

# Employer Link

## Growing Transpower's Engineering Capability



Over the past three years Transpower has steadily introduced a Technical Competency Framework to underpin the ongoing development of its engineering workforce.

There were a number of industry indicators that propelled Transpower into taking action:

- Research conducted by the Department of Labour and IPENZ suggests the demand for engineers is growing, with a projected requirement for around 1,200 additional engineers (across all engineering occupations) in the next five years
- Approximately 30 per cent of new engineering graduates are leaving New Zealand within a year
- Industry specific skill sets (in this case the power system industry) are of particular concern.

Transpower has recognised the critical need to increase its attractiveness to entice engineers to stay in the New Zealand power system industry, and it knows it must stay in-tune with this highly sought-after skill set. This requires smart workforce planning, timely succession frameworks, competitive pay and a worthy professional development framework if it is to continually and successfully drive technical excellence in its engineering workforce.

To achieve this purpose both now and into the future Bob Simpson, Chief Engineer, with the driving support of Lygia Bing, Manager Learning and Capability, knew a Technical Competency Framework (TCF) was critical to ensuring Transpower would:

- Have the technical capability to meet current and future industry demands
- Be able to attract and retain the very best engineers available
- Grow the number of leading edge industry experts within its business.

Transpower has around 700 employees of which 46 per cent have industry skills specific to power systems engineering. Over 320 engineers are currently eligible to be developed and measured technically against the TCF regime.

Lygia Bing says, "Transpower is committed to engineering excellence. To achieve this we worked hand in hand with the business to create a practical working tool and process that engineers are using and quality reviews have shown that the framework is a structured way to build internal capability."

The TCF was developed through extensive consultation and engagement with technical staff supported by learning and development expertise.

### How the TCF operates

The TCF was designed to be easy to use. It is a simple tool that measures an individual employee's engineering capability.

Being linked to the recruitment process ensures engineers are either recruited with the required capability or can be later developed to perform fully within their roles.

### TCF core components

The TCF has four core components:

1. At the heart of the TCF are competencies. Sixteen technical competencies describe the skills an engineer needs to perform the technical aspects of their job. They are both observable and measurable, with three levels of expertise: entry, operational and advanced. Competencies are grouped in levels from "entry level" to "guru" status for technical engineering roles (see point 3 below). They provide common language and descriptors, levels, terms and progress indicators.
2. Role profiles that set out desired competency levels for each engineering role. There are currently 22 role profiles which provide a full scope of roles across the workforce.

3. A 10-point scale is used to help identify the increasing levels of capability in each of the competencies. This begins with 1 – Introduction, moves on to 3 – Basic, 5 – Operational, 7 – Comprehensive, 9 – Expert, and finishes with 10 – Guru.
4. Competency assessment and development plan process. This process is conducted on entry into an engineering role as a new recruit (or transfer) and as part of the performance review process. It includes:
  - Identifying individual competency gaps
  - Identifying individual development planning.

The TCF is a discussion tool that defines technical ability. It is used to find the required level of technical ability to complete employees' development to fully contribute in their role.

The "descriptors" for each competency level allow for key decisions to be made about an employee's capability either by the engineer or their manager. Once agreed after recruitment or as part of the assessment process, a development plan is constructed, providing the employee with the opportunity to develop to the level of competence required (or aspired to) as part of their progression and professional development in Transpower.

Once the assessment has been completed, blended learning solutions are developed to grow the workforce's technical capability.

Development can be planned and achieved through project involvement, secondments, self study, formal study, coaching, mentoring and training courses. This would be part of the individual development plan, and includes a technical competency pathway that is used to increase expertise and provide for career growth.

The TCF provides improved consistency, clarity and focus for discussions about current and future skill requirements.

Of significant value is the view the TCF provides of the company members' overall current technical ability. This data is used to inform key decisions and strategic planning, from both a team level and company-wide perspective, and it enables learning interventions to be targeted to address specific capability shortfalls. The information obtained allows Transpower to easily identify engineers who have the level of technical ability required to coach others.

"The ability to transfer this knowledge from one employee to another in a structured manner is beneficial in ensuring that the technical knowledge and understanding is retained within the Transpower environment."

