General Practitioners June 2020 Newsletter

Welcome to our newsletter to members.

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Message from the Chair

Hi all.

Well… much has happened since our last newsletter went out. The biggest event of course has been an international pandemic and our government's reaction to it – an unprecedented lockdown of the country. From a public health perspective this seems to have been a success, and from a business perspective we will have to wait and see.

The turmoil has affected us all. It has changed many things quite drastically and in ways that will be with us for a long time - some of these probably for much longer than the virus itself. For us as general practitioners these changes range from the way we work to the nature of our work, to the ways we interact with work colleagues, peers and clients.

From a work perspective there has been a paradigm shift for many of us. For my own practice this has meant a realisation that we can work from home and has led to the likely permanent closure of our office with a number of savings contributing to the improvement in our bottom line. We have seen no turndown in business as yet and we look to be on track for a year showing reasonable growth. The spinoff has been a staff that feels valued and, with the ability to improve work life balance on their own terms, productivity has gone up.

I know this is not so for all GP engineers, but I wonder that we are uniquely placed through our very ability to work across a range of disciplines to weather this storm. It would be interesting to

hear how other GP engineering businesses have experienced the events of the last couple of months. Please write to us via the Slack Channel and let us know what special needs you may have at this time – one of the main reasons for establishing the SIG was to help support engineers who identify as general practitioners.

The internet has, I think, been our saviour – it has enabled information to be shared and for meetings to be held in unprecedented ways. We have all been forced to familiarise ourselves with technology that we knew existed but was held somewhat at arms-length simply because life seemed to be too busy to take the time to learn.

In the meantime the Committee has continued to work at pushing forward the various agendas that we identified before the virus reared its ugly head and turned the world upside down. A new website has been established and the program of professional development, including web-based lectures and tutorials have continued. We are working on a series of these with the goal of presenting one every month. Watch for these and please let us know if we are hitting the mark or if there are other subjects that you would like to see explored. These will be archived to the website along with links to any material that we think will be of value to EGPs. In time, we hope to have these indexed.

Work is also carrying on to improve our relationships with TA's and to re-establish recognition for the importance, professionalism and value to the country of the general practice engineer.

In all of this Engineering New Zealand, both their staff and the board, has been invaluable - without them much of what we are working on would not be achieved. We are growing and with increasing numbers (now at 127) I know our voice is getting heard.

Pete van Grinsven

The EGP (not so one) Five Question Survey

In this issue, the General Practice Engineers group want to get your views on how you relate to the New Zealand Standards that govern your work. We've stretched our One Question Survey out to five questions this time but it should only take a minute to complete the survey below:

1) How do you access Standards?
    a) Paper copies in house
    b) PDF copies downloaded
    c) On line
    d) Other (Specify)…….
2) Do you keep your in-house standards up to date?
    a) Yes, of course! Diligently.
    b) No, I think some may be out of date.
3) Do you subscribe to SNZ?
    a) Yes
    b) No
4) Philosophically, do you consider Standards should be free to all end users?
    a) Yes
    b) No

5) Are you/your company part of the Engineering New Zealand subscription plan? (details of the Engineering New Zealand scheme are listed below)

a) Yes
b) No

Take Survey

NZS and AS/NZS Standards Discount Deal

You can access Standards heavily discounted through your Engineering New Zealand membership using the application form (link below). The exact pricing is dependent on the number of concurrent users. For most firms the price will be under $500 + GST for access to the whole library. You can find the details here.

Better Learning from Mistakes

Opinion by Gordon Hughes

Over the last few years I have carried out reviews of over fifty structures. More than half of them had multiple significant and serious mistakes and one had even suffered a partial collapse under wind loads.

Many of the mistakes I see are the same or similar even though the structures have been designed by different engineers from different firms. In the examples I reviewed the engineers are experienced, and from mid-sized and multinational practices.

It is said that a smart person learns from their mistakes and a wise person learns from other people's mistakes. I don't believe we, as structural engineers, are doing enough to learn from our own nor other's mistakes.

One reason this is happening may be a reluctance in our structural engineering culture to be open about reporting mistakes. Fear of consequences and confidentiality agreements lead to the suppression of information. Embarrassment and shame hinder willingness to share. The regulator does not adopt a proactive approach on learning from mistakes - they last issued a practice advisory three years ago and, despite assisting in the preparation of a draft practice advisory (PA) on learnings from Masterton, declined to issue it.

Contrast this with aviation, where sharing of information and a "no blame" culture is encouraged at all levels. I have been a part-time pilot in commercial operations for over forty years on charters, low-level surveys, pipeline patrols and international competitions. I credit the "no blame" approach as an important factor in me not bending any aircraft so far in my career, and having a successful emergency landing at Helsinki International Airport after the loss of a nosewheel.

Right from first learning to fly, reporting of all incidents is encouraged. In New Zealand both the Civil Aviation Authority (CAA) and Transport Accident Investigation Commission (TAIC) publish summary and detailed reports on incidents and accidents, even minor ones because it is acknowledged that a series of small mistakes can themselves lead to accidents. CAA also publishes a quarterly safety magazine called Vector and has safety officers stationed around the country.

I understand that this culture originated with NASA's Safety Culture programme which started in 2009 and was then adopted in the aviation community around the world. One aspect of the NASA programme is what is known as "Just Culture" where the goal is to investigate and correct root causes of mistakes. Just Culture balances the need for discipline of blatant and reckless behaviour with the need for people to be able to report safety concerns without risking blame.

