OCTOBER e-NEWS

Issue 61 2019

BOARD OF
PROFESSIONAL
ENGINEERS
OF QUEENSLAND

A WORD FROM THE REGISTRAR

In a further sign of the renewed push for registration of engineers elsewhere in Australia, the New South Wales Government has introduced draft legislation that will, among other things, require registration for engineers working in the building sector. The Design and Building Practitioners Bill will require building designers and practitioners, including civil, structural, hydraulic, mechanical, geotechnical and fire safety engineers to be registered. These reforms come in the aftermath of Opal Tower and act on recommendations from the Shergold-Weir report which targeted the building sector. BPEQ welcomes the draft Bill; however, maintaining professional standards is important to all areas of engineering and the NSW Government should ultimately aim to adopt a comprehensive and mandatory engineering registration system.

> "Victoria's registration scheme is progressing."

Victoria's registration scheme is progressing. The Professional Engineers Registration Act 2019 was assented to on 3 September 2019 and BPEQ understands that Consumer Affairs Victoria has been given the Act to implement and administer.

During November, BPEQ will be participating in Hazards Australasia 2019 (13-14 November) and the World Engineers Convention 2019 (20-22 November) – we will use these conferences to engage with our stakeholders, further BPEQ's national profile and demonstrate the benefits of the RPEQ system. Staff will also be on the road to Cairns and Far North Queensland for BPEQ's second CPD pilot course and a registration roadshow. To organise a BPEQ seminar for your workplace during the registration roadshow contact admin@bpeq.qld.gov.au.

If we can provide further information or assistance, please contact BPEQ at admin@bpeq.qld.gov.au or call 07 3210 3100.

KAINE BARTON

A/Registrar

THE PROFESSIONAL ENGINEERS ACT – PAST AND PRESENT

As we mark 90 years since the introduction of the original legislation in 1929, BPEQ has delved into the history books to look at the past versions of the legislation and the various amendments made during its 90-year existence.

Pictured: Professor Roger Hawken

1929 Queensland leads the way

The St Francis Dam disaster spurred Professor Hawken's push for registration of engineers.

- The *Professional Engineers Act 1929* (***PE Act***) passed by the Country and Progressive National Party under then Queensland Premier Arthur Moore
- The driving force behind the PE Act was Professor Roger Hawken (inaugural BPEQ Chair and RPEQ #1)
- Rationale for the establishment of the PE Act 1929 was to achieve status for engineers and the need for proper oversight of engineering to protect the public and uphold professional standards
- During Great Depression jobs creation took priority ahead of safety and process; in some circumstances leading to engineering failure, such as the St Francis Dam collapse in 1928
- PE Act 1929 came into operation on 21 August 1930

1929 – 1949

- PE Act 1929 only applied to consulting engineers and restricted the terms 'registered professional engineer', 'RPEQ' 'professional engineer' and 'consulting engineer' to engineers registered with BPEQ
- To be registered an engineer had to be 21 years or older and be of 'good fame and character'
- Civil, Electrical, Mechanical and Mining engineering were the original four areas of engineering covered by the PE Act 1929
- No offence for carrying out professional engineering services when not a RPEQ
- Disciplinary powers were narrower, but they included being adjudged by the Board to have been guilty of infamous conduct in a professional respect, or of habitual drunkenness!

King George Square, Brisbane circa 1930

1950 – 1973

Brisbane Airport, Eagle Farm circa 1960

- In 1950, Aeronautical, Chemical, Metallurgical and Naval Architecture were approved and added as recognised areas of engineering
- The *Professional Engineers Amendment Act 1973* introduced:
  - registration for approved professional engineering companies rather than just individuals
  - set the minimum age for registration at 24 years
  - updated divisions of engineering
  - revised pre-requisite qualifications for registration

