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Do You Know the Standard of Care?

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DO YOU KNOW THE STANDARD OF CARE? – CASE WHITE PAPER 2014

White Paper Author:

John Dal Pino, Senior Principal
Degenkolb Engineers
San Francisco, CA

Council of American Structural Engineers
1015 Fifteenth Street NW, 8th Floor, Washington, DC 20005
PHONE: 202-347-7474 FAX: 202-898-0068
www.acec.org/case

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Introduction

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. But 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 aren't particularly familiar with professional liability laws governing their profession, aren't conversant on legal specifics or potential legal pitfalls, and don't 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 isn't addressed in most university engineering curricula, and isn't addressed in the professional licensing examinations, which are mostly technical in nature. And thanks to the 10th Amendment to the U.S. Constitution, the legal landscape for engineers is largely shaped at the state level and every state will have 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 your state's professional engineering act and the associated administrative rules and reading precedent-setting court opinions won't be high on the reading 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.

Yet "ignorance of the law is no excuse" as they say. Many engineers are licensed and practice in many states, and what is customary in one, may not be so in another. Codes and standards are becoming more standardized and national in nature, meaning more uniformity and perhaps a higher level of engineering skills across the country. Gone may be the days when an engineer can really say that "we don't do that around here." Having a good understanding of your legal responsibilities is more important than ever!

Tort Law (for engineers)

The *American Heritage Dictionary* defines a tort as "A wrong that is committed by someone who is legally obligated to provide a certain amount of carefulness in behavior to another and that causes injury to that person, who may seek compensation in a civil suit for damages." The remedy in a tort case is usually a financial award that compensates the injured party, the plaintiff, for the damages caused by the defendant. Compensatory damages (i.e. actual damages) are awarded to compensate for the harm suffered, as determined by the court. In extreme cases, punitive damages can be awarded if the conduct in question is particularly egregious, or if the court wishes to make a strong public policy statement to dissuade others from acting similarly. Tort law has a very long history, and made its way to us from English

Common Law which has its roots in Roman law.

Torts fall into three broad categories: intentional torts, negligence, and strict liability, as defined below:

- Intentional torts arise from intentional conduct resulting in harm, such as assault, or actions in which a person knew or should have known that his or her act would result in harm to another.
- Negligence arises out of the failure to exercise the requisite degree of care with regard to a party to whom you owe a duty. An engineer might be alleged to have been negligent in the performance of his or her services through his or her actions or non-actions. The injured party must demonstrate that an injurer was “at fault” using the negligence standard to win a financial settlement.
- Strict liability refers to legal responsibility for an injury that can be imposed on a person or entity even if that person or entity didn’t do anything wrong (i.e. wasn’t “at fault”) and acted with care. The strict liability standard doesn’t typically apply to engineering services unless the engineer was involved in ultra-hazardous or dangerous activity, such as demolition with explosives, or was involved in the creation of a product.

As structural engineers, we are mostly concerned with our own potentially negligent acts. Intentional torts and strict liability claims rarely arise in engineering and construction cases.

Negligence as the Standard of Care

Since negligence is often alleged in civil actions against structural engineers, it is important that engineers understand the definition of negligence and know under what circumstances a structural engineer could be found negligent. Negligence has been defined as the failure to exercise the care that a reasonable person would use in similar circumstances. Professional negligence is the term that applies to the care used by members of a profession (law, medicine, architecture, engineering) in the course of providing professional services. Putting this in an engineering context, negligence is a failure to exercise the care and skill that is ordinarily exercised by other members of the engineering profession in performing professional engineering services under similar circumstances. To be found negligent and in breach of the standard of care, several points 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.

Why is “Negligence” the Standard by Which an Engineer’s Liability is Assessed?

The current state of affairs has evolved over a long period of time through the actions of the marketplace, legal actions, and the decisions of state and federal courts. Engineering liability could have evolved into a strict liability standard, or it could have settled into a “law of the jungle” kind of justice where there is really no standard and the damaged party can seek some measure of non-judicial redress mainly through some measure of revenge (the engineer gets clubbed in the head to settle up or some similar act). But it didn’t, and the legal standard evolved into something in the middle, where engineers are not generally held to a strict liability standard and fortunately never get clubbed over the head (no standard), but rather are generally responsible only for those monetary damages resulting from their negligent acts or omissions. Why is that?

