



Not Your Grandfather's Risks Anymore

By Brent White, P.E., S.E., SECB

The Author recently had a conversation with a structural engineer who has been retired for over fifteen years. During his career, he observed many changes in the practice of structural engineering and the tools available to assist in his practice. The conversation turned to the current state of structural engineering and the many challenges today's practicing structural engineer faces. He was amazed at the various "balls that need to be kept in the air" to successfully practice engineering and compete in today's marketplace.

These differing challenges are really an identification of risks we face as we practice structural engineering today. The list of risks is lengthy. In reality, the practice of engineering is a practice of managing risks. The very act of analyzing and designing a structural system of any type is recognition of risk and the ability to apply physics, mechanics, skill and some artistic license to manage understood risk.

Beyond the science of engineering, our practices face risks that must be properly managed if we are to remain competitive in the marketplace. This engineering market we are all part of places risk on us and our firms. Project delivery methods, projects schedules, fee pressures, scope creep, the level of expectation from client and owner, the use of building information modeling (BIM), expanding codes and design guidelines are all examples of increased challenges and risks that the retired engineer, mentioned above, may not have been forced to deal with.

From the author's personal experience, the only reasonable way to recognize, understand, and manage risk is to have risk management be an integral part of firm culture. Risk management is everyone's business. Maybe a better way to say it is that it is an obligation of every member of the firm. With varying degrees of experience and understanding, it can be a daunting task to keep everyone on the same page relative to risk management and risk avoidance. Active participation in professional associations is an essential element in developing a firm culture of excellent technical skills and successful business practice. Technical training and knowledge gained through professional associations is vital. Just as vital is the knowledge and understanding available through professional associations such

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as CASE (Coalition of American Structural Engineers) relative to crucial business practice and risk management.

CASE has outlined 10 foundations of risk management and business practice activities providing value to members. The foundations are: Culture, Prevention & Proactively, Planning, Communication, Education, Scope, Compensation, Contracts, Contract Documents, Construction Phase. CASE has developed numerous products around these foundations that assist firms in addressing business practice issues and developing risk management skills. There are over 60 guidelines, contracts, and other tools that directly address many of the challenges mentioned in this article. These tools can help practicing structural engineers and firms enhance risk management development and business practices knowledge.

One example of an excellent publication that most firms can benefit from is *A Guide to the Practice of Structural Engineering*. This document is a concise training tool for younger or inexperienced engineers that teaches the business of consulting structural engineering. Most engineers complete academic studies feeling much more confident in technical skills with little understanding of how the business of engineering works.

A Guide to the Practice of Structural Engineering is an updated and revised tool that can assist in the acclimation of less experienced structural engineers to the business and operation of a successful consulting engineering business. This concise and invaluable document was developed by a group of structural engineers who, through their collective experience, recognized the need to speed up the development of young engineers. The PDF format allows the user to learn the various aspects of the consulting engineering business by topics. The user can learn and understand in a self-paced atmosphere,

and can verify his/her understanding by completing the interactive quiz at the end of each section. This tool is also a great refresher for more experienced engineers that are beginning to face the demands of project and business management.

A second example is a tool entitled *Create a Culture for Managing Risks and Preventing Claims*. Centered around the foundation of Culture, this tool outlines methods and activities that are intended to help a firm in developing a culture of risk management and claims prevention. Changing the culture of an organization that has been deeply embedded can be challenging, however this tool was developed to assist firms in meeting this challenge. The recommendations and methods are adaptable to any firm size, and are structured to assist in developing and understanding that risk management begins at the cultural level of the firm.

Today's challenges can be met. It requires a different set of tools and knowledge than the aforementioned retired engineer may have needed, but those tools are available, and the author finds them invaluable. ■

Brent White, P.E., S.E., SECB (brentw@arwengineers.com), is president of ARW Engineers in Ogden, Utah. He serves as the chair of the CASE Toolkit Committee and is a past-president of the Structural Engineers Association of Utah.

A listing and description of all CASE publications can be found on the CASE website, www.acec.org/case. All tools are free of charge for CASE member firms. Tools are available to non-member firms for nominal fees. If you are interested in joining CASE, refer to the website or contact Heather Talbert, htalbert@acec.org.