– Lygia Bing

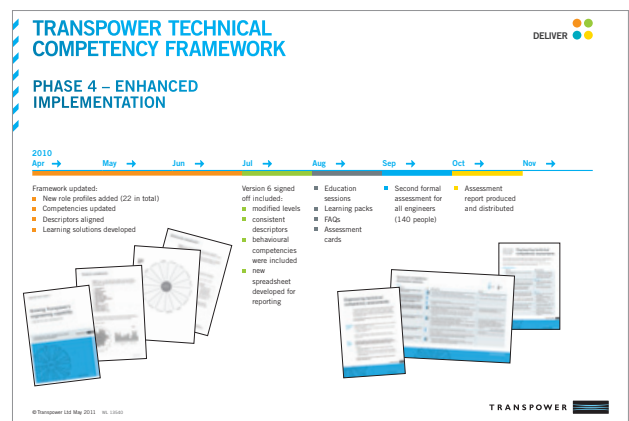
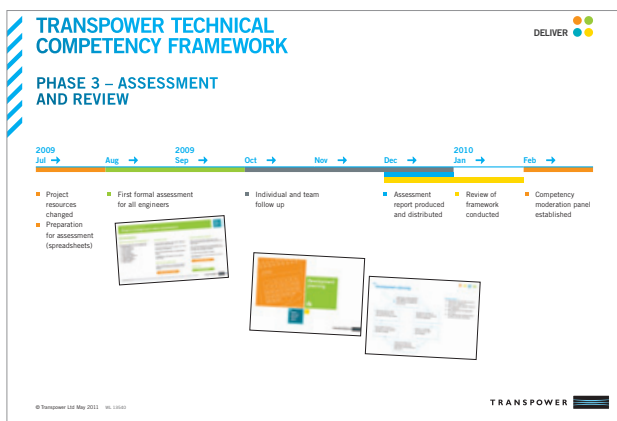
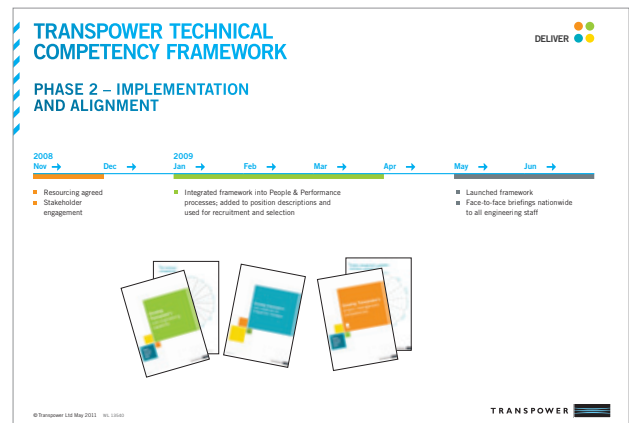
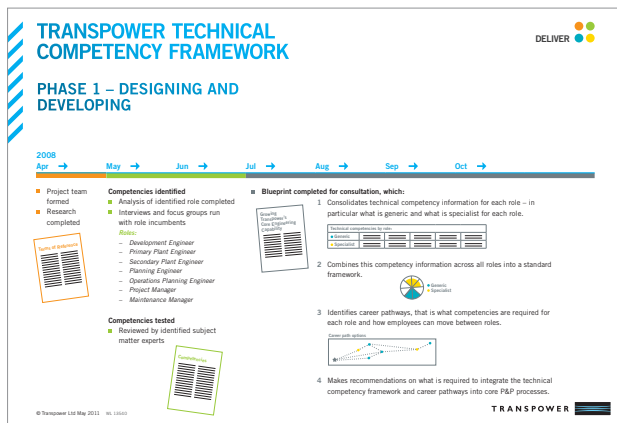
Managers are able to identify, measure and manage the progress of employees' self-paced technical learning and to make informed decisions when they wish to recruit specific skills for their teams. Engineers are also now able to plan their career progression within Transpower. The results are used to inform individual development plans for engineers.

The TCF is now embedded within Transpower. It is continually being improved with reviews and consultation constantly taking place. The value of the framework is immense and will continue to be so into the future as new energy sources emerge and demands continue to grow.

"The TCF is a key mechanism for assisting Transpower in achieving the necessary skills for planning, building, operating and maintaining the grid. The TCF will also enable engineers to achieve CPEng recognition in a more structured manner"

– Bob Simpson

## Development stages of Technical Competency Framework





**NEW ZEALAND  
ENGINEERING**  
Excellence Awards

## Join the Celebrations

The winners of the 2011 New Zealand Engineering Excellence Awards will be announced at a gala dinner on Wednesday 30 November in Wellington.