1985 – 1997

Brisbane City circa 1980

- In 1985, BPEQ undertook a comprehensive review of the PE Act to ensure its ongoing relevance
- The review studied engineering registration schemes overseas and the non-registration of engineers in other Australian states and territories. Non-registration was found to be inconsistent with overseas practice and other professions
- Major amendments in 1988:
  1. Introduced offence for carrying out professional engineering services when not a RPEQ
  2. pre-requisite qualifications were revised, and the age restriction removed and replaced with a length of experience requirement of five years
- Further legislative amendments in 1992 and 1997 were made to support the ongoing registration of companies and establish complaints and investigation processes and the Professional Engineers Disciplinary Panel

2002 – present

Dawson Wilkie, Board Chair and regional representative 2015 - present

- Ended registration for companies, adopted a co-regulatory model and allowed for the appointment of non-engineers to the Board
- Definition of professional engineering service was prescribed in legislation
- Prescriptive standard exemption added
- Level of supervision required for unregistered persons was increased from 'supervision' to 'direct supervision'
- Non-RPEQs added as Board members – lawyer, construction industry representative and community representative
- Queensland is still the only jurisdiction to apply a comprehensive registration system for engineers

IT'S TIME TO CHANGE THE WORLD

Engineers interact with members of our community everyday – these conversations can have a profound effect, writes elected RPEQ representative Suzanne Burow

National Water Week has concluded for 2019 with a theme of *It's time to change the world*. Once again, a large portion of our state is drought declared[1] (not to mention larger areas of our nation) and latest advice from the Bureau of Meteorology is for delayed onset of the monsoon trough[2] which is crucial to catchment derived water supplies in much of Queensland. With water infrastructure in the news again, there is a sense of déjà vu about some of the recent sentiments in the public discussion and debate.

The last major drought, the Millennium Drought, brought about significant behavioural change of water users, improved planning for the future and new water infrastructure. External factors focused people's thoughts and conversations on an everyday something that engineers do in the public interest, which previously had not received that sort of attention. Engineers were key to the success of these measures but just because 'droughts and flooding rains' are inevitable should not mean these sentiments need be.

> "Engineers were key to the success of these measures..."

Consider recycled water in the Australian context. It has been and to some extent continues to be a contentious issue for the community. In 2006, a referendum was held in Toowoomba on indirect potable reuse and even with severe drought impacting the city's water supply the community rejected the proposal. Fast forward to today and recycled water, where available, is predominantly an emergency water source or restricted to industry or agriculture. Yet our modern society, that loves to travel overseas, happily holiday in cities that use recycled water as part of their daily water source.

One of the aspects of the last drought that I found interesting was the body of research and understanding which arose around community engagement. There is no doubt about how crucial this was to the broader success of drought management on the eastern seaboard during the Millennium Drought and ultimately the success of the Perth groundwater recharge scheme. What can we as individuals within our sphere of influence apply from this understanding?

I am reminded of the TED talk by Derek Sivers[3]. This talk is framed in a leadership context but relevant to this topic in that the leader doesn't know what inspired each follower. Was it his dancing style or his clothes? Every day we interact with members of our community and we have no idea how profound that conversation with that person may be to them. Not every conversation will have a profound impact but each one has the potential. Over time through these conversations we are socialising ideas with the community admittedly less directly than a water taskforce. Conversation is the key and it is within our sphere of influence.

[1] https://www.longpaddock.qld.gov.au/drought/drought-declarations/

[2] http://www.bom.gov.au/climate/enso/

[3] https://www.ted.com/talks/derek_sivers_how_to_start_a_movement?language=en

We can't change the trajectory of the current drought, although many of us will be engaged in various projects and initiatives to support our communities during these challenging times. We can also make a difference to how the next drought (or indeed flood) unfolds by being advocates for engineering in the public interest – every chance we are afforded.

