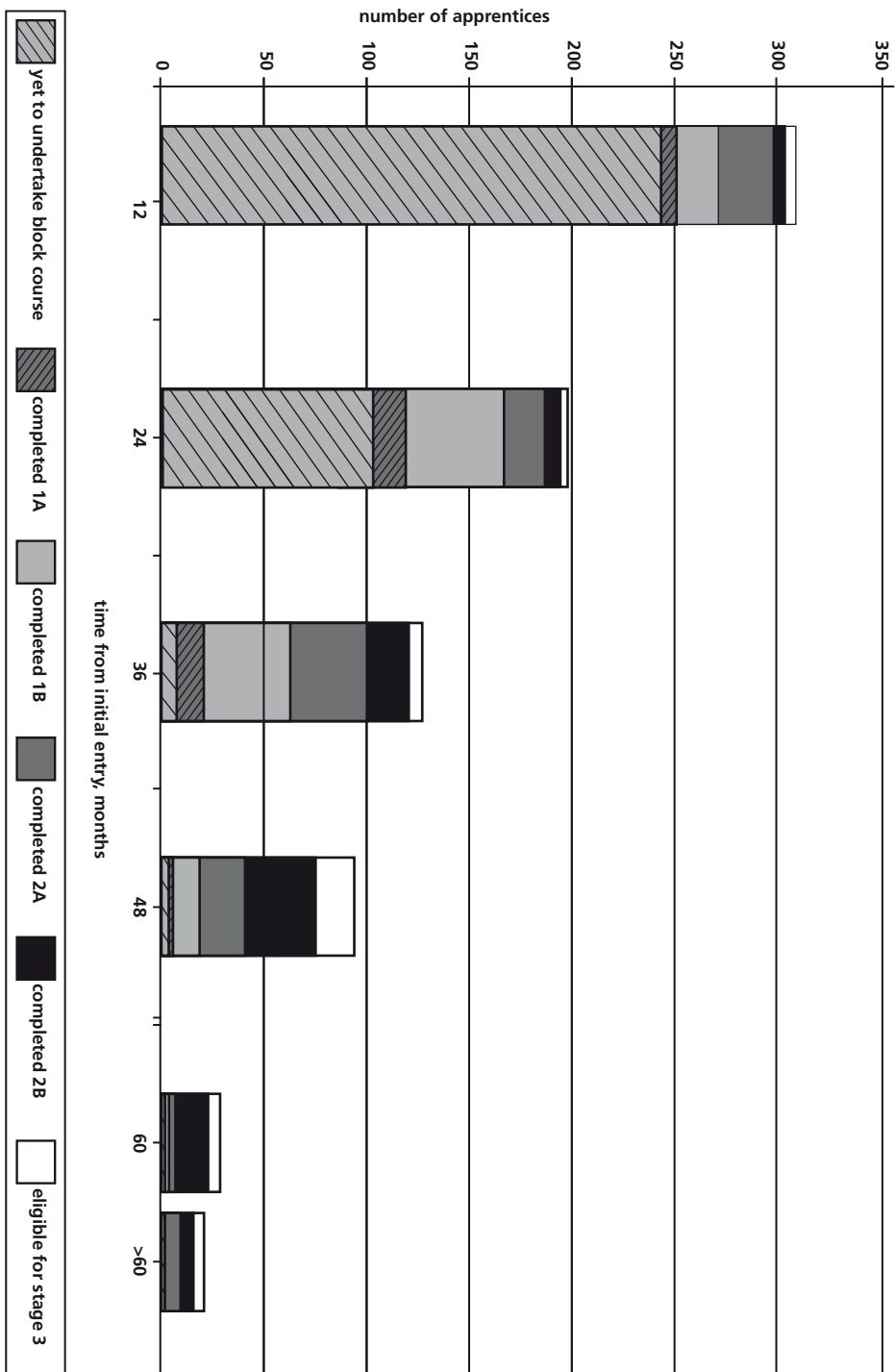
Source: ITO

Chart 1: Drainlaying as at 30 June 2005



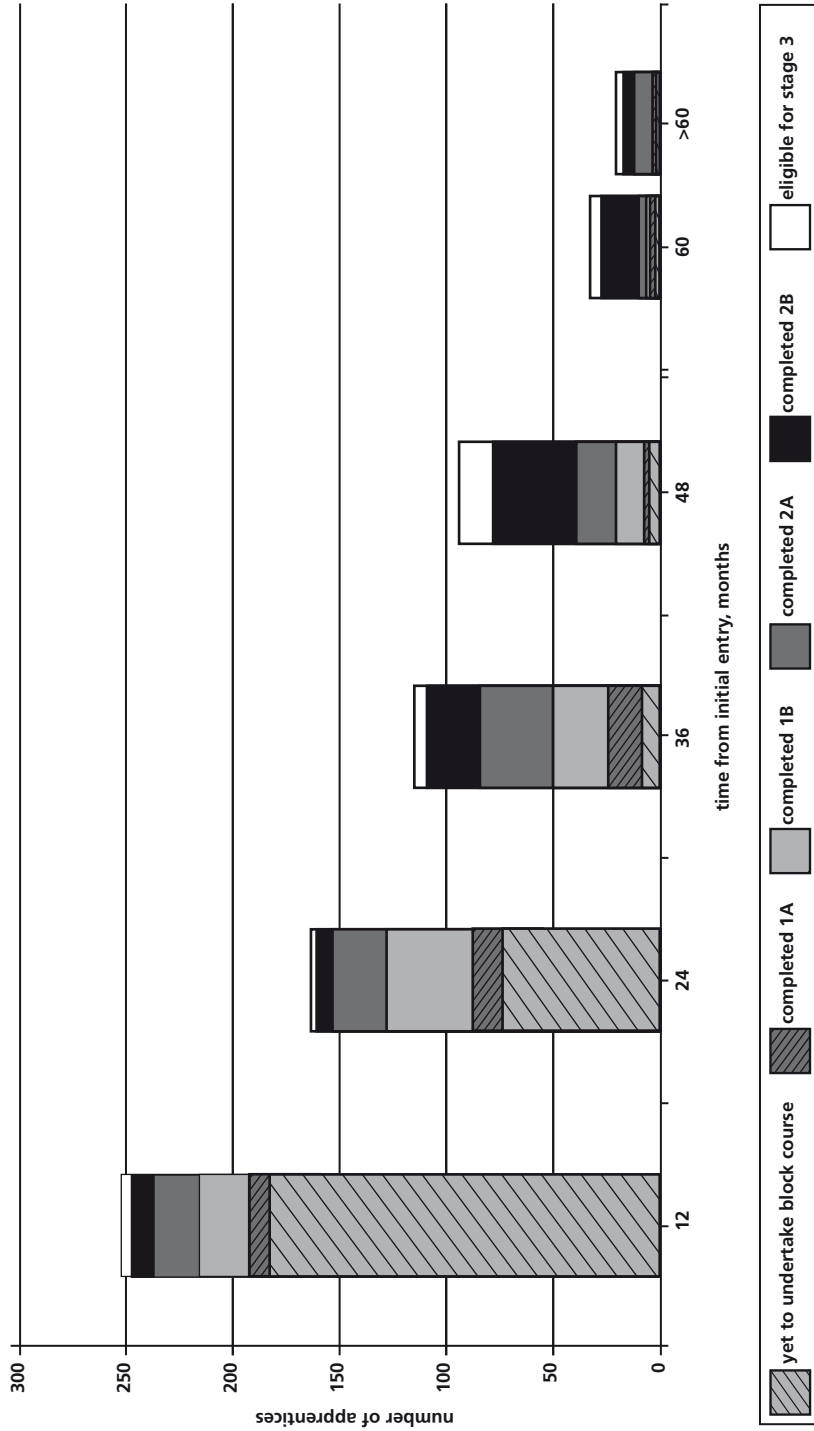
Source: ITO

Chart 2: Plumbing as at 30 June 2005



Source: ITO

Chart 3: Gasfitting as at 30 June 2005