Tickets are on sale from 1 September for this black tie event. Single tickets cost \$160 including GST, or tables of 10 cost \$1,600 including GST.

Tickets are limited, so to make sure you don't miss out, visit [www.nzeeawards.org.nz](http://www.nzeeawards.org.nz)

## November Professional Development Partner Update Sessions

As promised in our 2011 Professional Development Partner (PDP) work plan, we will be holding the second PDP update sessions in November in Auckland, Wellington and Christchurch. For PDPs at other locations we will work with you to connect you to one of the PDP sessions remotely.

The theme for the sessions will be Engineering Technicians and Technologists, and there will also be an update on the new New Zealand Diploma in Engineering. There will also be a description of the graduate attributes for engineering technicians and technologists.

Besides the presentations from IPENZ, we would value input from any PDP which employs technicians and technologists. We are also keen to hear about systems and processes you have developed for these employees.

If you can assist us by talking for no more than 10 minutes at one of our update sessions, we would love to hear from you. If you are able to assist please call Jenna Panchal on (04) 474 8982 or email her at [coordinatorla@ipenz.org.nz](mailto:coordinatorla@ipenz.org.nz)

We are looking forward to seeing you all in November – dates will be announced soon.

## Women in Engineering

On Friday 12 August, 32 Auckland-based engineers attended a lunchtime meeting to discuss women in engineering. Tracey Ayre, IPENZ Women in Engineering (WIE) Project Manager, hosted the meeting. She noted that women make up just 13 per cent of the engineering profession, a representation much lower than other professions such as accountancy, medicine and law, where women comprise at least 40 per cent of the profession.

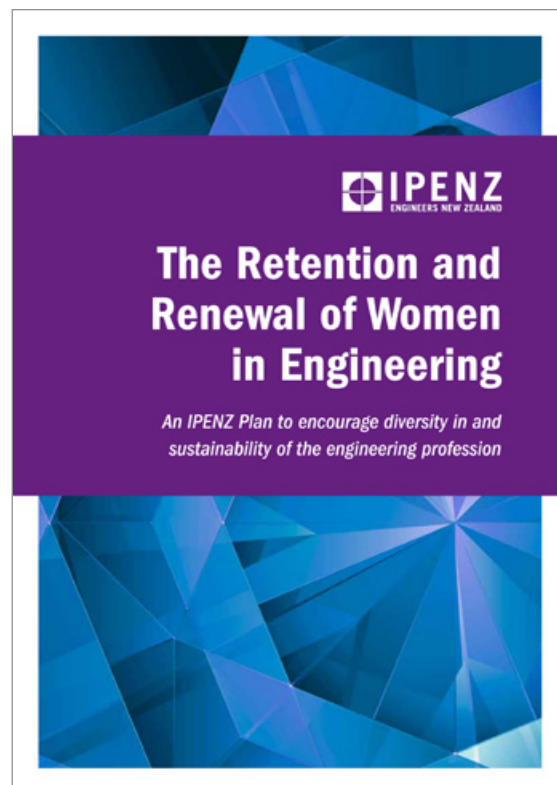
Tracey discussed the WIE programme, which involves researching the barriers women face in the engineering profession, enhancing the culture of the profession and supporting female engineers. The programme was launched in March 2011. Further details are available on the IPENZ website at [www.ipenz.org.nz/ipenz/downloads/RetentionRenewal\\_WIE.pdf](http://www.ipenz.org.nz/ipenz/downloads/RetentionRenewal_WIE.pdf)

Attendees shared their experiences and ideas of how IPENZ can help support women in engineering. These included:

- Promoting women in engineering-related topics such as mentoring, the economic benefits of diversity, good workplace practices and good practices in IPENZ publications
- Promoting the value of those who work part time
- Providing a leadership programme for women to support them to advance in the profession
- Supporting the mentoring of female engineers
- Acting as a platform for other women in engineering-related groups.

IPENZ will consider these ideas and incorporate them into its programme where possible.

IPENZ appreciates the support Beca and Opus International Consultants Limited gave in making this meeting possible.



## Competence Assessment Rounds 2011

Are you or your staff currently working on compiling an application for a competence based assessment? If so, it may be worth looking at the remaining assessment round dates for 2011. These can be found on the [IPENZ website](#)

Engineers who are planning to submit an application for admission should work towards one of the dates listed on the website to ensure they have clear targets and structure around preparing and submitting documentation.