Let’s start with the “no standard” standard and strict liability as the two extremes.

The ‘no standard’ standard probably went by the wayside fairly quickly long ago, after a few bloody altercations between buyers and sellers. One can imagine the tribal chief or village elder tiring of having to step into the breach and saying “settle down, enough is enough.” The damages would have remained with the buyer regardless of fault, with no legal remedy available.

If the “no standard” standard wasn’t working, one might think that strict liability would be a good alternative. The seller would be liable to the buyer for all harm or damages resulting from the seller’s actions or non-actions, whether or not the seller did anything wrong or was “at fault.” Buyers were probably very happy but sellers were not, and again the tribal chief or village elder tired of being called in to settle things down. Strict liability was the typical legal liability threshold up until about 200 years ago or so.

In today’s engineering world, negligence has become the common tort standard for judging whether damages are due to the injured party, as a kind of middle ground. 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. Some have opined that the move away from strict liability (except in limited cases as noted above) was based on morality since there was no justification for holding a party liable for something for which they were not to blame. Others, such as Richard Posner, University of Chicago Law School, in his paper titled *A History of Negligence*, have pointed to the changes and expansion during the Industrial Revolution as being the driver for shifting the damages toward the injured party as a more efficient administrative approach. U.S. Supreme Court Justice Oliver Wendell Holmes wrote that “the loss should lie where it falls” suggesting that burden of proof lies with the injured party, with reliance on the theory of efficient markets to shift the loss “efficiently” to a negligent party, if there is one, through the court system.

What the purchasers of engineering services should expect of engineers under the negligence standard was summed up succinctly in California case law in *Gagne v. Bertran*, (43 Cal.2d 481):

[9] The services of experts are sought because of their special skill. They have a duty to exercise the ordinary skill and competence of members of their profession, and a failure to discharge that duty will subject them to liability for negligence. Those who hire such persons are not justified in expecting infallibility, but can expect only reasonable care and competence. They purchase service, not insurance.

How Do the Courts Define and Measure “Negligence”?

So for engineers, the standard for judging civil liability is most commonly based on a negligence standard. It could be worse. But how do we define and measure negligence? Negligence to one person may be proper behavior to another. Richard A. Epstein, from the University of Chicago Law School, argues that there are two distinct approaches to defining and assessing negligence: either economic cost-benefit analysis, or custom (i.e., industry norms). Epstein argues that in a way, one is a subset of the other.

If cost-benefit analysis is employed, the test could be whether the engineer took all “cost justified precautions against the occurrence of the harm.” After being presented with a list of damages by the plaintiff, the court and jury would have to undertake a detailed cost benefit analysis to assess whether the cost of the efforts the engineer employed to mitigate potential damages were appropriate relative to the risks to the client, and that the engineer only stopped mitigating risks when the costs were prohibitive relative to his or her own benefit. The courts would have to become experts in the engineering field to perform this analytical effort, or have access to their own experts. Once the court established if and where the engineer fell short, liability could be assessed and damages awarded if merited.

Epstein argues that a simpler way to get to the same result, and the one that courts have come to use, is to rely on custom, or industry norms. Adam Smith argued in his famous *An Inquiry into the Nature and Causes of the Wealth of Nations* that the greatest result (the most wealth) is created by the actions of many people working in their own self-interests almost as if guided by an “invisible hand.” With regard to the engineering industry, the argument goes that an invisible hand has created a set of customs or norms through the independent actions of engineers working in their own self-interests in a competitive and free marketplace that are the most reasonable approaches (expenditures of time and money) to assessing and mitigating the needs of both the client and the engineer. So cost-benefit analysis, whether performed explicitly or implicitly by engineers during the normal course of their work over many projects, has created the industry norms. There is no better way for a court to understand how engineers should perform their services than by observing the collective actions of the industry itself, which includes the actions of clients and engineers. The industry norm is therefore the most “reasonable” approach to engineering and represents the “reasonable” standard. The industry

norm for engineering is typically presented to the court by expert witnesses—members of the profession who have the experience and standing to testify about its customs and norms.

Elevating the Standard of Care

Absent any project-specific contract language to the contrary, the standard of care is established by your state's own set of rules, regulations and legal precedents. In other words, if your contract is silent with regard to the standard of care, state law describes the standard and that standard is most often negligence.