The culture in structural engineering is the opposite.

In a number of cases in my experience engineers continued to deny mistakes for periods of years. We hide our mistakes, we do not openly share our experiences. If we are to learn from mistakes, we need to know about them and own them.

You may be aware of CROSS (Confidential Reporting of Structural Safety, www.structural-safety.org) which started in the UK sponsored by IStructE and ICE and extended last year to Australasia as CROSS-AUS (www.cross-aus.org.au) and CROSS-US (www.cross-us.org) has just been announced for the USA. They provide safety reporting schemes to capture and share lessons learned from structural safety issues, and their panels provide expert advice to help engineers learn from the experiences of others.

CROSS-US

Confidential Reporting on Structural Safety - US

SEI ASCE STRUCTURAL ENGINEERING INSTITUTE

Newsletter No. 1 | March 2020

Editorial

DIRECTOR: Glenn R. Bell

DIRECTOR: Andrew Herrmann

Launch of CROSS-US

We are pleased to publish this very first newsletter of Confidential Reporting of Structural Safety-US (CROSS-US). Established in the summer of 2019, CROSS-US is part of a growing international network of CROSS entities, all based on the original CROSS system started in the UK in 2005 under the leadership of Alastair Soane. CROSS-US is the fourth, following the UK, South Africa, and Australasia, in what is envisioned to be a large global network for sharing information on structural failures, near misses, and other safety concerns. The potential global impact of improving practice and reducing failures is enormous.

The motivations for establishing CROSS-US were twofold. First, there has long been interest and, indeed, considerable activities, in the US in learning from the performance of our built environment. Some past and present activities in the US include creation of the Architecture and Engineering Performance Information Center (AEPIC) at the University of Maryland, establishment of the ASCE Forensic Engineering Division, publication of the ASCE Journal of Performance of Constructed Facilities, numerous Wikis and other web publications, as well as conferences, books, and university curricula. These efforts have been highly effective, and CROSS-US is not intended to replace them. CROSS-US, however, supplements these activities through a proven system for reporting and discussing issues, well-honed through fifteen years of experience and offering confidentiality and the expertise, integrity, and impartiality of a distinguished, expert Panel. We are concerned with both the technical and procedural causes of failures so as to improve public safety. Our goal is to make CROSS-US the go-to resource in the US for information on structural failures, incidents, and safety concerns. The second motivation for establishing CROSS-US is to join an

CROSS-US

VISIT: www.cross-us.org > EMAIL: administrator@cross-us.org >

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HOW TO REPORT

For more information, please visit the How to Report> page.

If you have experienced a safety issue that you can share with CROSS-US, please Submit a CROSS-US Report> If you want to submit a report by post, please send an email to administrator@cross-us.org> asking for instructions.

KEY

(R) CROSS-US Report

(C) CROSS-US Panel Comments

(N) News

(I) Information

(M) In Memoriam

> Denotes a hyperlink

CROSS-US March 2020 Newsletter

Structural Engineering in New Zealand needs a cultural change and the change has to start with us. We can begin by sharing information and welcoming learning from mistakes.

Positive steps we can make include:

- Not signing confidentiality agreements unless there is a provision for sharing information in an anonymised format
- Sharing information on mistakes promptly and widely
- Celebrating learning from mistakes as a powerful tool
- Contributing short snippets to the SESOC journal
- Participating in structural and other discussion groups
- If there is no local group, establish one
- Do not keep information on mistakes in-house
- Peer Reviewers should regularly and openly share information on common mistakes
- Encourage insurers and others to report information on mistakes in an anonymised manner
- Encourage SESOC and the Regulator to be proactive in promoting learning from mistakes
- Promotion of a 'Just' culture in the profession, by the regulator and by individual structural engineering organisations

Gordon is a structural engineer with over 40 years of experience. He is a Fellow of Engineering New Zealand and a Life Member of SESOC as well as a committee member on the Engineering General Practitioners group. This article was based on a talk given for the 'Lightning Session' at the SESOC Conference, August 2019. To watch another one of Gordon's very popular presentations: 'Learning from Structural Mistakes' given at the Auckland Structural Group in October 2019 click the following link: www.youtube.com/watch?v=VjcagVEtVKQ&t=1084s

New website launched

Do you have a colleague who is interested in joining the Engineering General Practitioners? Point them to www.egpnz.org This has all the details about who we are how to get in touch and a link to sign up. We will also be adding past newsletters, CPD webinars etc.

Defining a GP Engineer for CPEng Assessment

Thanks to those who gave an insight into the diverse fields of work that Engineering General Practitioners are involved in. This will help to define us as a distinct group within Engineering New Zealand. We are keeping the survey open for a bit longer to get as many members as possible to contribute.

Click to download the 'defining a GP engineer' survey

Continuing Professional Development

If you missed attending the recent webinar by Adam Thornton titled *Durability, Peer Reviews* or any other webinars, you can watch a recording on our website!

Upcoming Events

Joe Bain from the Engineering New Zealand Safety Group is preparing a series of webinars on *Safety in Design* with some examples that will be relevant to EGP group members. Look out for this in future communications.

We are also looking at a range of geotechnical subjects suitable for Engineering General Practitioners – stay tuned.

Please feel free to share a topic of interest and perhaps a suggested presenter to: general.practitioners@engineeringnz.org.