

INSIDE THIS ISSUE

Chairperson's Message	1
Update on consultation of the Plumbers, Gasfitters, and Drainlayers Act 2006	2
Board member profiles	2
Obituary	3
New staff member	3
Licensing 2009/10	4
Examinations	4
Prescriptions for November Plumbing 9192 and Gasfitting 9193 examinations	4
Chief Examiner's Report	5
Examination Survey	7
Immigration Qualification Assessment System (IQAS)	8
Replacement for Gas Appliances – Tony Hammond	8
Root Cause Analysis of Disciplinary Complaints	9
The industry sets an examination paper	10
Moderation meeting	10
Selection of examination questions	10
Linguistics meeting	10
Industry meeting	10
NZQA review and sign off	10
Coup for Drainlayers	11
Approved Handler Test Certificates required from 1 January 2009	11
Safety of Electricity and Gas	11
Annual Report	12
Strategic Direction 2009 – 2012	12
Purposes of the Plumbers, Gasfitters, and Drainlayers Act 2006	12
What is the purpose of the Board?	12
Strategic Goals	12

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## Chairperson's Message



I received a letter from an apprentice's partner explaining how devastated her partner was when he found out that he had failed the registration board exam for the second time even though he had taken on a private tutor and studied for hours. In fact 52.8% failed the plumbers registration exam; and 93.3% failed the craftsman plumbers exam. The Board has decided that a candidate's failure is ours as well. We have started a journey to find out why some candidates fail and others succeed.

We have interviewed 106 apprentices who passed the November exam and a group of others who have failed. The Board has also been talking to the polytechnics, NZQA, our examiners, the

Industry Training Organization, the Master Plumbers and the funders of apprentice training – the Tertiary Education Commission. We brought all of these people together in Wellington in early March. We have identified some serious problems. There is no standard text book for apprentices to study, or tutors to teach to. The teaching material varies throughout New Zealand. We do not think this is helpful for apprentices who might want to transfer from one city to another during their apprenticeship.

We talked about introducing open book exams, rewriting our questions, getting a bank of possible exam questions and model answers up onto our web site, ensuring that all training providers teach to a standard text, and that any questions asked in the exam are guaranteed to have been taught. There is a strong commitment to working together.

The employers of apprentices came along to this meeting as well. Colleen Upton runs a plumbing business in Lower Hutt. She's enthusiastic about helping her apprentices get registered. She said that if consumers, employers, the regulator and the Industry Training Organization think that one common model is right, we should tell the Government that's what we need. She said, "We must think about those 16, 17 and 18 year old kids and their futures." The Master Plumbers CEO, Fiona Gavriel, said that employers want to support their apprentices. She said that the registration exam should go and the National Certificate should be the pathway to registration.

This year the Industry Training Organisation (the ITO) is launching upgraded unit standards for the National Certificate in Plumbing and Gasfitting. The upgraded unit standards are accompanied by an entry level text book. There are going to be two more books written and the Board is collaborating with the ITO to get the best material out there. We want to line up what is taught with the exam questions. We want all training providers to be teaching to the same course materials and requiring the same standards of competency wherever trainees are receiving training.

The Board will be talking to the Government and the funders (the TEC) about collaboration between all training providers. Right now some polytechnics get a lot more money for their trainees than others. There is no particular logic or support from the industry for this disparity in funding.

The ITO told us about the work they are doing to help trainees prepare for exams and about the workshops they have been running throughout the country. They are giving the Board feedback to help us ensure that our questions are clearly written.

New Zealand needs well-qualified and competent plumbers, gasfitters and drainlayers. The Board wants to see a coherent pathway to registration: obtaining registration should not be a demoralising lottery.

**Hazel Armstrong**  
 Chairperson

# Update on consultation of the Plumbers, Gasfitters, and Drainlayers Act 2006

In 2007 the Board conducted an initial consultation in relation to various sections of the Plumbers, Gasfitters, and Drainlayers Act 2006 in preparation for its implementation.

In conjunction with the Department of Building and Housing, it has been determined that further consultation is required to gather a wider field of information as we prepare to implement both the new Act and the underpinning regulations.

Initial consultation meetings have commenced with some of our major stakeholders as we look to collate information prior to the main consultation. It is intended that various mediums be used to communicate with you, including meetings, publications, web-based information and direct mail. Please look out for further communications, as your input is vitally important to the Board in setting the foundation for the future.



## BOARD MEMBER PROFILES

### Hazel Armstrong

Hazel Armstrong is a lawyer who works in the area of employment, health and safety and personal injury law.

She is familiar with the issues facing the trades in NZ. She was commissioned to undertake an inquiry into relationships in the plumbing, gasfitting and drainlaying industry and produced a report to Minister Cullen in May 2006. She has been involved in employment related education and sits on a Ministerial advisory committee on this topic.

### Stephen Parker

Stephen Parker, Executive Director of the Gas Association of New Zealand since 1998, had a career with the Royal New Zealand Air Force before working in the gas industry. Apart from his engineering and management training in the military, he has a Certificate in Company Direction and is a Member of the New Zealand Institute of Management. Other business interests cover property administration and infrastructure software, which underscores his passion for "NZ Inc".

Stephen is active in both corporate and management structures; with a passion for competency, quality and customer service.

### Hylton Chard

Born and raised in Taranaki, Hylton has spent the last 40 years living and working in Hawke's Bay. He was registered as a drainlayer in 1994 and has been self-employed since. He has experience in all areas of drainlaying, but specialises in light to heavy commercial work.

