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Renewals

By now you should all have received your *Renewal Notice*. If you haven't, please email the Board on admin@bpeq.qld.gov.au

We are currently experiencing problems with the "Forgot my logon" and "Forgot my password" functions on our website. Our database consultant is currently looking into the problem and we hope to have this addressed quickly. In the meantime, if you do not know your password or are having problems logging on to process your renewal, please contact the office via email admin@bpeq.qld.gov.au. We will reset your password and advise you by return email as soon as we can. We would ask that you please be patient while this problem is being rectified.

Meaning of the term "public"

One of the main objects of the *Professional Engineers Act* is to "protect the public", Section 3(a). Some engineers and employers have taken the view that the Act does not apply to mine sites or other remote operations as "the public" is the community several miles away. This is not in fact a true interpretation of what constitutes "the public". The "public" includes a co-worker on a site, as well as any person who may in any way be affected by the provision of professional engineering services.

A Note from the Registrar..... I hope this issue of our Newsletter has been of interest to you and if you have anything you would like to see in future newsletters please do not hesitate to contact me.

I regularly undertake presentation on the Professional Engineers Act and its requirements to various organisations and to groups ranging from 5 persons to over 100.

If you are interested in a presentation please contact the Registrar: Clare Murray on (07) 3224 4632 or e-mail clare.murray@bpeq.qld.gov.au.

The importance of Continuing Professional Development

Continuing professional development (“CPD”) is one of the most important aspects of being a registered professional engineer of Queensland. With registration renewal season upon us, it is timely to reflect on why RPEQs are required to complete CPD, the requirements themselves, and consequences that may flow from failing to complete enough. Some best practice guidelines and tips are also put forward in hope of assisting RPEQs to appropriately select, carry out, and record CPD.



WHAT IS IT?

CPD, for all professional persons, is the means by which they maintain their knowledge and skills related to and applicable in their professional practice. For an RPEQ, completion of the required amount of CPD demonstrates satisfaction of the Board’s *continuing registration requirements*—that is, the RPEQ has maintained competency in the area of engineering for which he or she is registered. (1)

WHY IS IT SO IMPORTANT?

The Board is charged with ensuring that only engineers who are appropriately qualified, competent, and fit to practice are registered. This is accomplished by assessment of engineers during the initial registration process. Initial assessment, however, is obviously not sufficient to ensure that RPEQs initially assessed as competent to practice continue to remain so. The evolution of the practice of engineering is ongoing: new design, construction, and manufacturing techniques are constantly being discovered, developed and adopted; existing standards are reviewed, updated, and even repealed, and new standards are published; new materials are regularly discovered and implemented.

The Board expects that RPEQs will keep abreast of changes in engineering practice, and it is responsible for ensuring they do. Requiring RPEQs to undertake CPD allows the Board to ensure that RPEQs maintain current professional and industry knowledge. This upholds the standard of practice of RPEQs by ensuring that they always possess appropriate and up-to-date knowledge and skills to provide engineering services in a professional and competent way, and to maintain public confidence that RPEQs are at the forefront of modern engineering practice and can be relied on to deliver the highest standard of service.

WHAT ACTIVITIES COUNT? HOW MUCH DO I NEED TO DO?

If you are registered with an assessment entity approved by the Board (such as Engineers Australia or the Australasian Institute of Mining and Metallurgy) and participate in the continuing registration requirements of a scheme conducted by that entity, satisfying the Board’s continuing registration requirements is as simple as complying with that scheme.

If you are not, and choose to complete your CPD in accordance with the Board’s requirements, the Board expects RPEQs to undertake at least 150 hours of structured CPD over a three-year period, and expects the CPD undertaken to include a combination of activities such as:

- ◆ formal education and training (e.g. courses or lectures);
- ◆ informal learning activities (e.g. reading journal articles, product manuals);
- ◆ conferences and meetings;
- ◆ presentations and papers (either preparation of or participation in);
- ◆ service activities (e.g. CPD audit work, reviewing technical papers);
- ◆ industry involvement (for RPEQ academics only) (2)

These categories are not, however, closed, and other activities not listed above may be considered by the Board as CPD. If you are concerned that an activity you have undertaken does not clearly fall within one or more of the above categories, but still consider it should be classified as CPD, please do not hesitate to contact the Board to discuss.