But you might ask why contracts sometimes contain a clause that purports to establish a standard of care that differs from the "ordinary engineer" professional standard of care? The answer could be that clients, by inclusion of words like "best," "highest," "leading," "expert," and the like, and perhaps to a lesser level of significance phrases like "specializing in" and "experienced with," into the common definition of the standard of care are attempting to increase the required performance level of the engineers on their projects. But many of these same clients may not understand that the inclusion of terms like "best" and "highest" may lead to claims not covered by the engineer's insurance and therefore serve no real purpose. Professional liability insurance typically only covers the "ordinary engineer" definition of the standard of care and if the engineer is found to have breached an elevated standard, insurance may not cover that portion of the damages. Therefore in negotiating contracts, engineers should carefully review clauses involving the standard of care and eliminate to the extent possible any language that elevates the standard above that of professional negligence. In the same vein, engineers ought to avoid linking their proposal letters and marketing material to their contracts since these documents often contain similar words or assertions that might elevate the standard of care.

One should not be afraid to put a well-written standard of care definition in contracts, as this helps define the relationship between client and engineer and is helpful in educating clients as to what their expectations ought to be. The Engineers Joint Contract Document Committee (EJCDC) has a good definition in EJCDC E-500 (2014), as does the Council of American Structural Engineers (CASE) in CASE Contract #2 (2008), as well as the American Institute of Architects (AIA) in AIA B101 (2007). A "good" expansion of your state's definition or the EJCDC, CASE, or AIA definitions would include an acknowledgement by the client that the engineer's services will not be free of errors, omissions, or ambiguities—as the courts have acknowledged, professional services are never perfect and clients should not expect infallibility.

The Future

Will negligence always be the standard by which engineers are judged? Predicting the future is obviously difficult, but 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 therefore what constitutes negligence will likely change too. Computer analysis of

structures for both gravity and lateral loads is the norm today, although it wasn't 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.) by both engineers and contractors. BIM isn't the norm yet, but it probably will be in a decade or so on most types of projects. Advances in technology are lowering the costs of previously prohibitively expensive actions (non-linear analysis, finite element analysis, etc.) to the point where they may become the custom or industry norm at some point as well.

Engineers will be very grateful if strict liability doesn't find its way back into the thinking of the courts as it once did in the famous *T.J. Hooper* case (see *T.J. Hooper v. Northern Barge Corp.* 60 F.2d 737 (2d Cir. 1932)), but it might. In the *Hooper* case, the plaintiff argued that the barge company was negligent for losing their cargo by failing to use a radio to check for bad 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 wasn't adequate (the custom wasn't of a sufficient level to protect against obvious and easily mitigated hazards) or hadn't evolved as it should have in order to protect the public. If society through the courts decides that markets are flawed and that losses ought not lie where they fall, then custom will change and the obligation of precaution might fall on the person (i.e., the engineer) most able to make the relevant calculation of risks and take precautions.

It is also possible that to whom an engineer owes a duty of care might change. Engineers have a duty to members of the public with respect to injuries and property damage resulting from breaches in the professional standard of care, but historically, engineers in many jurisdictions have been protected 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, despite not having any direct relationship to the homeowners (SOM's client was the building's developer).

And as noted above, engineers can always hurt themselves by signing contracts that elevate the standard of care beyond that which would otherwise apply under today's tort law (e.g. the engineer who contractually promises perfection, could be held liable for breach of contract should the results fall short of the perfection promised) and for which they likely have no insurance.

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?

Appendix

State by State Differences

As noted above, thanks to the 10th Amendment to the U.S. Constitution, the regulation of structural engineers is delegated to the States, so every state has its own set of rules, regulations and legal precedents. As non-lawyers, finding the relevant state statutes, state administrative rules (which explain and expand on the laws), and jury instructions (which define whether an defendant is responsible for damaging or injuring another party) isn't particularly easy, even with the help of powerful Internet search engines like Google. Structural engineers like to complain about the complexity of the building code, but after doing a day or two of legal research, the non-lawyer engineer will think the building code is clear and linearly logical by comparison. After a bit of time, the engineer will notice a similarity in the organization of the various state statutes and laws. The rules and regulations for three states (selected at random) are described below.