Hylton was elected President of the Hawke's Bay Master Plumbers in 1998, a position he held for 4 years.



### Robin Hapi

Robin Hapi, Ngati Kahungunu, was raised and lives in Foxton. Educated at Hato Paora Maori Boys College he is a graduate of Massey University and holds a Masters Degree in Business Administration (with distinction). He is a member of the New Zealand Institute of Directors and a Fellow of the New Zealand Institute of Management.

He has held positions as Chief Executive of the Treaty of Waitangi Fisheries Commission, Chief Executive of Aotearoa Fisheries Ltd (AFL) and currently chairs the Boards of AFL and Sealord Group Ltd. He is a former elected member of the Seafood Industry Council and currently serves as an adviser to the Seafood ITO. Robin is a member of the Governing Council of Te Wananga o Raukawa. He is a Commissioner on the Tertiary Education Commission.

Robin chairs the Board's Audit Committee.



### Craig Maxwell-Crawshaw

Craig completed his plumbing apprenticeship with Waipapa Plumbers and Drainlayers in Kerikeri. In 2000 he set up MC Plumbing Ltd employing two staff.

In July 2007 Craig was approached by the Laser Group Ltd to become Laser Plumbing Kerikeri. His busy plumbing business employs eight staff.



## Marj Noble

For the past 18 years Marj has been a self-employed Tax Agent providing accounting services to small business. She enjoys helping clients understand their tax situation and the need to prepare for future tax payments. She also contracts her accounting services to several not-for-profit organisations in the photographic and film industries.



His corporate experience began with the Canterbury Master Plumbers Gasfitters & Drainlayers NZ Inc in 1982. He has held the roles of Junior Vice President, Senior Vice President and President. In 2007 he was awarded Life Membership for services to the Canterbury Regional Association.

In 1992 Mark was elected to the Master Plumbers, Gasfitters & Drainlayers NZ Inc Council and was elected President in 2002. He is the current Chairman of the Master Plumbers Board and Chairman of MasterLink Ltd, an industry group training scheme. He was a Director of the Plumbing, Gasfitting, Drainlaying & Roofing ITO up until the end of 2008.

## Anthony Salisbury

Anthony completed his plumbing and gasfitting apprenticeship and attained his craftsman registration whilst working at City Gas in New Plymouth. He was extensively involved in the installation, maintenance and repair of gas appliances and pressure control and gas measurement equipment. Before his apprenticeship, Anthony worked with heavy engineering, sheet metal fabrication and roofing.



## Michael Carmichael

Michael has extensive experience as a craftsman plumber and registered drainlayer and is currently with the firm Carmichael Roofing and Plumbing. The firm is a Modulock Building franchise holder.

Michael has been involved with the Waikato Master Plumbers and the Wintec Employer Partnership Group.



He holds a NZ Diploma in Business and a NZIM Diploma in Management. He is also an Associate Member of the NZ Institution of Gas Engineers.

Anthony is currently a Group Team Leader within the Gas Division of Tenix Alliance NZ Ltd. He is also an electrical service technician, with 25 years experience in the energy sector.

## James Fruean

James is involved in drainage and water supply projects, including public sewer, stormwater and water mains, public storage and control facilities, subdivision projects, commercial building projects and private drainage work. His experience has given him an insight into industry issues and productive resolutions.

From 1994 – 2001 James gained experience and knowledge in the drainage industry as a foreman with various contractors, working toward operating his own business. In 1996 he became a registered drainlayer. In business for himself since 2001 he co-owns Wellington Pipelines Ltd, which has 13 employees.



## Mark Whitehead

Mark has more than 35 years experience in the plumbing industry and has a broad range of plumbing and gasfitting experience. Forming his own company in 1979, he works to the philosophy of being professional and working to high standards.



# Obituary



## Sir John Thorn

Sir John was a Board member during the 1970s and 1980s.

Aged 13 John Thorn arrived home from school to be told by his father that he had been apprenticed to a plumber and would start work the next morning. When he asked how he would get to the building site 3km away he was told he had a good pair of legs and should walk. One of his first acquisitions was a second-hand bicycle. He finished his apprenticeship in 1930, was immediately laid off so he started his own plumbing business. He also owned other businesses including a bookshop and a TAB agency.

Sir John was elected to the Port Chalmers Borough Council in 1938 and had a distinguished career in public service. He served on the National Roads Board and the Local Authorities Loans Board. A member of the Otago Mounted Rifles he served in the Solomon Islands in 1943-44. He received an OBE and was knighted in 1984 for his contribution to local government affairs.

The Board extends deepest sympathy to the Thorn family.

(Acknowledgement – The Otago Daily Times)

## New Staff Member



### Naomi Porter – Receptionist

Naomi originally hails from the Kapiti Coast and moved to Wellington a few years ago.

She has a background in retail and administration and recently completed her Bachelor of Arts in Film and Art History.





The licensing process for the year commencing 1 April 2009 is well underway. All tradespersons are reminded that their current licence expires on 31 March 2009 and must be renewed by 1 April 2009 to work legally.

All licence type applications are available from the Licensing menu on the Board's website [www.pgdb.co.nz](http://www.pgdb.co.nz)

The licence of the supervising craftsman or registered plumber, gasfitter and/or drainlayer of a limited certificate holder must be current before the limited certificate can be issued.

