

The Two Sides of Responsibility

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In the days of the Master Builder, the issue of responsibility for project outcomes, fit for use, was centered in the Master Builder himself. Full responsibility was balanced with full authority. The last half century, however, saw significant change to the scope of Structural Engineer of Record (SER) services, unilaterally reducing project influence including: site visits discouraged by Professional Liability (PL) insurers, project control preempted by third party inspectors, design services commoditized.

The state of today's SER duties and responsibilities is not due to changes in the laws that determine SER compliance. The supreme law of SER design *outcome* responsibility, Canon I.1 of the National Society of Professional Engineers (NSPE) *Code of Ethics for Engineers*, i.e., holding paramount stakeholder safety, health and welfare (damage *prevention*), goes back uninterrupted to the Law of Moses: "In case you build a new house, you must also make a parapet for your roof, that you may not place bloodguilt upon your house because someone might fall from it." (Deuteronomy 22v8, 1780 BCE). The other half of SER responsibility, after the fact of structural failure (damage *reaction*), was first codified by Hammurabi (1760 BCE) in a schedule of punishments aligned with the damage report. His policy of an "eye for an eye" has spawned a plethora of codes, standards, statutes and permits that govern a wide spectrum of engineering design.

The Two Sides

The law has not changed the principal obligations of the SER to the public. It does reflect the distinctions it made over time between *hindsight* compliance – set by regulatory agency, and *foresight* compliance – tort. In hindsight, explicit duties are administered by various regulators via a set of ever-changing codes and standards based on past events that establish minimum rules for design (e.g., ICC, AISC, ASCE/SEI). Obey these rules and you have demonstrated hindsight law due diligence. Any slipups here are covered by your PL insurance.

The SER's role in foresight law, i.e., tort, is shaped by the SER. There are no task injunctions, no check lists in tort. The focus of tort is responsibility for *outcomes*

and consequences of the design *in the future*, namely Canon I.1. Whereas rules for design are *given*, which greatly simplifies things, responsibility for Canon I.1 compliance can only be *taken* by an individual. No law mandates and assigns a responsibility to the SER for design results and consequences to be obtained in the future. Outcome responsibility can only be *taken* by a professional engineer's own free will and moral touchstone. No other scheme can work.

The law gives the SER freedom to meet the responsibility any way thought best. The SER is permitted a seal to apply to design drawings to help assure that this design, and only this design, will be constructed. Along with the seal is granted the right to veto any construction that fails to reproduce the design as sealed. For taking the accountability burden of Canon I.1, the SER is given authority commensurate to that responsibility. The overriding significance of Canon I.1 is affirmed by the fact that *noncompliance with damage prevention (Canon I.1) is a PL policy exclusion*.

The great bulk of litigation relating to the work of the SER is hindsight law. The disputes are not about damage prevention responsibility (Canon I.1), but rather who is going to pay for the damage incurred. In this arena, the SER is surrounded by various institutions engaged in damage-compensation risk transfer – no holds barred. The cost of litigation in foresight law, however, is so high, only those legally culpable with large treasure are considered players.

Foresight Law

In foresight law litigation, the SER stands alone. Once the question of "foreseeability" is settled by jury, using a *retroactive* standard of care the Court creates fresh for the occasion, the SER is either on or off the hook. The responsibility of Canon I.1 is preventing preventable stakeholder damage. The jury is charged to decide if the damage event of the case was foreseeable or not. The strategic challenge the SER faces is that advances in technology have drastically reduced the spectrum of what is truly unforeseeable to a narrow and shrinking wedge.

Only the PE (SER) has the compliance burden to Canon I.1 law; it is unique to

engineering. Canadian SER law is explicit. In its *Engineers & Geoscientists Act*, Section 20: "Subsequent to the application of the seal, the engineer assumes full responsibility for the sealed documents and for the performance of the service or product described in those documents."

Other disciplines have no responsibility whatsoever to prevent preventable damage or even to warn stakeholders that damage is heading their way. (Canon I.1 of the AIA code, e.g., covers a different topic.) When litigation over damage enters the arena of tort and its retroactive "foreseeability" standard, the SER stands in the spotlight of responsibility alone – and no excuses.

Even though the PL policy covers only hindsight law, the insurance matter for Canon I.1 negligence is easily handled. The SER can create a job-specific standard of care for Canon I.1. By documenting the handling of "foreseeability" during project design and construction, not after a dispute has arisen, and by using the best available technology to identify and preempt stakeholder damage potentials, the SER creates his/her own authority to control the project. By attending to the engineering principles in a systematic way, which must be done in any case, the SER creates a tort litigation poison pill. Is any Court going to override a standard of care created and documented by the designer? No one else has the equivalent store of knowledge to create the project-specific standard of care.

And who else but the Professional Engineer can be legally responsible to prevent foreseeable damage to his design as built, holding paramount the safety, health and welfare of the public? The Architect? Authority Having Jurisdiction? Quality Assurance Inspector? Owner? Construction Manager or Design-Builder?

In the "Wizard of OZ" after Dorothy's ordeal has climaxed, Glinda, the good witch, tells Dorothy that she had the power to return to Kansas ever since she first donned her sister's Ruby Slippers – triggered by three heel clicks. The SER, like Dorothy, has never lost complete responsibility or complete control. SERs have Ruby Slipper equivalents ... waiting to be clicked. ■

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