The importance of Continuing Professional Development cont...

WHAT HAPPENS IF I DON'T DO IT?

When considering an application from an RPEQ for renewal or restoration of registration, the Board must consider the extent, if any, to which the applicant has satisfied the Board's continuing registration requirements—that is, completed at least the required 150 hours of structured CPD. If an RPEQ has failed to do so to an unacceptable extent, the Board may legitimately refuse to renew his or her registration, because the Board is entitled to infer from that failure that the RPEQ has not maintained his or her competency to practice.⁽³⁾ Even if the Board does not refuse to renew renewal of registration, it may impose registration conditions, such as an increased amount of CPD required for the next financial year, more regular CPD reporting and auditing, or periods of supervised practice.⁽⁴⁾ Even though conditions may seem less serious of an outcome than non-renewal of registration, failure to comply with those conditions can be a ground for the Board to discipline an RPEQ.

BEST PRACTICE SUGGESTIONS

Below are four best practice suggestions that RPEQs may wish to implement to assist in planning, completing, and recording CPD activities.

1. **Keep a proper CPD log**

All RPEQS should keep a formal CPD log. A simple Microsoft Excel spreadsheet can be used to record details of each CPD activity undertaken, including the date/s on which each activity was undertaken, a detailed description, the provider, the number of CPD hours claimed, the area of engineering to which the CPD relates, and the type of CPD (with reference to the recognised types of CPD as stated above or "other" if it does not fall within one of them). Each CPD year can be displayed in a separate spreadsheet tab, to allow easy reference to what CPD was completed in what CPD year. In the following example, Edward Engineer RPEQ, eminent academic and a highly regarded professional engineer registered in both the Civil and Structural areas, has comprehensively recorded CPD he has undertaken so far in 2014.

Date	Description of event	Provider	CPD hours	CPD Area	CPD type
1/1/2014	<i>Study of ENG403 Advanced Civil Engineering Design for Skyscrapers-- a unit from my Masters of Engineering (Structural) by</i>	<i>Ipswich University of Technology</i>	<i>25 (5 x 5 hour lectures)</i>	<i>Structural</i>	<i>Formal education and training</i>
1/2/2014	<i>Perusal and analysis of the journal article called Carparks Capitulated: a Sad Story of Rotten Roadbase and Incompetent Inspections by Roger Hawken, published in the Moreton Bay Regional Engineering Journal 2001, no. 3.</i>	<i>Roger Hawken (author) and Pine Rivers Engineering Journal (publisher)</i>	<i>5</i>	<i>Civil</i>	<i>Informal learning activity</i>
1/3/14 to 2/3/14	<i>Attendance at Roger Hawken Memorial Civil Engineering Conference, Bald Hills, Queensland, Australia.</i>	<i>Australian Organisation of Civil Engineers</i>	<i>10</i>	<i>Civil</i>	<i>Conference or meeting</i>
1/3/2014	<i>Presentation at Roger Hawken Memorial Civil Engineering Conference--Potholes in Brisbane City Council roads: What's to be done?</i>	<i>Me</i>	<i>2</i>	<i>Civil</i>	<i>Presentation or paper</i>
1/5/2014	<i>CPD Audit carried out for the Organisation of Structural Engineers Australia</i>	<i>Me</i>	<i>5</i>	<i>Structural</i>	<i>Service activity</i>
1/6/2014	<i>Providing the Board of Professional Engineers of Queensland with an opinion on the difference between hydrology and hydraulics in my capacity as a PhD (Civil Engineering—Water Management) and Senior Lecturer (Part time) at the University of Logan</i>	<i>Me</i>	<i>15</i>	<i>Civil</i>	<i>Industry involvement (academics only)</i>

The importance of Continuing Professional Development cont...