## REGISTRATIONS FROM 1 APRIL 2008 TO 5 MARCH 2009

Description	Number of Licences
Registered Plumber	155
Registered Gasfitter	117
Registered Drainlayer	128
Craftsman Plumber	48
Craftsman Gasfitter	31
<b>Total</b>	<b>479</b>

## INDIVIDUAL LICENCES GRANTED FROM 1 APRIL 2008

Description	Number of Licences
Limited Certificate Plumber	1146
Limited Certificate Gasfitter	424
Limited Certificate Drainlayer	834
Limited Certificate Apprentice Plumber	1801
Limited Certificate Apprentice Gasfitter	1351
Limited Certificate Apprentice Drainlayer	1001
Registered Plumber	1189
Registered Gasfitter	495
Registered Drainlayer	3855
Craftsman Plumber	3556
Craftsman Gasfitter	1012
Exemption Section 53(1)	18
Exemption Section 57(1)	18
Gas Inspector	4
<b>Total</b>	<b>16704</b>

# Examinations



## EXAMINATION VENUES

### JUNE 2009 – EXAMINATION TIMETABLE

Saturday 6 June 2009	9.30am 9197 Drainlaying Registration	2.00pm 9194 Craftsman Common
Saturday 13 June 2009	9.30am 9192 Plumbing Registration	9.30am 9195 Craftsman Plumbing
Saturday 20 June 2009	9.30am 9193 Gasfitting Registration	9.30am 9196 Craftsman Gasfitting

Auckland – Massey, Albany
Hamilton – Waikato Institute of Technology
Wellington (Petone) – Wellington Institute of Technology
Christchurch – Christchurch Polytechnic Institute of Technology
Dunedin – Otago Polytechnic

- Applications open on **1 April 2009** and close **30 April 2009**.
- Application forms are available from the Board's website and office during that period only.
- An applicant for any of the registration examinations must complete the official examination application form in **full**. Failure to do so will mean that the application is returned.
- Please note faxed or emailed applications will **not** be accepted.
- The closing date for application forms is strictly **30 April 2009**. No late entries will be accepted and the applications will be returned to the candidates.
- Application forms not accompanied by payment of the examination fee will not be processed and they will be returned to the applicant.
- Payment of the examination fee can be made by money order, cheque, Mastercard or Visa. Cash payments will be accepted when delivered.

- Confirmation or otherwise of acceptance of examination application will be forwarded to the applicant no later than **11 May 2009**.
- An applicant for special assessment conditions must complete the approved Board application form, which must be received by the Board on or before **16 April 2009**.

Any candidate who wishes to apply for special assessment conditions after the closing date for applications, as a result of an accident suffered after that date, should contact the Registrar immediately following the accident.

Information on how to apply for a re-mark or reconsideration of your examination paper will be included when the marked examination papers are returned to candidates.

Prescriptions for all examinations are available from the Examination menu on the Board's website: [www.pgdb.co.nz](http://www.pgdb.co.nz).

# Prescriptions for November Plumbing 9192 and Gasfitting 9193 examinations

The November 2009 plumbing 9192 and gasfitting 9193 registration examinations will be based upon updated prescriptions, which will be available on the Board's website after the completion of the June 2009 examinations. Anyone wanting a copy to prepare for the November examinations can request it by emailing [jose@pgdb.co.nz](mailto:jose@pgdb.co.nz)



## EXAMINATION TIPS FOR FIRST SITTERS AND RESITTERS

- Obtain a copy of and be familiar with the prescription for the examination [www.pgbd.co.nz](http://www.pgbd.co.nz) Menu – Examinations/Information/Prescriptions
- Be aware of the % weighting for examination topics from the prescription and build on existing strengths.
- Commit to a study plan including
  - Allocating time each week to study/research for the examination – set aside quiet time
  - Have a quiet study place
  - Organise study notes
  - Develop a study group of people sitting the same examination
  - Have question and answer sessions with the study group and with people who are not in the trade

- Pay particular attention to calculations
- Review previous examination papers available from the PGDB website
- For people sitting the examination for the second or third time – analyse the questions from the areas failed previously and do extra study in these areas.

Refresher courses are available through

- The Open Polytechnic of New Zealand
- Unitec
- Wintec
- CPIT

Examination workshops are available through the ITO for apprentices.

# Chief Examiner's Report

## PLUMBERS, GASFITTERS AND DRAINLAYERS BOARD EXAMINATIONS – NOVEMBER 2008

A total of 761 candidates enrolled for the November 2008 examinations. Of these seven were granted special conditions by the Board and ten, including one of the specials, were absent from the examinations. A total of 751 examination scripts were completed and marked.

The pass mark for all the Board examinations is 60. Of the candidates sitting 272 achieved 60 marks or better giving an overall pass rate of 36 percent.

Compared to the previous examination round in June 2008 there were significantly improved pass rates for plumbing registration (9192) and drainlaying registration (9197). Pass rates dropped markedly for gasfitting registration (9193), craftsman common (9194), craftsman plumbing (9195) and craftsman gasfitting (9196). The overall pass rate was almost identical.

### PLUMBING REGISTRATION EXAMINATION (9192)

The result for this examination was the best since its reintroduction in 2002. The reasons for this substantial improvement are still unclear, but the statistical information formulated by the Board and further research by the Industry Training Organisation (ITO) may provide a path to consistently better performance by candidates.