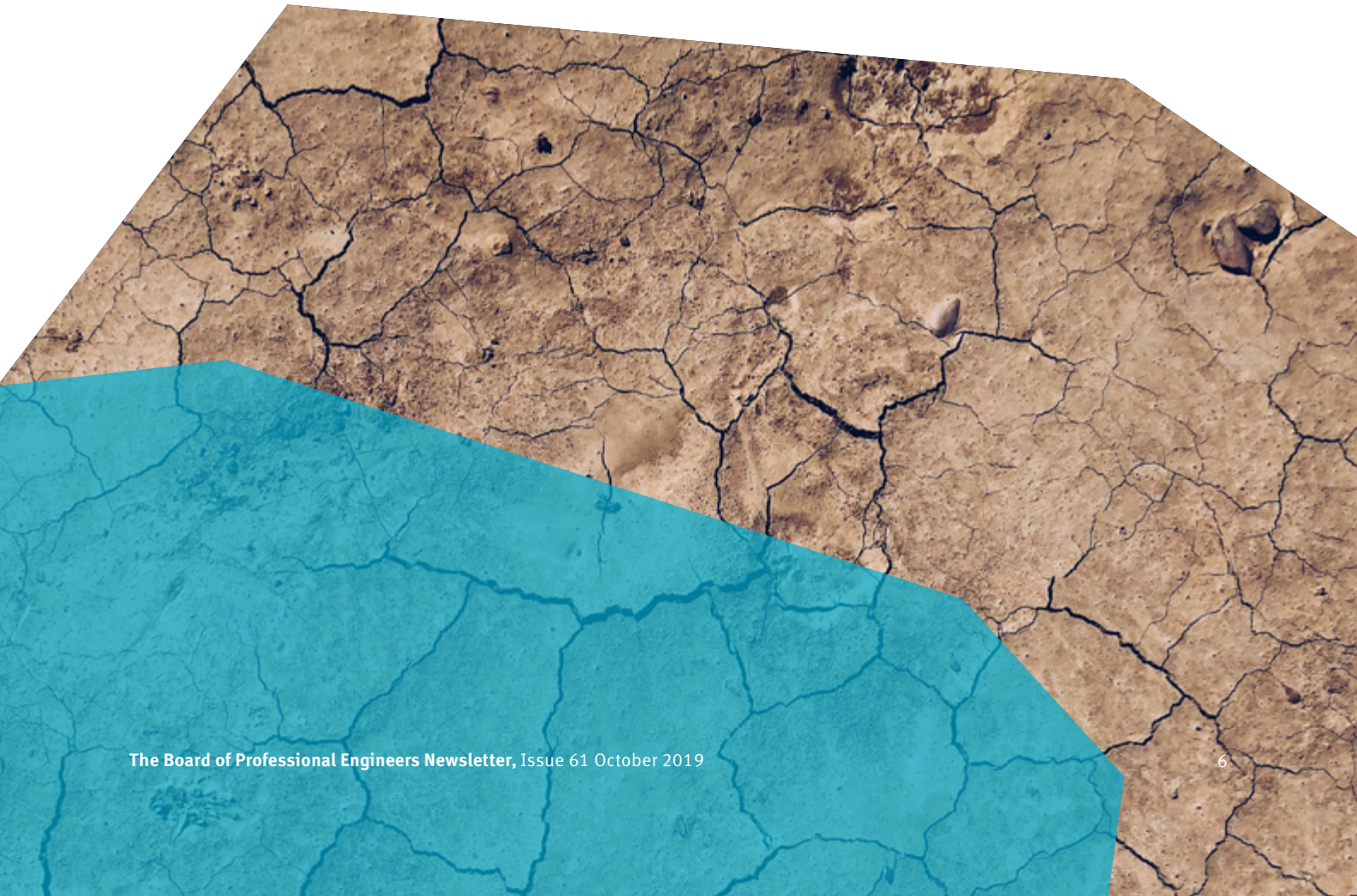
Many of you reading this article are not working in the business of water – but the same lessons apply to the nearly 15,000 of us registered engineers who have committed to practicing in our respective areas of expertise. Engineers and engineering shape our society although engineering doesn't have the public profile of other professions (yet). However, that shouldn't stop us all from being advocates for engineering in the public interest. What daily conversations do you plan to have in your areas of expertise?