1) California

For instance in California, it starts with the *Professional Engineers Act* (the Act) which is the primary statute that governs the practice of engineering and is found in the *Business and Professions Code* (§§ 6700-6799). One might think of this as the original legislation. The Act creates and authorizes the *Board of Professional Engineers, Land Surveyors and Geologists* to develop rules and regulations that expand on the original legislation. These rules are found in the *California Code of Regulations (CCR)*, Title 16, Division 5, §§ 400-476. The CCR states that:

404. Definitions.

(dd) For the sole purpose of investigating complaints and making findings thereon under Sections 6775 and 8780 of the Code, "negligence" as used in Sections 6775 and 8780 of the Code is defined as the failure of a licensee, in the practice of professional engineering or land surveying, to use the care ordinarily exercised in like cases by duly licensed professional engineers and land surveyors in good standing.

415. Practice Within Area of Competence.

A professional engineer or land surveyor licensed under the Code shall practice and perform engineering or land surveying work only in the field or fields in which he/she is by education and/or experience fully competent and proficient.

Negligence is defined in the State of California *Civil Jury Instructions*, Section 600. *Standard of Care*:

A Professional Engineer is negligent if he/she fails to use the skill and care that a reasonably careful professional engineer would have used in similar circumstances. This is the level of skill, knowledge, and care is sometimes referred to as 'the standard of

care.” You must determine the level and care that a reasonably careful Professional Engineer would use in similar circumstances based only on the testimony of the expert witnesses, including the defendant, who have testified in this case.

Directions for Use: Use this instruction for all professional negligence cases other than professional medical negligence... If the defendant is a *specialist* (emphasis added) in his or her field, this instruction should be modified to reflect that the defendant is held to the standard of care of a specialist (Wright v. Williams (1975) 47 Cal. App. 3d 802, 810).

2) Missouri

For another example, Missouri’s statute is contained in *Title XXII Occupations and Professions, Chapter 327 Architects, Professional Engineers, Land Surveyors and Landscape Architects*. The statute created the *Missouri Board of Architects, Professional Engineers, Land Surveyors and Landscape Architects* which drafted administrative rules contained in *Code of State Regulations (CSR), Title 20—Department of Insurance, Financial Institutions and Professional Registration, Division 2030—Missouri Board for Architects, Professional Engineers, Professional Land Surveyors, and Landscape Architects, Chapter 2—Code of Professional Conduct*, where it is stated that

(3) In practicing architecture, professional engineering, land surveying or landscape architecture, a licensee shall act with reasonable care and competence, and shall apply the technical knowledge and skill which are ordinarily applied by architects, professional engineers, professional land surveyors or landscape architects of good standing, practicing in Missouri. In the performance of professional services, licensees shall be cognizant that their primary responsibility is to the public welfare, and this shall not be compromised by any self-interest of the client or the licensee.

(4) Licensees shall undertake to perform architectural, professional engineering, land surveying, and landscape architectural services only when they are qualified by education, training, and experience in the specific technical areas involved.

3) Idaho

For a third example, Idaho’s statute governing engineers is found in *Title 54 Professions, Vocations and Businesses, Chapter 12 Engineers and Surveyors*. The statute created the *Idaho Board of Licensure of Professional Engineers and Professional Land Surveyors* which developed administrative rules contained in the *Idaho Administrative Code* (similar to *California’s Code of Regulations*), which states in “*Rules of Professional Responsibility*”(10.01.02) that:

005. Responsibility to the Public.

01. Primary Obligation. All Licensees and Certificate Holders shall at all times recognize their primary obligation is to protect the safety, health and welfare of the public in the performance of their professional duties. (5-8-09)

02. Standard of Care. Each Licensee and Certificate Holder shall exercise such care, skill and diligence as others in that profession ordinarily exercise under like circumstances. (3-29-10)

Idaho's jury instructions are:

IDJI 2.00.1 - Duty of care - defendant

It was the duty of the defendant, before and at the time of the occurrence, to use ordinary care for the safety of the plaintiff [and the plaintiff's property].

IDJI 2.20 – Definition of negligence

When I use the word "negligence" in these instructions, I mean the failure to use ordinary care in the management of one's property or person. The words "ordinary care" mean the care a reasonably careful person would use under circumstances similar to those shown by the evidence. Negligence may thus consist of the failure to do something which a reasonably careful person would do, or the doing of something a reasonably careful person would not do, under circumstances similar to those shown by the evidence. [The law does not say how a reasonably careful person would act under those circumstances. That is for you to decide.]