In spite of the improvement some of the subject matter listed in the prescription is still not well understood. In particular, this examination showed real weakness in the area of trade science as well as the perennial problems relating to heating and ventilating. Knowledge of technical drawing, in this case the development of a pattern for a truncated cone, was almost completely non-existent.

### GASFITTING REGISTRATION EXAMINATION (9193)

This examination showed a disappointing drop in the pass rate and continued the consistent fall off that has been apparent for the last few examination rounds. The 33 percent positive variation from the June 2008 plumbing registration (9192) examination, almost matched the 34 percent negative variation for this (9193) examination.

Candidates showed a concerning lack of knowledge of the relevant codes and standards that are the means of compliance for their day-

to-day gasfitting work. It would be interesting to establish how much practical on site gasfitting experience candidates have prior to sitting the examination and subsequently applying for registration and a practising licence.

### CRAFTSMAN COMMON EXAMINATION (9194)

The pass rate for this examination dropped 50 percent from that recorded in June 2008. Generally, candidates are not conversant enough with the legislation that governs the plumbing and gasfitting industry. They are not expected to be able to quote the requirements verbatim, but do need to be able to express a basic knowledge and understanding of the relevant Acts, Regulations, codes and standards.

### CRAFTSMAN PLUMBING EXAMINATION (9195)

This was another result that showed a serious decline (44 percent) in the pass rate. Candidates exhibited a very poor knowledge of all the prescription topics included in the paper. Several questions in this examination could more properly have been used at plumbing registration (9192) level and related to common everyday plumbing installations.

A very concerning lack of knowledge of the codes and standards was also apparent.

### CRAFTSMAN GASFITTING EXAMINATION (9196)

The drop in the pass rate for this examination (50 percent) was similar to that recorded for craftsman plumbing (9195), and also reversed the trend of improving pass rates for these two papers.

Many candidates struggled with questions outside their narrow comfort zone of domestic gasfitting. A serious lack of knowledge of the requirements of NZS 5261 needs to be addressed as there can be safety issues involved, particularly with tradesmen having this level of qualification.

### REGISTRATION DRAINLAYING EXAMINATION (9197)

Contrary to previous trends the pass rate for this examination improved by approximately 10 percent.

Too many drainlayers also appear to operate only in their comfort zone of domestic or small residential drainlaying and need to

understand that drainlaying is a major discipline requiring a depth of knowledge over a wide area.

As with the other branches of the wider industry, codes and standards are poorly understood and some more comprehensive study in this area would benefit candidates.

## GENERAL

With the exception of plumbing registration (9192) and drainlaying registration (9197) the examination results for this round were disappointing and showed serious declines in the pass rates. The craftsman papers, in particular, were the most poorly completed scripts presented for marking when compared to those from recent examination cycles. Candidates in the three craftsman disciplines (9194, 9195 and 9196) and gasfitting registration (9193) appeared not to have done sufficient study.

All the markers have referred to a poor knowledge of the applicable codes and standards, and the relevant legislative requirements for the industry as a whole. This must be of concern as compliance and consumer safety issues should be regarded as paramount. Similarly they have commented that numerical skills and comprehension levels are not yet showing the improvements hoped for. Trade drawings and developments were well below an acceptable standard. Detail and accuracy were missing from a lot of answers. Lack of detail makes it difficult for markers to interpret answers that are far too brief and may be ambiguous.

Examination technique is another skill that the ITO and some training providers have been attempting to instil in prospective candidates. Although statistics are not available at the time of writing it may be that this has helped with the plumbing registration examination result. Unfortunately, examination technique is not a skill all candidates think they need and they do not bother to attend the free workshops provided by the ITO in particular.

In all branches of the industry there appears to be resistance on the part of many candidates to moving into a wider scope of work than simple domestic or residential installations. While this may be acceptable to their present employers they could become a liability to a future employer or, if self-employed, find themselves out of their depth. There must be some concern, judging by the results of the gasfitting registration (9193) examination, that candidates may not be getting the practical onsite installation and maintenance experience that they are supposed to have prior to applying for registration.

There must be some doubt that all training providers will be able to teach and assess the new expanded unit standards as well as provide some theory training in the time available while apprentices are completing their block courses. More time should be assigned to the teaching of the theoretical knowledge required to underpin trainees' practical experience. Self-teaching of theory does not appear to be very successful amongst tradespersons.

After each examination cycle candidates complain "we have not been taught that", but they do not acknowledge that the material is

in their theory resource material. This has to be explained to them, as does what is actually covered by the examination prescriptions. The implementation of a single national theory training package, to compliment the national unit standard framework, should be re-examined as this would then place all trainees, training providers, and the examining body on a common footing. There seems to be some variation between the theory training packages currently being used. Standardisation of training should help to give the public confidence that those accepted, by the Board, for registration are competent to work in the public arena.