The Learning and Assessment team at IPENZ is happy to support Members to work towards getting the recognition they deserve, so feel free to contact the team at [assessmentenquiries@ipenz.org.nz](mailto:assessmentenquiries@ipenz.org.nz) or call (04) 473 9444.

## Competence Assessment Review Implementation

Changes to the competence assessment process are being planned for 2012 as the recommendations of the 2010 review of the assessment process are implemented. To implement the review findings, a number of changes have had to be made to the Chartered Professional Engineers (CPEng) Rules. One of the proposed changes – increasing the maximum term for re-assessments – involves changing a standard. Changing a standard is more complex than making other Rule changes.

There are four CPEng Rules involving standards – the competence standard for entry to the CPEng register, the competence standard for continued registration, the maximum term for re-assessment and the code of ethical conduct.

The Registration Authority (ie IPENZ) can only change a standard after:

- Ensuring the change is consistent with the purposes of the CPEng Act
- Consulting with engineers and others affected by the change
- Taking into account New Zealand's international obligations and international best practice
- Gaining approval from the Chartered Professional Engineers Council (CPEC). The CPEC must approve the proposed change if it has reasonable grounds to be satisfied the Registration Authority has carried out all the above measures.

IPENZ completed the consultation on 1 August 2011, after sending out consultation documents to 125 organisations, emailing all chartered professional engineers and canvassing delegates at the International Engineering Alliance meeting in Taipei in June 2011. Sixty-eight responses were received and some small changes will be made as a result. The feedback also showed a need for clear policy regarding the proposed changes.

The main thrust of the changes is to increase assessment outcome quality. The assessment review showed the most valid assessment tool for holistic assessments is the interactive assessment. Incorporating this into continued registration assessments has the benefit of allowing candidates to provide a less detailed portfolio of evidence and greater detail at the interactive assessment. Other changes include the maximum term for re-assessment, publishing candidate names as part of the assessment process, providing for greater flexibility in submitting evidence, introducing an alternative dispute resolution at an earlier stage in a disciplinary process, and a fees' review.

At the time of writing, approval is being sought from the CPEC to change the maximum term for re-assessment, and preparations are being made to give drafting instructions to the Parliamentary Counsel Office (PCO) to draft the final amending Rules. It is intended that the IPENZ governing Board will be asked to approve the new rules at its meeting in November, with the changes taking effect on 1 January 2012.



# Continuing Professional Development Calendar 2012

The 2012 Continuing Professional Development (CPD) Calendar is in the process of being developed and it is timely to give insight on how decisions are made on course choices and delivery.

In aiming to develop a programme that systematically improves and maintains the knowledge engineers need for their professional and technical duties, we focus on ensuring the programme:

- Is accessible to all engineers
- Is affordable for all engineers
- Has high quality delivery
- Has learning outcomes linked to the 12 IPENZ competencies.

In 2012 there will be a range of learning opportunities available to engineers.

## Face-to-face

The choice of face-to-face courses to be delivered is determined through a number of ways:

- Feedback from the annual survey engineers complete about CPD
- Studying past course history numbers and feedback
- Researching the CPD delivered by equivalent overseas bodies
- Advice from engineers working at IPENZ
- Advice from Special Interest Groups, Technical Interest Groups and Collaborating Societies
- Study of current law changes/developments that might affect engineers.

We use a range of presenters including university academics and experienced practitioners. However, due to costs, face-to-face courses can often only be delivered in the main centres, as after paying presenter fees and other related costs such as travel, break-even course numbers are often not reached. The face-to-face courses in 2012 will be in the main either half day or full day sessions.

## Get Recognised

### IPENZ Information Sessions

These sessions include a series of in-house seminars on IPENZ quality marks and the competence assessment process.

The free seminars have been delivered to a number of Professional Development Partners, including HEB Construction Ltd, GHD Limited, MB Century, the NZ Transport Agency, URS New Zealand Limited and Transpower New Zealand Limited.

The seminars are pitched at two general levels:

- Recent graduates: the "Getting Started" session provides an introduction to IPENZ quality marks and the competence assessment process and advice on steps to take to fast-track graduate progression
- Experienced graduates and engineers: the "Path to Competence" seminar provides a more detailed introduction to the competence assessment process – the competence standard, documentation required for an application and the assessment process itself.

