



## Do You Know the Standard of Care?

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Most structural engineers understand that they should perform their engineering services with no less than the skill customarily exercised by other structural engineers in similar circumstances. Most likely, their employer or a colleague told them so at some point in their early careers, or they overheard other engineers discussing the issue in the context of a legal action. Beyond this probably brief introduction to the issue, and perhaps a few casual conversations here and there, it is reasonable to assume (without the benefit of a poll) that most engineers are not particularly familiar with professional liability laws governing their profession, are not conversant on legal specifics or potential legal pitfalls, or know how the legal system would deal with them should their professional acts or omissions be alleged to have caused harm to another party.

Why should structural engineers be expected to be better informed? The topic is not addressed in most university engineering curricula or in the professional licensing examinations, both of which are mostly technical in nature. Moreover, thanks to the 10<sup>th</sup> Amendment to the U.S. Constitution, the legal landscape for engineers is largely shaped at the state level. And, every state has its own set of rules, regulations, and legal precedents, phrased with different words and emphasis by various legislators and judges. What might be acceptable in one state might not be acceptable in another, even neighboring, state. Reviewing in detail a state's Professional Engineering Act and the associated Administrative Rules, and reading precedent-setting court opinions, is not high on the to-do lists of many engineers. And if you are registered in many states... Well, you get the picture. So it is easy to understand why an engineer might struggle to stay abreast of and understand in detail what is expected of him or her.

They say, "ignorance of the law is no excuse." Having a good understanding of your legal responsibilities is more important than ever because many engineers are licensed and practice in several states. What is customary in one, may not be so in another. Also, codes and standards are becoming more standardized and national in nature, meaning more uniformity and perhaps a higher level of required engineering skills across the country. Gone may be the days when an engineer can say that "we do not do that around here."

### Negligence as the Standard of Care

In today's engineering world, negligence has become the common tort standard for judging whether damages are due to the injured, as a kind of middle ground between the law of the jungle and strict liability. You might think of it as a judicial system, rather than an administrative or legislative system, "designed" to optimize the cost spent on preventing damaging events. Over time, the collective actions and reactions of thousands of engineers to market pressures and legal actions define what society expects from professionals.

So what is the definition of negligence and under what circumstances could a structural engineer be found negligent? Negligence has been defined as the failure to exercise the care that a reasonable person would in similar circumstances. Putting this in an engineering context, negligence is a failure to exercise the care that is customarily exercised by similarly competent or experienced engineers in performing professional engineering services under similar circumstances. To be found negligent and in breach of the standard of care, several issues have to be proven by the plaintiff: 1) the defendant owed a legal duty to the plaintiff, 2) the defendant breached that duty by failing to exercise reasonable care through his or her actions or non-actions, 3) there is an actual and legal cause-and-effect relationship between the alleged negligent acts and the harm, and 4) the plaintiff suffered harm.

### The Future

It is probably safe to say that "negligence" will be the measure by which our performance is judged for the foreseeable future. However, custom and industry norms will change and what constitutes negligence will likely change too. Computer analysis of structures was not the norm a generation ago. Building information modeling (BIM) is on its way to becoming the standard for documenting structural designs and for assessing and mitigating possible construction problems (clash detection, fit-up, etc.). Advances in technology are lowering the costs of previously prohibitively expensive actions (nonlinear analysis, finite element analysis, etc.) to the

point where they may become the custom or industry norm at some point as well.

An example of expanding liability can be found in the famous T.J. Hooper case (see *T.J. Hooper v. Northern Barge Corp.* 60 F.2d 737 (2d Cir. 1932)). The plaintiff argued that the barge company was negligent for losing its cargo by failing to use a radio to check for inclement weather. The barge company argued that the use of radios was not yet the custom in the industry. The court ruled that the industry custom was not of a sufficient level to protect against obvious and easily mitigated hazards, and had not evolved as it should have to protect the public. If society decides that markets are flawed, then custom will change and the obligation of precaution might fall on the person (i.e. engineer) most able to make the relevant calculation of risks and take precautions. Might society hold engineers responsible for earthquake damage and loss of life for the poor performance of known unsafe structures that owners were not legally required to upgrade?

It is also possible that to whom an engineer owes a duty of care might change. Historically, engineers have been protected from third-party lawsuits by the "economic loss rule," which holds that an engineer cannot be sued for negligence by a third party for purely economic losses. In a recent case before the California Supreme Court, *Beacon Residential Community Association v. Skidmore, Owings and Merrill LLP*, the court found that SOM owed a duty to the homeowners mainly due to their professional involvement and "closeness" to the project, and not necessarily due to any negligent action on their part.

So, as was asked at the beginning, why should structural engineers be expected to be better informed about the standard of care? Would their livelihood be a good enough reason? ■

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