## NOVEMBER 2008 RESULTS

Examination	Sat	Passed	% pass rate
Plumbing registration (9192)	309	146	47.2
Gasfitting registration (9193)	124	28	22.8
Craftsman common (9194)	81	21	25.9
Craftsman plumbing (9195)	60	4	6.7
Craftsman gasfitting (9196)	38	4	10.6
Drainlaying registration (9197)	139	77	55.4
<b>Total</b>	<b>751</b>	<b>272</b>	<b>36.2</b>

## PERCENTAGE PASS RATE COMPARISON

Examination	June 2007	Nov.2007	June 2008	Nov.2008
Plumbing registration (9192)	29	35	14	47
Gasfitting registration (9193)	66	76	57	22
Craftsman common (9194)	32	15	47	26
Craftsman plumbing (9195)	29	43	54	7
Craftsman gasfitting (9196)	42	43	61	11
Drainlaying registration (9197)	58	55	45	55

## COMPARISON OF NUMBERS SITTING

Examination	June 2007	Nov.2007	June 2008	Nov.2008
Plumbing registration (9192)	196	264	169	309
Gasfitting registration (9193)	62	95	85	123
Craftsman common (9194)	62	61	53	81
Craftsman plumbing (9195)	59	54	24	60
Craftsman gasfitting (9196)	24	28	23	38
Drainlaying registration (9197)	40	72	102	139

## COMPARISON OF NUMBERS SITTING AND PERCENTAGE PASS RATE

	June 2007	Nov. 007	June 2008	Nov.2008
<b>Total number sitting</b>	<b>443</b>	<b>574</b>	<b>456</b>	<b>751</b>
<b>Percentage pass rate</b>	<b>38</b>	<b>43</b>	<b>37</b>	<b>36</b>

R. Daniel  
Chief Examiner



In 2008 the Board determined that one way it could assist future examination candidates prepare for examinations was to find out what techniques were used by successful examination candidates.

The Board and ITO contacted 152 successful plumbing and gasfitting registration candidates and received feedback from 106 – 37 candidates sitting for the first time, 69 candidates resitting examinations.

The results show that

- 102 had reviewed past examination papers
- 80 had a copy of the prescription
- The average preparation time for the examination was 5.5 months
- The average time put into study was 10 hours a week
- 37 candidates had some sort of help from their employers
  - Organised study nights
  - Flexibility with study leave
  - Option to approach employers with queries
- 37 candidates had help at home
  - Question and answer sessions
  - Help with maths
  - Study groups at home
- 15 candidates completed the special examination preparation correspondence course
  - 12 candidates found the course useful
- 37 candidates attended refresher courses
  - 34 candidates found them useful
- 30 candidates attended an examination workshop
  - 26 candidates found them useful
- 102 candidates had access to legislation and compliance documents

Candidates attributed their success to

- |                                   |    |
|-----------------------------------|----|
| • Study                           | 66 |
| • Revision of old exams           | 10 |
| • Attendance at refresher courses | 7  |
| • Knowledge of codes              | 7  |
| • Trade experience                | 6  |
| • Luck                            | 5  |

Candidates also attributed their success to

- Determination
- Financial motivation
- Private tutoring
- Paying attention at block courses
- Reviewing class notes
- Taking examination seriously

- An understanding of how to answer theory questions

When asked what they did differently those resitting the examination said

- |   |    |
|---|----|
| • More time and effort                  | 25 |
| • More relaxed                          | 4  |
| • Preparing for only one exam           | 3  |
| • Taking the examination more seriously | 3  |
| • Attendance at refresher courses       | 3  |

Academic achievement of examination candidates

- 8 candidates had UE
- 2 candidates had NCEA Level 3
- 9 candidates had NCEA Level 2
- 7 candidates had NCEA Level 1
- 31 candidates had 6th Form Certificate
- 5 candidates had completed the 5th form
- 1 candidate had completed the 4th form
- 7 candidates had a B Bursary
- 18 candidates had School Certificate
- Other candidates had overseas qualifications, home schooling or provided no information

Many candidates did not know that refresher and preparation courses were available.

The common features for successful examination candidates are

- Study – more than 200 hours
- Past examination papers reviewed
- Prescriptions studies
- Access to legislation and compliance documents
- Refresher courses attended
- Assistance at home or by employers

The Board thanks those who participated in this survey. These results will be particularly helpful as tools are developed to assist candidates prepare for examinations.

The results show that employers play an important role in assisting candidates, whether that be through providing trade experience, legislation and compliance documents or flexibility around study. The future of our industry depends on young people successfully achieving their goal of registration.



# Immigration Qualification Assessment System (IQAS) ○ ○ ○ ○ ○



The IQAS process provides overseas qualified tradespersons with a practical test of workmanship to ensure they meet the requirements for registration. They are also required to achieve a pass in the registration examination(s).

The Board carried out its first practical test of

workmanship in accordance with sections 23 and 24 of the Plumbers, Gasfitters, and Drainlayers Act 1976. Five candidates undertook the assessment at the WELTEC campus in Petone, Wellington.

Three candidates were trained in the United Kingdom, one in Germany and one was a 5-years time-served plumber. The overseas candidates had been working in New Zealand on limited certificates for a number of years.

All candidates were briefed on the assessment criteria and safety requirements before commencing their assessment task.

The assessment comprised the installation of plumbing or gasfitting pipework and appliances in a two storey apartment complex. Each assessment task was integrated so that candidates were required to work with each other to ensure that relevant information was handed over from one candidate to another. Although the assessment was carried out in a controlled simulated environment, the assessment tasks reflected realistic working conditions.

## Replacement for Gas Appliances – Tony Hammond

The Gas Regulations (REG 24) define, amongst others, that the following require certification:

Extensions, additions and replacements to existing gas installations  
Alterations that result in repositioning of pipework or changes to the operation of the installation

It is worth noting that an installation is defined in the Gas Act as “including a gas appliance”.