Keeping a comprehensive log of your CPD will ensure that you have an accurate record of your CPD. It will also enable you to see how much has been completed and, more importantly, how much is still needed. It will also make any CPD compliance audit (whether conducted by the Board or your assessment entity) much more straightforward.

2. **Keep detailed records of it**

A CPD log, however, is only one aspect of recording your CPD. RPEQs should also keep detailed notes about each CPD activity they undertake, to demonstrate that each activity was, in fact, completed, and has not just been added as “padding” the CPD record. This is especially important for conference attendances and journal articles, engagement in which can really only be evidence by notes taken showing that conference sessions were attended or the journal article was read, and the RPEQ applied his or her mind to the task and took something out of it. Below are Mr Engineer’s notes about his perusal of Roger Hawken’s scintillating article, *Carparks Capitulated*.

Date: 1 February 2014

Subject: Read journal article by Roger Hawken, *Carparks Capitulated: a Sad Story of Rotten Roadbase and Incompetent Inspections* by Roger Hawken, published in the *Moreton Bay Regional Engineering Journal* 2001, no. 3

Notes

An interesting anecdote on a terrible failure of building contractors apply roadbase correctly, but an even more inexcusable failure of the inspecting RPEQ not to notice that the consistency of the roadbase laid was totally inadequate. What the hell was he thinking! Although I rarely conduct civil inspections nowadays, the issues Hawken raises on page 12 of the article are something I should note, and I have copied those out and placed them

and here are his notes from a session from the Roger Hawken Memorial Civil Engineering Conference.

Conference session 1. 9:00am to 10:00am. Opening Plenary. Professor Kouwes Itall, from the Brazilian Engineering Association. Talking about tailings dam construction practices in Brazil and how they differ from Australia. Interesting subject for an opening plenary, but tailings dam design is more applicable to the Civil area than the Mining area, I would think, so I suppose it might be of interest to most of the people here, considering how much mining work we’re getting. Interesting also that the regulations are similar to those DEHP administers here in Queensland. A few differences, though. Firstly, they have an additional classification (additional to High, Significant, and Low) they have “Moderate.” I think that’s a reasonable idea, although it means additional requirement-drafting by DEHP (and of course us engineers have to follow those requirements) I have identified that when I’m classifying tailings dams sometimes I don’t quite think a dam satisfies the “Significant” requirements but shouldn’t be classified as low. Perhaps something to suggest if there are ever calls for submissions on the issue. Secondly, drastically different requirements for containment storage for wet season and storm events, there are different requirements for different regions, even within the one state. Must be a much wetter environment over there in certain places over others, that makes sense. I’ll have to go ask him about how that additional classification class is working out sometime during the conference. The shear strength parameters were also somewhat different than what we use here, based, he said, on a new study out of the US regarding the issue. I’ll have to make sure to get a copy of that one and read it over for that CHP Cilliton job I’ve got coming up.

You should also keep receipts for all conference, journal, and course purchases from all CPD you log, to prove your payment for it in case of an audit. As with your annual tax return and supporting, the Board recommends keeping these records for at least seven years (it may be that the same documents are relevant to both your CPD and tax return, anyway).

The importance of Continuing Professional Development cont...

3. *Participate in a mixture of CPD activities*

Because the Board contemplates that CPD should include a *combination* of the abovementioned activities, it is important for RPEQs to undertake many different types of CPD. It is not sufficient to have all your CPD activities as “Informal learning activity,” for example. This is a requirement of Board policy, but also a sensible standard for a responsible RPEQ to set for himself or herself, because if you are only really reading journal articles, you are missing out on the many other learning activities that are open to you and that could possibly further your knowledge and expertise in your field. The Board does encourage you to read journal articles, but also to go further: to attend different information evenings and product launch events; to attend conferences, listen to presentations, and engage in networking and discussion with your peers; to enrol in a training course regarding, for example, a new and innovative non-destructible testing method; to further your education with some part-time study. The more diverse the CPD activities undertaken, the more capacity there is to grow as a professional.