SUZANNE BUROW

Elected RPEQ Representative

FIEAust CPEng NER APEC Engineer IntPE(Aus)

Suzanne joined the Board in 2019 as the elected representative. She is a chartered and registered Civil Engineer with considerable experience as a practitioner in water resources engineering in various sectors across the industry. Suzanne is currently a consulting engineer in the private sector and the Deputy President of the Queensland Division of Engineers Australia.



UNDERSTANDING PRESCRIPTIVE STANDARDS

An engineering service is not a professional engineering service, and therefore does not need to be carried out by or under the direct supervision of a RPEQ, if it is carried out only in accordance with a prescriptive standard. This is one of only two exceptions to the requirement for RPEQ registration, the other being direct supervision, which was discussed in BPEQ's July 2019 e-news.

All RPEQs must understand what is and is not a prescriptive standard to ensure they can leave work done only in accordance with a prescriptive standard to unregistered persons and concentrate on carrying out or providing direct supervision for all work that is not carried out only in accordance with a prescriptive standard.

It is therefore timely to reiterate the key elements of work done only in accordance with a prescriptive standard.

A prescriptive standard is defined in the *Professional Engineers Act 2002* (***PE Act***) as follows:

a prescriptive standard means a document that states procedures or criteria:

a. for carrying out a design, or a construction, production, operation or maintenance activity, relating to engineering; and

b. the application of which, to the carrying out of the design, or the construction, production, operation or maintenance activity, does not require advanced scientifically based calculations.

There are five elements to engineering services carried out only in accordance with a prescriptive standard:

1. the standard is a **document**;

2. the document states **procedures or criteria** for the carrying out of the design, or construction, production, operation or maintenance activity, to which the document relates;

3. the application of the procedures or criteria must require **little to no choice or judgement**;

4. the application of the procedures or criteria **must not require advanced scientifically based calculations**;

5. the services must be carried out **only** in accordance with a prescriptive standard.

The prescriptive standard must be a document. It cannot be something that is done in accordance with verbal instructions. The procedures or criteria that comprise the prescriptive standard must be physically recorded. This includes recording by electronic means.

The prescriptive standard must state procedures or criteria for carrying out the work to which the standard relates. Procedures are the way the work is to be done, and criteria are the standard the work must comply with.

A key element of a prescriptive standard is that it must require little to no personal choice or judgement in applying the procedures or criteria stated in the standard. Choice or judgement being required implies that the exercise of engineering principles and data is required to make the choice of judgement, and as we know, the application of engineering principles and data is the hallmark of a professional engineering service. The intent of a prescriptive standard is to remove the need for the application of engineering principles and data by prescribing exactly how work is to be carried out.

Similarly, a prescriptive standard must not require advanced scientifically based calculations which, again, would usually require the application of sometimes complex engineering principles and data to carry out. The hallmark of a prescriptive standard is simple, well-prescribed calculations that the standard clearly explains how to carry out.

Finally, to fall within the exception for RPEQ registration, the work must be carried out only in accordance with a prescriptive standard. The exception for RPEQ registration will not apply to a service that deviates even slightly from the prescribed process contained in the prescriptive standard being used.

The provisions of the PE Act are clear in that they require that type of service to be provided by a RPEQ.

A benefit of registration as a RPEQ is that RPEQs may carry out any engineering service within their area of registration and competence, regardless of whether it is in accordance with a prescriptive standard. The importance of registration, however, goes beyond just being allowed to provide professional engineering services. Registration denotes high level professional competence and is a significant career milestone. BPEQ encourages RPEQs to encourage all engineers with whom they work to register if eligible or to work on gaining the necessary qualifications and competencies to register in the near future.

Further information is contained in BPEQ Practice Notes 4.3 Professional engineering services and prescriptive standards and 4.6 Prescriptive standards, available on the BPEQ website.