Therefore, replacement of one appliance by another, even if very similar, requires certification.

Further weight is added to the argument when one considers that even a “like for like” replacement needs to be adjusted to ensure gas pressure and aeration are set appropriately, the connections are gastightness and the safety devices operate at the right levels; that is, the appliance needs to be commissioned in accordance with clause 1.6.7 of NZS 5261.

Candidates were provided with working drawings and specifications from which they derived the relevant information to carry out the installation. The assessment was carried out over 4 days with each assessment having a pre-determined timeframe based on standard industry labour constants.



Candidates were assessed against three principle criteria:

1. Compliance
2. Safety
3. Workmanship

Marks were deducted where a candidate was found to be not yet competent against each performance criteria in each assessment task.

At the conclusion of the assessment the candidates were debriefed and the Board took note of



any concerns or issues raised so that it might further improve the assessment process.

The Board thanks Richard Gorrie, tutor at Christchurch Polytechnic (CPIT), for his assistance with the assessment tasks and candidate information pack. It also thanks WELTEC and, in particular, Paul Costelloe, team leader, for his assistance in setting up the centre.

The Board has scheduled two further assessments in April and October 2009. Those eligible to attend the assessment should contact Kern U'ren at the Board on 04 494 2970.



# Root Cause Analysis of Disciplinary Complaints



The Plumbers, Gasfitters and Drainlayers Board has recently reviewed the formal complaints it has received and conducted a root cause analysis to ascertain if there were any commonalities in relation to disciplinary cases against tradespersons.

In addition to approximately 275 telephone complaint enquiries made to the Board each year, which are either resolved or referred to the appropriate agency, the Board receives 60 formal written complaints. Of these 60 formal complaints, 10 to 12 progress (after a detailed investigation) to a due inquiry before the Board with a further 10 to 12 complaints resulting in prosecutions in the District Court. The remainder of the formal complaints do not progress either due to lack of jurisdiction or the investigator finding "no substance" after investigation.

Ten complaints resulted in due inquiries before the Board in the year to 31 March 2008. All ten were related to gasfitting. A statistical and technical review of these has revealed some interesting facts.

The statistical analysis showed that –

- the average age of the respondent was 50 years;
- the average length of time registered was 21 years;
- 50% obtained their gasfitting qualifications in NZ , and
- 85% had failed one or more of their competency audits.

Looking at the technical details of the complaints –

- 70% concerned domestic installations;
- the complaints were equally divided between LPG and natural gas;
- 50% of the complaints were lodged by consumers, the others by Energy Safety, the auditors and other tradespersons;
- half of the complaints involved pipework issues; and
- at least half involved failure to commission correctly.

Three complaints involved property damage by fire but none resulted in injury to any person.

Looking at the complaints that were found to have arisen because of pipework issues, the main findings were inadequate sizing and faulty jointing. Lack of pipework supports and lack of valves for isolation also featured. Because of improper or incomplete commissioning a number of these pipework faults went undetected at the time of certification.

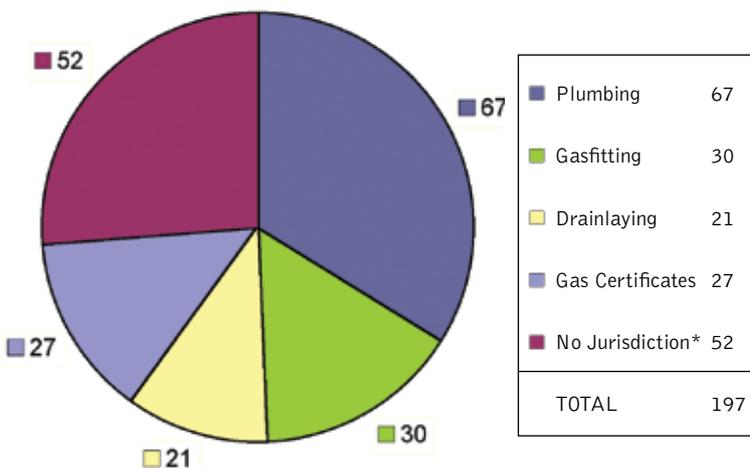
Commissioning is a specific performance requirement of Part 1 of the Installation Standard (NZS 5261) and guidance is provided both within Part 2 and in the Appendices of the Standard. Commissioning is designed to detect any defects before the installation is completed so that leaks, insufficient pipework or regulator capacity, appliances set to run on the wrong type of gas and incorrect gas/air mixtures can be rectified.

One further matter that runs through many of the investigations of complaints is the lack of effective record keeping. While it is recognised that some of the installation details are recorded on the Certificate many are not and the results of pressure tests, flue performance, burner pressures and safety device settings should all be recorded to demonstrate that an installation has been commissioned effectively.

When a complaint arises, the inability to identify the key settings can lead to problems. To assist in this NZS 5261 has recently been amended to include a checklist that not only covers all of the relevant matters but also acts as a useful memory jogger during commissioning.