In the example CPD log above, Mr Engineer has undertaken 25 hours of formal education and training, 5 hours of informal learning, 10 hours of conferences, 2 hours of presentations, 5 hours of service activities, and 15 hours of industry involvement, for a total of 61 hours so far this year. The Board would, in all probability, consider that the CPD he has undertaken is balanced appropriately across all categories. There is no hard and fast rule regarding particular percentages of each type of CPD activity that should be completed, but the Board always wishes to see a genuine effort being made to complete CPD activities of a range of types.

4. *Don't leave it to the last minute!*

The longer you delay completing your CPD, the less options will be available, the harder it will become to find appropriate activities, and, in all likelihood, the more it will cost! The following is a personal anecdote from the Board's Senior Legal Officer which, although it relates to solicitors' CPD, is also illustrative for RPEQs. He recently chose to participate in a CPD course regarding administrative decision making processes, a subject highly relevant to his position and his work at the Board. In the next room, he relates, there was a session cleverly marketed to allow practitioners to: “*Get your CPD obligations satisfied last-minute—10 HOURS IN ONE DAY!*” The mood in that session was... well, sombre would be putting it lightly (he is unsure whether half of the participants were actually awake!). While that session seemed like drudgery, the participants in his session were all highly engaged with the presenters and benefited greatly from the presentations provided, and it seemed that all participants took away many new concepts and ideas to implement in their respective practices. It was clear that, unlike the participants in the other session, they all wanted to be there and genuinely intended use the session to assist them in further developing their professional skills. In the end, the participants in which session do you think benefited from that day the most?



RPEQs do not carry out (and pay for!) CPD just to remain registered—CPD is about continuing growth and development as a professional. Ultimately, this commitment is what will enable you to continue to practice in a professional and competent way and thereby attract and retain more and satisfied clients, or satisfy and exceed employer needs and expectations.

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**Please note that, if you hadn't guessed, Edward Engineer and the examples of his CPD given in this article are fictional.*

(1) Professional Engineers Act 2002 (Qld) s 16(1) / (2) Board Policy 1.3(4A) Continuing Registration Requirements (CRR), 17 December 2009. / (3) Professional Engineers Act 2002 (Qld) s 20(2)(b). (4) Professional Engineers Act 2002 (Qld) s 21(2).

Monthly Case Update



Each month, the Board provides brief summaries of disciplinary investigations of RPEQs, disciplinary proceedings against RPEQs in the Tribunal, and prosecutions of persons for offences against the PE Act.

Professional conduct—unsatisfactory professional conduct—structural engineering—inappropriate issue of a Form 16 Inspection Certificate

The Board received a complaint that an RPEQ had certified the wall and roof framing aspect of the frame stage of a cold-form steel shed structure by way of a Form 16 Inspection Certificate under the *Building Act* in circumstances where defects in the structure meant that the work was not of certifiable quality. It emerged from the Board's investigation that the RPEQ had inspected the structure, refused to certify it, and directed the builder to carry out the appropriate rectification work with a view to certifying it after a second inspection if it was rectified to be compliant.

However, after the inspection he had returned to his office and prepared a draft of an appropriate Form 16, and signed and dated it in contemplation of issuing it after the second inspection, if the building was compliant at that time. The draft Form 16 was incomplete (sections 1 and 3 were not filled out), was not marked "Draft" or "Do Not Issue", and was dated the day of the initial inspection, when the works were clearly not of certifiable quality on that day (hence his refusal to certify on that day). Because it was signed and dated and was not marked as a draft, although it was a draft, for all intents and purposes it appeared a valid and proper Form 16.

