

Editorial

Rajen K. Lavingia PhD
Cadogans, Glasgow, UK

Douglas Neville Eur Ing, LL.M, BSc(Hons), CEng, FICE, FISTructE,
FConsE, FCInstCES, MCIArb
Hill International (UK) Ltd, Edinburgh, UK

This themed issue of *Forensic Engineering* concentrates on the place for forensic engineering in legal and insurance matters. Papers were invited from forensic engineering practitioners, lawyers, insurers and industry commentators.

When materials, products, structures or components fail or do not operate or function as intended, a combination of personal injury, damage to property or financial loss can occur. If such an event happens some form of investigation, such as a public enquiry, is likely to ensue and if in dispute, litigation or an alternative dispute resolution method such as arbitration, adjudication or mediation may follow. In most of these instances, criminal or civil law will be applied. In civil law, the insurance market often bears the brunt of the costs.

Forensic engineering is used to reveal the causes of such failures and independent practitioners are often appointed through legal advisors and/or insurers seeking to determine the reasons for failure so that responsibility can be apportioned.

In many instances the appointment to carry out a forensic engineering service will be done through an appointment to act as an expert witness. Although the role of the expert witness is to assist the decision maker (e.g. judge, jury, tribunal or adjudicator) it is common for the parties to a dispute to appoint their own expert witnesses. This can give rise to tensions between client and expert and expert to expert which, in litigation, will be open to the public. In private dispute resolution, it is often observed that the privacy that protects the parties has the unintended negative effect of preventing learning of lessons and dissemination of knowledge.

The paper by Powell (2015) provides an insight into construction claims from the viewpoint of the insurance broker. G&A is one of the leading insurers of construction professionals, particularly consulting engineers, which puts G&A in an almost unique position of being aware of the sources and impact of claims for professional negligence against consulting engineers. Powell examines the factors, both environmental and project specific, that influence the volume and size of claims. His analysis is augmented by several very appropriate graphs and charts that illustrate the source of claims, the prevailing form of contract, the stage in the contract when the alleged errors occurred and the relative cost to settle. He concludes with some advice to those who may face claims on measures that can be taken to lessen the risk of a claim arising. Consultants – ignore those at your peril!

When structural damage occurs and disputes arise, forensic engineers have to search for the causes of this damage to find out who can be held liable for it. Legal systems need to provide an adequate,

reasonable, effective and complete way to solve these disputes. Different legal systems, for example Civil and Common law, can result in differences in the distribution of liability between parties in each country. Our second paper by Boot *et al.* (2015) provides an overview of the Dutch legal system with a focus on liability, dispute resolution and insurance. The paper also compares Dutch and English systems and provides advantages and disadvantages of the same. The paper concludes by noting that society and construction undergo continuous change and that the legal framework, in this case Dutch, must also adapt and change to keep pace and that lessons can be learnt from other jurisdictions.

Our third paper by Hsu *et al.* (2015) discusses the introduction of Building Information Modelling (BIM) into the architectural, engineering and construction industry in Taiwan and the legal issues that may arise in the process. BIM has gained a lot of attention in recent years due to the increased efficiency and convenience it can provide to the construction industry in general. However, BIM comes with its own legal challenges that can arise from flawed and incompatible software packages, ownership of intellectual property rights and whether or not BIM should be used in the Taiwanese construction industry where paper communication is still prevalent. Whilst the challenges of utilising BIM may be inevitable, their resolution is essential if further development in its use is to be achieved. The authors illustrate with many references the current state of the introduction of BIM into Taiwan and some of the legal issues that need to be addressed.

Our fourth paper is written by a practicing expert witness and gives us an insight into the world of the forensic expert and of the pitfalls that await the unwary (Wassermann, 2015). In spite of the best intentions of the parties involved in a project, disputes often arise. It is neither too soon nor too late to appoint an expert witness in these unfortunate situations. Wassermann considers the process of instruction of an expert engineer and what information should be provided to them. The paper also discusses evidence required in a desktop investigation or site visits illustrated by case studies. She identifies some of the pitfalls, including those that can occur while using photographic evidence, and provides hints for a successful forensic investigation.

Learning from past failures and investigations is an important aspect of advancing the knowledge in engineering. Our final paper by Carpenter (2015) focuses on the need for the availability of comprehensive and timely information following an accident to allow the construction industry to learn from such incidents. The paper finds that at present, the availability of such data is limited to major accidents where a public enquiry or similar may be carried out. The paper also finds that the availability of data in civil

Offprint provided courtesy of www.icevirtuallibrary.com
Author copy for personal use, not for distribution

investigations is often hindered due to the vested interests of the parties involved and that the lack of an overarching authority to insist on the release of data greatly hinders the learning process.

REFERENCES

- Boot W, Terwel K and Strang H (2015) Legal matters related to structural damage in the Netherlands. *Proceedings of the Institution of Civil Engineers – Forensic Engineering* **168(3)**: 117–126, <http://dx.doi.org/10/1680/feng.14.00017>.
- Carpenter J (2015) Release of data following a serious incident in the UK construction industry. *Proceedings of the Institution of Civil Engineers – Forensic Engineering* **168(3)**: 140–147, <http://dx.doi.org/10/1680/feng.14.00009>.
- Hsu K-M, Hseih T-Y and Chen J-H (2015) Legal risks incurred under the application of BIM in Taiwan. *Proceedings of the Institution of Civil Engineers – Forensic Engineering* **168(3)**: 127–133, <http://dx.doi.org/10/1680/feng.14.00005>.
- Powell T (2015) Trends and influencing factors in professional indemnity claims. *Proceedings of the Institution of Civil Engineers – Forensic Engineering* **168(3)**: 109–116, <http://dx.doi.org/10/1680/feng.15.00009>.
- Wassermann D (2015) Hints and pitfalls: the successful expert witness. *Proceedings of the Institution of Civil Engineers – Forensic Engineering* **168(3)**: 134–139, <http://dx.doi.org/10/1680/feng.14.00010>.