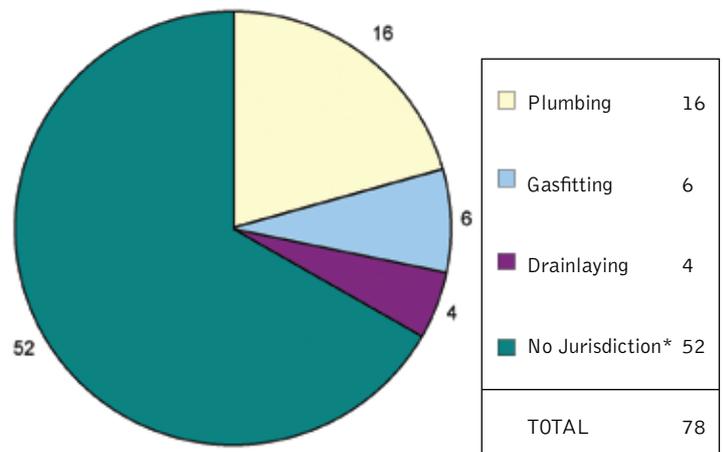
Recommendations, arising from the root cause analysis, covering the need to pay more attention to commissioning, encouragement to up-skill in pipework generally and improvements in record keeping have been made to the Board and specific directions to gasfitters are being considered as a consequence.

COMPLAINT ENQUIRIES AGAINST NON-REGISTERED PERSONS



\*"No jurisdiction" means allegations that do not fall within the definitions of sanitary plumbing, gasfitting or drainlaying

COMPLAINT ENQUIRIES AGAINST REGISTERED PERSONS



\*"No jurisdiction" means allegations that do not fall within the definitions of sanitary plumbing, gasfitting or drainlaying

# The industry sets an examination paper

Each examination paper goes through a number of lengthy processes before candidates sit the examination. It involves training providers, industry, and educators developing questions and answers that meet industry standards.

## Moderation meeting



Moderation meetings convened twice a year are attended by examiners and representatives of all training providers. The purpose is to consider new questions and answers developed for inclusion in the Board's examination database.

Criteria for examination questions

- The subject is relevant and taught in all training packages;
- The question and answer is at the correct level; that is, level 4 registration or level 5 craftsman;
- The question and answer is in the correct prescription topic category;
- The vocabulary used is relevant, clear and concise; and
- Marks awarded are fair and reflect the required knowledge in the answer.

## Industry meeting

A meeting of industry representatives, the Examiners and the NZQA appointed examination expert then review the examination paper and provide feedback on:

- Their expectation for apprentices or workers to know the answers
- Their perception on the level of the questions.
- The wording of the questions.

Any changes made are incorporated into the examination paper.

## Selection of examination questions



The Examiners select questions and answers held in the "Examination Database" in examination and prescription topic categories. Questions and answers are coded so they are rotated after five examination cycles. A question could be repeated after five examination cycles, provided it still holds currency.

## Linguistics meeting

After the questions and answers have been selected the draft examination paper is moderated at a "Linguistics meeting" by the Examiners and an NZQA appointed examination expert. Their task is to:

- Critique the questions and answers, including suggesting alterations to wording and content where there is ambiguity or lack of clarity.
- Minor wording changes may be made; however, the Examiners' technical knowledge is used to avoid distortion of the trade knowledge/content.
- The alignment between the questions and the prescription requirements is checked.
- Layout, pagination and formatting of examination papers is checked to ensure clarity and correct spacing for candidates' answers.

A second draft is prepared in examination format.

## NZQA review and sign off



The final industry version of the examination paper is sent to NZQA's Tertiary Assessment and Moderation Facilitator for review and comment. The outcome of that review is considered by the Examiner and feedback is provided to NZQA on each suggestion and/or comment. Any changes agreed to are made to the examination paper and the final version is signed off.

The final version of the examination paper is signed off by the NZQA Qualifications Development and Tertiary Moderation Manager.



# Coup for Drainlayers

After many years of witnessing various aspects of the drainlaying industry being undermined, the Plumbers, Gasfitters and Drainlayers Board (the Board) has been successful with its precedent setting prosecution of one of New Zealand's prominent waste-water treatment manufacturers.

Following a complaint from the Waimate District Council in July 2007, the Board laid charges in the District Court against Gould Tank Systems Ltd (Gould) for knowingly allowing its installations to be installed by persons who were not registered drainlayers.

Gould's defence centered on the definition of drainlaying and effluent, arguing that the waste from their system was not effluent. His Honour Judge Doherty, in convicting both Gould and the installer, held that:

- the drip irrigation line from the system tank outlet constitutes a drain;
- the resultant fluid is effluent;
- the system is designed for the conveyance of effluent;
- neither pressure nor gravity make a difference to this determination;
- Mr Gould was aware of the statutory provisions; and
- Mr Gould did not make further inquiries because he knew the answer already.

Gould was convicted and fined \$3,000.00 and ordered to pay court costs of \$260.00 together with solicitors' fees of \$226.00.

This is a ground-breaking decision which has now clarified an issue that has become "murky" over the years as waste water systems take over from traditional septic tanks.

The Board has notified all Councils in New Zealand of this decision and has suggested a qualifying statement be inserted by Standards New Zealand into AS/NZS 1547:2000.