Further information about BPEQ policies and processes, including prescriptive standards, is available on BPEQ's website or by contacting BPEQ directly at admin@bpeq.qld.gov.au. While BPEQ staff will endeavour to offer help about processes and procedures, staff will not give legal advice.

BPEQ staff are also available to conduct seminars with engineers and employers on prescriptive standards or any other component of PE Act and registration system. To arrange a seminar, contact BPEQ at admin@bpeq.qld.gov.au.

NSW DESIGN AND BUILDING PRACTITIONERS BILL

The New South Wales Government has taken the first step toward legislating for the registration of engineers working in the building sector in that state. The Design and Building Practitioners Bill 2019 (the draft Bill) was introduced by Minister for Better Regulation and Innovation Kevin Anderson who said building occupiers the 'deserve to have an avenue of recourse available in the event of a defect during a building's life' and that 'safety and quality is prioritised' in the built environment.

The Minister says the draft Bill reflects on the first stages of reforms the NSW Government expects to make. The draft Bill proposes the following key reforms, including:

Introducing the concept of 'regulated designs', which include designs for a building element and performance solutions for prescribed classes of building work or a building element;

Requiring that design practitioners who prepare regulated designs issue a compliance declaration to declare that the designs comply with the Building Code of Australia;

Requiring that building practitioners obtain, rely upon and build in accordance with declared designs, and issue a compliance declaration to declare they have complied with the Building Code of Australia;

Requiring that any variations to declared designs are reprepared and declared by a design practitioner if they are in a building element or performance solution, or in any other case, documented by the building practitioner;

Introducing the optional role of a 'principal design practitioner';

Requiring any design, principal design or building practitioner who intends on making a compliance declaration to be registered under a new registration scheme set out under the draft Bill; and

Clarifying the common law to ensure that a duty of care is owed for construction work to certain categories of 'owner'.

Initially at least, the NSW Government intended for these reforms to only apply to class 2 buildings (buildings that are multistorey and multi-unit residential buildings) or buildings with class 2 components (e.g. a shopping centre or office block that has residential apartments located above the block). Since the introduction of the draft Bill and following the consultation process the NSW Government seems prepared to extend the reforms to other buildings, such as hospitals, schools and office blocks.

BPEQ acknowledges that the draft Bill is in its early stages and there is an urgency to improve standards in the building sector and protect the public. However, other engineering disciplines can and do affect the public and minimum standards of qualification and competency should be adopted. This can be achieved by New South Wales adopting a mandatory and comprehensive registration scheme for engineers.

To find out more about the draft Bill visit https://www.fairtrading.nsw.gov.au/consultation-tool/design-and-building-practitioners-bill-2019 .

MACKAY MEET AND GREET

Thank you to all the RPEQs who came along to BPEQ's meet and greet in Mackay. The Board members and BPEQ staff appreciated the opportunity to speak with Mackay RPEQs about their issues.

A special mention to Bheki Dhlodhlo and Akm Azam who were formally recognised as RPEQs and received their Certificates of Registration from Board Chairperson Dawson Wilkie.

New RPEQs Bheki Dhlodhlo and Akm Azam receive their Certificates of Registration from Board Chairperson Dawson Wilkie during BPEQ's Mackay meet and greet.

UPCOMING CPD COURSES AND CONFERENCES

BPEQ

ISO 31000 - Risk Management CPD Course
8th November: Cairns

ISO 31000 - Risk Management CPD Course
17th December: Rockhampton

ICHEME

Hazards Australasia 2019
13th - 14th November: Brisbane

ENGINEERS AUSTRALIA

World Engineers Convention
20th - 22nd November: Melbourne

WELCOME

TO OUR NEWEST RPEQS

BPEQ extends a warm welcome to the following engineers who recently became registered:

23087	Mohamed	ABDELRASHID	Electrical
23052	Abdul Nasar	ABDUL SAMAD	Electrical
23038	Monica	ACCORNERO	Civil
23075	Ahmed	AL-AGHBARI	Civil, Structural
23109	Hatem	ALNATOUR	Mechanical
23074	Vasanthakumar	ALWAR	Electrical
23030	Mohamed	ALY HASSAN	Mechanical
22975	Sudhir	ANAND	Civil
22990	Raymond	ANDERSON	Chemical, Mechanical
22994	Tyran	ANDERSON	Electrical
23053	Nady	ANTOUN	Information Telecommunications & Electronics
23011	Yasin	ARSLAN	Structural
23056	Venkata	BADIREDDI	Electrical, Management
09966	Vishnu	BALAKRISHNAN	Civil, Structural
23049	Balachandren	BALESHAN	Structural
22998	Pinaki	BANERJEE	Structural
23012	Kumar	BARIAR	Civil, Management
11446	Krystle-Rae	BIRAM	Civil
23098	Steven	BLEAKLEY	Electrical
23040	Paul	BOTMAN	Chemical
04260	Steven	BOYD	Civil
23076	Jennifer	BROADMEADOW	Electrical
07396	Anthony	BURROWS	Civil
22987	Liam	CAHILL	Mechanical
22984	Hanxian	CAI	Electrical
23023	Wei	CAO	Electrical, Management
23096	Andrew	CARLILE	Electrical
22986	Ian Ty	CHEONG	Mechanical
23007	Matthew	CHRISTENSEN	Civil, Management
22211	Harrison	CHUA	Civil
23110	Strathconagh	CLARKE	Civil, Structural
23068	Ian	COMMERFORD	Electrical
23081	Michael	COOKE	Electrical, Information Telecommunications & Electronics
23067	Samuel	COOPER	Structural
23083	James	COSTAGANNA	Civil, Management

23062	Christopher	COULSON	Mechanical
23089	Ryan	CUSH	Civil, Management
23036	Yu	DENG	Electrical
23057	Tanel	DJEMIL	Civil
21858	Michael	DOBBS	Fire Safety
23072	Richard	DOBESON	Mechanical
23114	Yianni	DOROPOULOS	Mechanical
23055	Cameron	DORROUGH	Electrical, Management
08241	Neville	DREWS	Civil
23047	Rhodri	EDWARDS	Mechanical
23044	Ahmed	EID	Electrical
23004	Kaveh	ESPANDAR	Structural
23070	Brian	FALLBACHER	Mechanical
23029	Jerry	FANG	Electrical
23112	Mohammed Salam	FAROOQ	Electrical
23097	Dean	FERGUSON	Civil
23024	Nathan	GARDENER	Aerospace, Mechanical
23018	Jittu	GEORGE	Building Services, Mechanical
23054	Dinuka	GINIGE	Civil
22999	Damian	HADLEY	Structural
23071	Alireza	HAJJI MALAYERI	Mechanical
23017	Phillip	HALL	Civil
23041	Azim	HAMID	Mechanical
23091	Jordan	HANCOCK	Aerospace, Mechanical
23016	Malcolm	HANDS	Electrical
23003	Janusz	HARASYMIUK	Mechanical, Structural
23100	David	HART	Electrical, Information Telecommunications & Electronics, Management
23021	Ying	HE	Biomedical
23026	Yat	HIEW	Mechanical
22982	Mark	HORNERY	Metallurgical
23010	Matthew	HORSHAM	Civil, Structural
23105	Jonathan	ICIMSOY	Aerospace, Structural, Mechanical
22979	Matthew	INGERMAN	Civil - Public Works
23103	Run	JIANG	Mechanical
23042	Lara	KAYESS	Chemical
23015	Joel	KELLOWAY	Structural
22980	Nikolaos	KOKKINOS	Electrical
23061	Jan	KUBAT	Civil
23078	Chandrashekhar	KUMBLE	Electrical
23033	Rahim	KURJI	Mechanical
23019	Frank	LAM	Mechanical
23099	Brett	LANDELLS	Management, Mechanical
22997	David	MALLEN	Civil
23073	Brent	MARLEY	Information Technology and Telecommunications
23080	Alexander	MCLEOD	Electrical
23039	Kyle	MCMILLAN	Aeronautical