## Webinars

Webinars are seminars accessed remotely via a computer. They are one-way, from the speaker to the audience, with participants posting questions during the session. They were delivered during the second part of 2011 and are proving popular.

Some teething problems have been experienced, particularly with firewalls restricting access for some participants. We will continue to work with engineers to enable them to have access.

We plan to deliver between 20 to 25 webinars in 2012. We will also be recording webinars and on-selling them to Members who will be able to view them at any time.

## Online courses

There will be up to four online courses delivered during 2012. The first to be launched will be a project management course at the beginning of the year. Online learning courses will give engineers the opportunity to study at any time. Our online courses will have informal assessments such as quizzes so participants can regularly assess their learning.

## In-house courses

A full suite of learning opportunities will be available for in-house learning. Advantages of in-house courses include having training that can be undertaken by a team and tailored to a specific workplace.

All Members will be sent a hard copy of the 2012 CPD programme in early December this year. The programme will also be advertised on the IPENZ website and across other IPENZ publications.

We look forward to seeing you on one of our CPD training opportunities in 2012.



Both seminars are also run as public sessions at a range of venues around the country.

Sessions to come are as follows:

<a href="#">Invercargill</a>	5.30pm–7.00pm 30 August 2011 Buster Crab, 326 Dee Street Invercargill
<a href="#">Northland</a>	12.30pm–2.00pm 4 October 2011 Dickens Inn on Cameron at Quality Street Mall Whangarei
<a href="#">Hawke's Bay</a>	5.30pm–7.00pm 9 November 2011 Opus House, Ossian Street Ahuriri Napier

### IPENZ Practical workshops

Practical workshops are aimed at engineers working on developing a portfolio of evidence for a competence based assessment. One of the most regularly cited barriers to applying for competence assessment is a lack of time to compile an assessment portfolio. Feedback from workshop attendees indicates participants have made substantive progress on their portfolio simply by dedicating time to the exercise. Participants also valued the opportunity to have questions answered by our workshop facilitator.

All participants will need is a laptop and a willingness to work through the forms. All registered attendees will receive information by email advising what they will need to bring to the workshop and what preparatory thinking will be helpful.

Sessions to come are as follows:

DATE	LOCATION	STATUS
<b>29 September</b>	<a href="#">New Plymouth</a>	<b>Register now</b> Registrations close 22 September
<b>5 October</b>	<a href="#">Hamilton</a>	<b>Register now</b> Registrations close 28 September
<b>6 October</b>	<a href="#">Tauranga</a>	<b>Register now</b> Registrations close 29 September

Please keep in mind that we require minimum numbers to ensure the workshop goes ahead. Therefore, it is essential you register as soon as you know you can attend. IPENZ would appreciate your support in promoting these public seminars and workshops to your staff, as appropriate, but if you would like to have either delivered in-house, please contact Jenna Panchal, Learning and Assessment Coordinator at [coordinatorla@ipenz.org.nz](mailto:coordinatorla@ipenz.org.nz) or phone (04) 474 8982.

## Continuing Professional Development Courses

### One-day courses September – December 2011

To view more information please click on the course title. For course updates please visit the IPENZ website and look out for emails from the Continuing Professional Development Team.

Early registrations are encouraged as courses need to reach the minimum number of attendees two weeks before the course is due to run. Courses that are confirmed to go ahead are indicated.

#### SEPTEMBER

<b>1 September</b>	<a href="#">Effective report writing for engineers **confirmed**</a>	Dunedin
<b>6 September</b>	<a href="#">Contract management for engineers **confirmed**</a>	Auckland
<b>7 September</b>	<a href="#">Seismic design for non structural engineers</a>	Christchurch
<b>7 September</b>	<a href="#">Tender practice and evaluation for engineers **confirmed**</a>	Auckland
<b>8 September</b>	<a href="#">Professional portfolio development for young engineers</a>	Christchurch
<b>13 September</b>	<a href="#">Business English for international professionals</a>	Wellington

<b>15 September</b>	<a href="#">Onsite wastewater management</a>	Auckland
<b>20 September</b>	<a href="#">Bridge design</a>	Wellington
<b>21 September</b>	<a href="#">Bridge design</a>	Christchurch
<b>29 September</b>	<a href="#">Bridge design</a>	Auckland
<b>29 September</b>	<a href="#">Flood hydrology</a>	Christchurch