# Safety of Electricity and Gas

The safety and the competency regulators for electricity and gas have been working to implement outstanding decisions arising from the EnergySafe Review. This includes recognising the primacy of the Health and Safety in Employment Act 1992 (HSE) in regard to notifiable workplace accidents involving electricity or gas. Most of the changes are of an internal administrative nature, however some regulation amendments are also being progressed as part of a wider review of regulations made under the Electricity and Gas Acts. Please note the following responsibilities and contact information:

- Workplace and worker accidents – 0800 20 90 20  
Department of Labour [www.dol.govt.nz](http://www.dol.govt.nz)
- Non-worker accidents, and safety of completed work – 0508 377 463  
Energy Safety [www.energysafety.govt.nz](http://www.energysafety.govt.nz)
- Electrical worker registration, competency, and safe working practices – 0800 661 000  
Electrical Workers Registration Board (EWRB) [www.ewrb.govt.nz](http://www.ewrb.govt.nz)
- Gasfitter registration, competency, and safe working practices  
04 494 2970  
Plumbers, Gasfitters and Drainlayers Board (PGDB) [www.pgdb.co.nz](http://www.pgdb.co.nz)

# Approved Handler Test Certificates required from 1 January 2009

## FROM ERMA NEW ZEALAND

If you are using hazardous chemicals you may need to have a test certificate to show you have qualified as an approved handler. An approved handler is someone who is trained and has the knowledge and skills to use such chemicals safely.

If the chemicals you use are managed under a Group Standard approval, you should have been an approved handler by 1 January 2009.

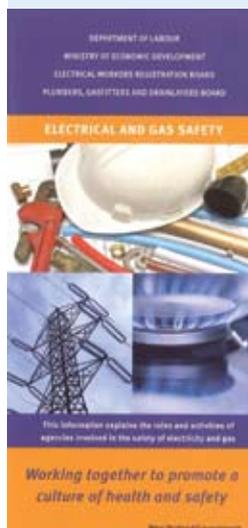
ERMA New Zealand introduced Group Standards in 2006 under the Hazardous Substances and New Organisms Act (HSNO). A transition period was announced to allow industry time to become familiar with the new regulatory framework. This transition period ended on 1 January 2009.

Approved handlers are required for substances that are acute poisons (class 6.1A and 6.aqB under the HSNO classification scheme), carcinogens (6.7A in quantities greater than 10 litres) and flammables (3.1A and 3.1B for certain quantities). You should know the hazard classification of the chemicals you are using, but if you are not sure, check with your supplier or look on the safety data sheet.

Test certificates are issued by test certifiers. A list of test certifiers is available at [www.ermanz.govt.nz/search/tc.html](http://www.ermanz.govt.nz/search/tc.html). To obtain a test certificate, you will need to demonstrate to a test certifier that you have knowledge of the hazardous substance, practical experience in handling the substance and any equipment you need to use and that you know about the HSNO legislation. An approved handler test certificate lasts for 5 years.

If you are still operating under the deeming provisions given in the transition period, you are operating illegally. You should contact a test certifier immediately to obtain your full 5-year approved test certificate to be compliant with HSNO.

For more information on approved handlers, call the ERMA New Zealand Hazardous Substances Compliance Line on 0800 376 234.



# Annual Report

Copies of the Annual Report for the year ended 31 March 2008 are available by contacting the Board on 04 494 2970 or email registrar@pgdb.co.nz



# Strategic Direction 2009 – 2012

The Board has released its Strategic Plan for 2009 – 2012 and hopes that this will assist practitioners in preparing for the upcoming consultation process.

## Purposes of the Plumbers, Gasfitters, and Drainlayers Act 2006

The purposes of this Act are –

- (a) to protect the health and safety of members of the public by ensuring the competency of persons engaged in the provision of sanitary plumbing, gasfitting and drainlaying services; and
- (b) to regulate persons who carry out sanitary plumbing, gasfitting and drainlaying

## What is the purpose of the Board?

- To register persons who undertake plumbing, gasfitting and drainlaying work to ensure accountability and safety for the public when such work is undertaken
- To issue licences to practitioners to ensure ongoing competency of those who undertake work
- Set, promote and enforce safety and quality of work standards for practitioners to adhere to
- Recognising overseas qualifications to ensure that overseas entrants to New Zealand adhere to our standards of work
- Administering a complaints and disciplinary process for practitioners
- To assist in creating a learning and safety culture amongst those who work in the industry



## Strategic Goals

Ensuring public and practitioner confidence with the implementation of the 2006 Act	<p style="text-align: center;"><b>WORK PROGRAMME</b></p> <ul style="list-style-type: none"> <li>• Review disciplinary function to enhance its relevance, and cost effectiveness</li> <li>• Consult around the implementation of the 2006 Act</li> <li>• Implement the 2006 Act</li> <li>• Ensure capability of the organization to meet with requirements of the 2006 Act</li> </ul>
Communication	<p style="text-align: center;"><b>WORK PROGRAMME</b></p> <p><b>Internal communication</b></p> <ul style="list-style-type: none"> <li>• Ensuring the Board is well informed and future focused</li> <li>• Ensuring there is confidence between Board decision making and the implementation team and vice versa</li> </ul> <p><b>External Communication</b></p> <ul style="list-style-type: none"> <li>• Open, planned and ongoing dialogue between the Board and stakeholders</li> <li>• Communication of the strategic plan to industry and the Minister</li> <li>• Communication of the requirements of the 2006 Act to stakeholders</li> </ul>
Leadership	<p style="text-align: center;"><b>WORK PROGRAMME</b></p> <ul style="list-style-type: none"> <li>• Demonstrate leadership around training and competency of practitioners</li> <li>• Encouraging a safety culture in the industry</li> <li>• Effective modelling of good communication</li> <li>• Facilitate a culture of collaboration across the plumbers gasfitters and drainlayers community</li> </ul>


 Plumbers,  
 Gasfitters and  
 Drainlayers Board

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