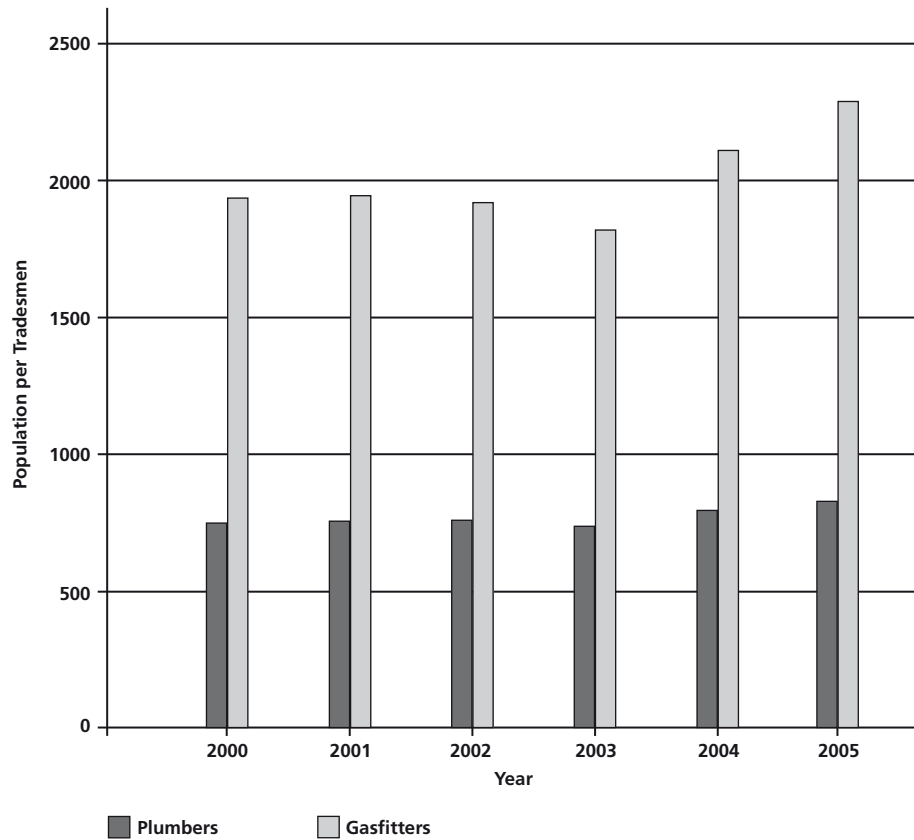


Source: ITO

APPENDIX 13

2000 – 2005 Population Ratios

Licensed Plumbers and Licensed Gasfitters



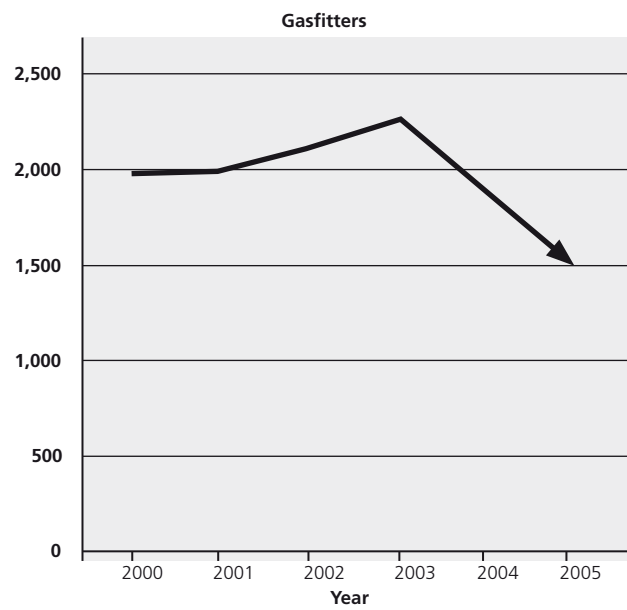
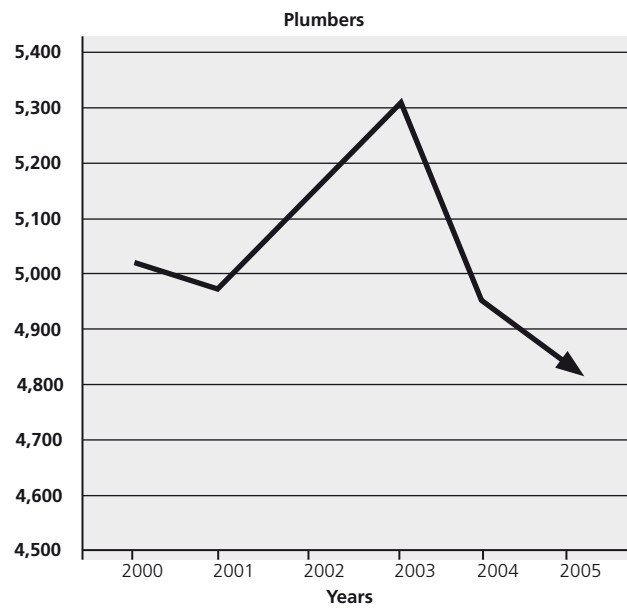