23031	Lee	MCMILLAN	Electrical
23079	Joel	MCNAMARA	Structural
22985	Aidan	MINKEVICIUS	Electrical
22995	David	MINTER	Mechanical
23077	Jimmy	MOANNES	Mechanical
23092	Ahmed Mohamed	MOHAMED	Civil
23085	Hazem	MOHAMED	Structural
23046	Abdul Majeed	MOHAMED ZIYATH	Civil
23101	Scott	MOORHEAD	Civil, Management
22981	Carl	MORANDY	Mining
23107	Mahmoud	MORSY	Civil
23063	Stephen	MOUNT	Environmental
22992	Timothy	MUGUIRA	Electrical
22996	Koki	MUKAI	Information Telecommunications & Electronics
23086	Tristan	MUSGRAVE	Management, Mechanical
23009	Angelito	NANA	Structural
18219	Ramin	NASIRPOUR	Electrical
23111	Prasheel	NATHU	Electrical
23051	Malik	NAVEED	Mechanical
23014	Chemmangot	NAYAR	Electrical
23050	Triet	NGUYEN	Mechanical
23102	Phuoc	NGUYEN	Structural
23094	Alireza	NOURSADEGHI MOUSSAVI	Mechanical
23090	Matthew	O'REILLY	Electrical, Management
23106	Jeong Soo	PARK	Electrical
23002	Mark	PARSONS	Management, Mechanical
23113	Ali	PARVIZI	Mechanical
23060	Amitkumar	PATEL	Electrical
03000	Bradley	PETHERS	Mechanical
17237	Loku Kaluthotage	PREMANANDA	Civil
23045	Imran	QAISER	Civil
23048	Md Anisur	RAHMAN	Electrical
23025	Pooria	RAHMANI	Mechanical
23084	Simon	RASMUSSEN	Chemical, Management
22633	Bernard	RICHARDS	Electrical
23013	Mustafa	SALAH	Civil
23022	Rahul	SELVARAJ	Mechanical
23095	Royston	SEQUEIRA	Mechanical
23082	Hasan	SHAHRIAR	Information Telecommunications & Electronics
23037	Jugjit	SIDHU	Mechanical
23088	Chad	SKELTON	Structural
23035	Anatoli	SLINKO	Electrical
23058	Szymon	SOBCZYK	Civil, Structural
23059	Patricia	SORBELLO	Electrical
12908	Robert	STEVENS	Mechanical
23000	Andrew	SULLIVAN	Environmental
13731	Anna	TAYLOR-HYDE	Building Services, Electrical

23027	Brian	TEAGUE	Mechanical
23005	Tor	TRAELAND	Mechanical, Structural
23028	Chanh	TRAN	Mechanical
23032	Bayu	TRIASWARA	Electrical
22993	Allan	TRUONG	Mechanical
23104	Trupti	UTEKAR	Civil
22989	Hugo	VALENCIA-REVATTA	Civil
23108	Renier	VAN ZYL	Mechanical
23006	Poh Kheong	VONG	Electrical
18038	Anthony	WALLIS	Civil
23064	Jade	WARBROOKE	Civil
23069	Hong Chye	WONG	Electrical
22991	Tao	WU	Civil, Structural
23066	Jonathan	XIE	Structural
23008	Yiu-Keung	YAU	Civil, Management
22988	Jian	YUAN	Mechanical
23001	Justin	ZANETICH	Civil
22983	Xi	ZHANG	Structural
23034	Ren	ZOU	Electrical

Best wishes to the following RPEQs who have retired or resigned:

Alan	WALLACE
Ross	CAMPBELL

CONNECT WITH BPEQ ON LINKEDIN AND TWITTER

Don't forget BPEQ is on LinkedIn and Twitter. To keep up to date with the latest news and events from BPEQ or to start a discussion on registration or engineering issues generally, click **FOLLOW.**

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