#### OCTOBER

<b>5 October</b>	<a href="#">Project management</a>	Hamilton
<b>5 October</b>	<a href="#">Contract management with NEC contracts</a>	Auckland
<b>6 October</b>	<a href="#">Contract management with FIDIC contracts</a>	Auckland
<b>11 October</b>	<a href="#">Risk analysis for engineers</a>	Auckland
<b>18 October</b>	<a href="#">Role of the expert witness</a>	Christchurch
<b>26 October</b>	<a href="#">Finance for engineers</a>	Dunedin
<b>27 October</b>	<a href="#">Effective report writing for engineers</a>	Auckland

#### NOVEMBER

<b>1 November</b>	<a href="#">Contract management for engineers</a>	Christchurch
<b>2 November</b>	<a href="#">Slope engineering</a>	Wellington
<b>2 November</b>	<a href="#">ITS (Intelligent Transport Systems) beginner level</a>	Auckland
<b>3 November</b>	<a href="#">ITS (Intelligent Transport Systems) intermediate level</a>	Auckland
<b>9 November</b>	<a href="#">ITS (Intelligent Transport Systems) beginner level</a>	Christchurch
<b>10 November</b>	<a href="#">ITS (Intelligent Transport Systems) intermediate level</a>	Christchurch
<b>15 November</b>	<a href="#">ITS (Intelligent Transport Systems) beginner level</a>	Wellington
<b>16 November</b>	<a href="#">ITS (Intelligent Transport Systems) intermediate level</a>	Wellington
<b>16 November</b>	<a href="#">HAZOP Leader training</a>	Christchurch
<b>18 November</b>	<a href="#">Tender practice and evaluation for engineers</a>	Wellington
<b>22 November</b>	<a href="#">Contract management with NEC contracts</a>	Wellington
<b>23 November</b>	<a href="#">Contract management with FIDIC contracts</a>	Wellington

#### DECEMBER

<b>2 December</b>	<a href="#">Slope engineering</a>	Christchurch
<b>6 December</b>	<a href="#">Onsite wastewater management</a>	Tauranga
<b>7 December</b>	<a href="#">NZS 3910 conditions of contract</a>	Christchurch

## Webinar learning

One hour online: 11.00am – 12.00pm

- 21 September [Efficient spreadsheeting – part two](#)
- 5 October [Making more of excel – part one](#)
- 19 October [Making more of excel – part two](#)
- 8 November [Professional ethics for engineers](#)

The new course programme for 2012 is coming soon.

## Fees for one day courses (excluding GST)

\$460	IPENZ Members
\$490	Technical Interest Group Members
\$520	Non-members

## Fees for webinars (excluding GST)

\$80	IPENZ Members
\$95	Non members
\$60	PDP Employees

## Professional Development Partner Discount

The following discount vouchers are available for Professional Development Partners (excluding GST) and are a great way of providing cost effective training for staff:

### PDP flexi-pass

Ten one-day event vouchers (valid for 12 months) \$3,698

### Solo voucher for IPENZ Members

Two one-day event vouchers (valid for 12 months) \$740

Please note – the vouchers may not be used for affiliated courses with other training providers. Vouchers may be used if fees for the course fall within the normal fee framework. Other than the solo voucher, vouchers are transferrable.

You can purchase a voucher on the [IPENZ website](#)



## In-house training

In-house courses provide significant cost savings while ensuring learning is tailored to address specific organisational needs. One-day courses are delivered at a cost of \$3,980 (excluding GST) with cost savings increasing depending on the number of courses delivered.

For more information contact the IPENZ Professional Development Advisor on (04) 474 8984 or email [profdevadvisor@ipenz.org.nz](mailto:profdevadvisor@ipenz.org.nz)


## Need more information?

Visit the Engineering Calendar or contact the professional development team on (04) 495 1646 or email [cpd@ipenz.org.nz](mailto:cpd@ipenz.org.nz)


## Reach Engineers through *Engineering Direct*


Advertising opportunities are available in *Engineering Direct*, the electronic newsletter for IPENZ Members. *Engineering Direct* is sent by email to more than 7,500 Members each Thursday with a short time-out over the Christmas and New

Year break. *Engineering Direct* has a notices section, an events section, and a very well-supported situations vacant section linked to the IPENZ jobhunt website. For more information please email [advertising@ipenz.org.nz](mailto:advertising@ipenz.org.nz)

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