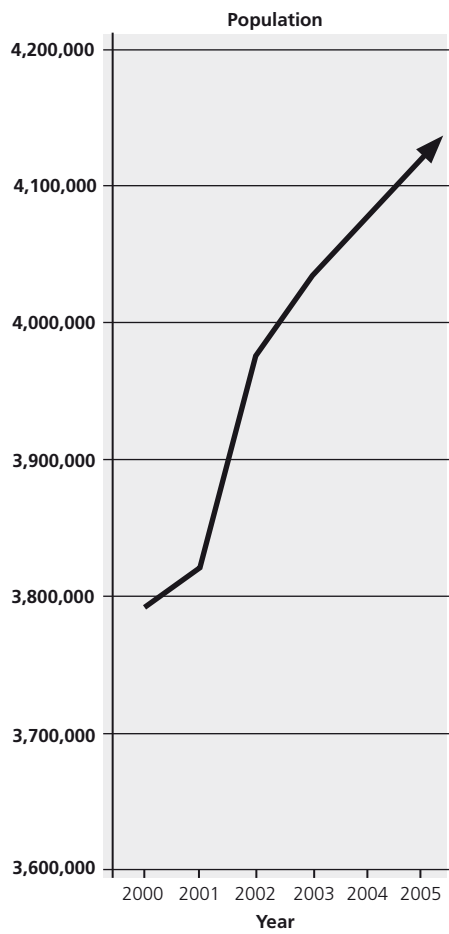
Population Statistics

Year	Population	Plumbers	Gasfitters	Population per Licensed Plumber	Population per Licensed Gasfitter
2000	3,794,003	5,012	1,971	757	1,925
2001	3,820,749	4,963	1,974	770	1,936
2002	3,975,000	5,132	2,082	775	1,909
2003	4,039,000	5,310	2,232	761	1,810
2004	4,083,000	4,960	1,936	823	2,109
2005	4,127,000	4,835	1,817	854	2,271

Source: PGDB

APPENDIX 14

Number of licensed Plumbers and Gasfitters for the 2000/01 to 2005/06 licence periods