Subsequently, the builder telephoned the RPEQ's office when the RPEQ was not present asking for the Form 16, and unfortunately an administrative staff member issued it to the builder, who presented it to the building certifier and obtained certification of the wall and roof framing aspect of the frame stage of the structure. The Board found that the mistaken issue of the Form 16 was not the fault of the RPEQ, but that preparing, signing, and pre-dating a draft Form 16 in those circumstances was conduct of a lesser standard than that which might reasonably be expected of an RPEQ by the public or the RPEQ's professional peers, and conduct that demonstrated a lack of judgment in the practice of engineering. The Board cautioned the RPEQ.

RPEQs should not pre-date forms such as Form 16s, because by signing one an RPEQ is certifying the work as *at the date of the signature*, and therefore if a form is pre-dated, the work would not have, in fact, been of certifiable quality on that date. Furthermore, by not pre-dating forms, the RPEQ can avoid all risk of them being mistakenly issued, as was the case here.

Professional conduct—unsatisfactory professional conduct—structural engineering—inappropriate design certification by way of a Form 15 Design Certificate for building Design or Specification, and Inappropriate issue of a Form 16 Inspection Certificate

The Board received a complaint that an RPEQ had: (1) incorrectly concluded the cause of a failure of a shade roof structure; (2) provided design and design certification for the rectification of the structure that did not provide suitable detail for: (a) the connection of the stub columns to the existing wall frame; and (b) sufficient resistance to lateral loads; and (3) providing certification of the rectified structure that included certification of a connection provided by the building contractor and not by the designer of the structure.

Monthly Case Update cont....

It emerged from the Board's investigation that the RPEQ's conclusion about the cause of the failure in the structure was indeed incorrect, that the detail for the connection of the stub columns to the exiting wall frame and for resistance to lateral loads was not sufficient, and that the RPEQ did not actually inspect the connection provided by the builder, but instead relied only on the builder's verbal description of it. The Board found that although the RPEQ was incorrect in his conclusion about the cause of the failure, RPEQs can have different opinions on engineering matters.

The Board found, however, that in both the RPEQ's design and design certification and inspection of the rectified structure, aspects of the RPEQ's conduct could have been of a higher standard: (1) the design should have included detail for the connection of the stub columns to the existing wall frames; and (2) the RPEQ should have more diligent in the inspection and should not have relied solely on the builder's verbal description of the installed connection to determine its appropriateness. The Board cautioned the RPEQ.

The Board's position is, of course, that RPEQs should undertake design of structures to the appropriate standard, but specifically regarding the reliance on the builder's description of the adopted connection, that RPEQs should not rely on descriptions from third parties of building components to be certified and should obtain actual (that is, in person inspection) or constructive (that is, photographs, diagrams, or a detailed description from an appropriate competent and experienced RPEQ) knowledge of the component before considering whether to certify it.

Offences against the PE Act—section 115(1) carrying out professional engineering services when not an RPEQ—mechanical engineering—redesign of a drill rig and certification of the redesign work

The Board recently concluded a Magistrates Court of Queensland (“**Court**”) prosecution of a non-RPEQ engineer for two offences against section 115(1) of the PE Act—that is, carrying out professional engineering services when not an RPEQ—for the engineer's conduct in: (1) redesigning of a drill rig to repair it and increase its working load limit from 500kg to 680kg; and (2) preparing and presenting a written engineering report certifying the redesign work was carried out satisfactorily.

The Court found that both the redesign of the drill rig and the preparation of the report confirming the successful redesign were professional engineering services, and the engineer admitted that he did not carry out the work under the direct supervision of an RPEQ who was responsible for the services. The Court found the engineer guilty of two offences against section 115(1) of the PE Act, and imposed a penalty of \$2,000 and costs of \$4,000, with no conviction recorded.