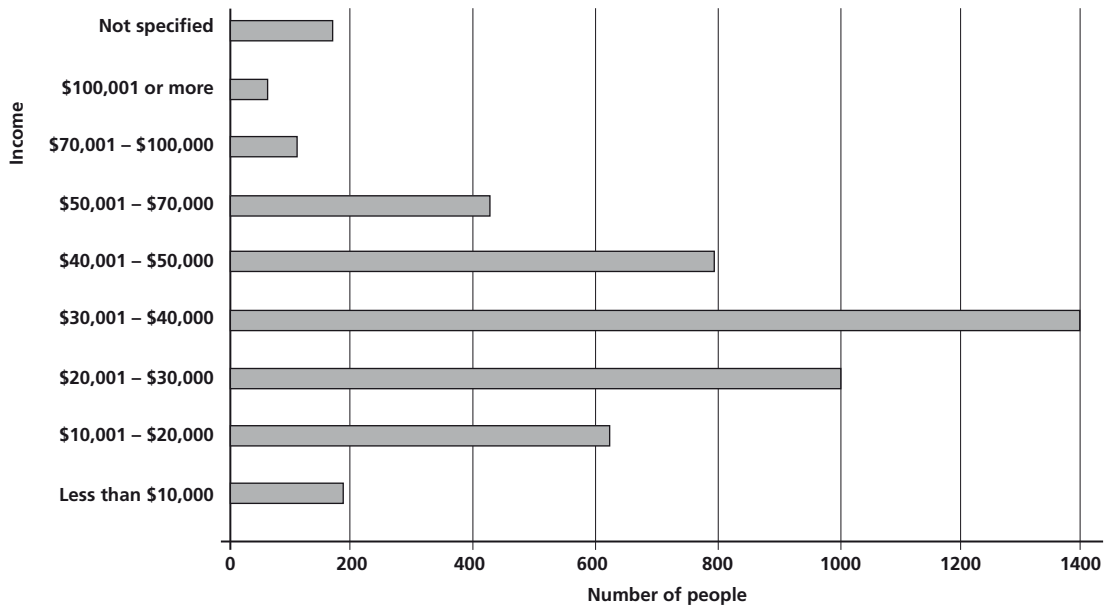


Year	Population	Plumbers	Gasfitters
2000	3,794,003	5,012	1,971
2001	3,820,749	4,963	1,974
2002	3,975,000	5,132	2,082
2003	4,039,000	5,310	2,232
2004	4,083,000	4,960	1,936
2005	4,127,000	4,835	1,817

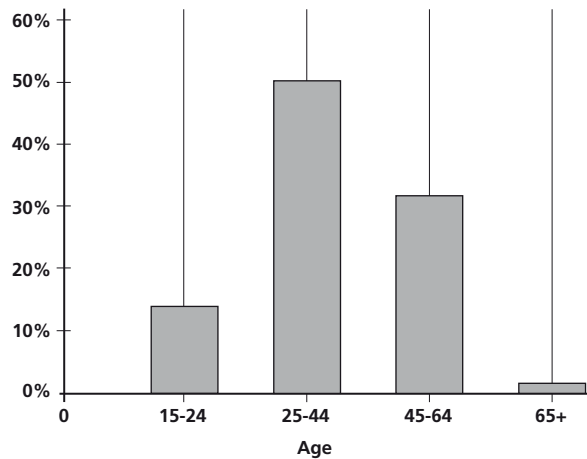
Source: PGDB

APPENDIX 15

Income of Plumbers, 2001



Age of Plumbers, 2001



Regional Location of Plumbers, 2001

- Northland – 4%
- Auckland – 32%
- Waikato – 9%
- Bay of Plenty – 6%
- Hawkes Bay – 4%
- Manawatu – 6%
- Wellington – 15%
- Canterbury – 10%
- Otago – 6%
- Other – 9%

Gender of Plumbers, 2001

- Male – 99%
- Female – 1%

Source: Kiwi Careers, Plumbers & Gasfitters