



The Hyatt Regency Disaster Revisited

By Matthew R. Rechten, P.E., Esq.

The more than three decades that have passed since the collapse of hanging walkways at Kansas City's Hyatt Regency Hotel have turned that catastrophe into the textbook cautionary tale for structural engineers. No other collapse (save maybe the World Trade Center) has led me to as many discussions within and out of the profession. I recall my own mentor, Javier Horvilleur, discussing it with laypeople and peers at least twice a year. It is the profession's quintessential "teachable moment." So, with Santayana's warning in mind that "[t]hose who cannot remember the past are condemned to repeat it," this article takes a fresh look, from a legal perspective, at some of the enduring lessons it holds.

Background

In the late 1970s, Gillum-Colaco, Inc. ("GCE") agreed to perform all structural engineering services for the design and construction of the hotel. GCE designated Jack Gillum ("Gillum") as engineer of record, but put Daniel Duncan ("Duncan") in day-to-day charge of the project.

GCE's design called for second and fourth floor walkways to hang from the roof of the atrium they spanned by six continuous or "single" steel rods that were to connect to each walkway through "box" connections. GCE designed – insufficiently, it turns out; by one estimate, the design expressed in the drawings carried only 60% of what the local building code required – the box connections so that the second floor walkway would not hang from the fourth floor walkway.

The steel fabricator proposed a "double rod" system, in which the six rods would become twelve, and the second floor walkway would hang from the fourth floor walkway, amplifying the load on the box connections.

Duncan, who seemingly failed to detect the load amplification, approved the fabricator's proposal and vouched for its soundness without doing what (he later admitted) would have been necessary to confirm it. Neither Gillum nor Duncan reviewed the shop drawings reflecting the change, despite GCE's policy that drawings of non-redundant connections receive more than the technician's review of sizes and materials that they got.

Disciplinary Proceedings

In 1981, after just a year of service, the box connections failed and the walkways collapsed, killing more than 100 revelers. In 1984, Missouri's Board for Professional Engineers commenced disciplinary proceedings against Duncan, Gillum and GCE. After a 27-day hearing, the tribunal (the "Commission") conducting the proceedings issued findings covering 442 pages. The Commission found all three grossly negligent and revoked their licenses.

Legal Challenges

Duncan, Gillum and GCE (the "Appellants") unsuccessfully appealed their discipline up to the Missouri Court of Appeals.

That court rejected all of their "legalistic" challenges. It rejected their claim that the governing statute's gross negligence standard was unconstitutionally vague, and that discipline was improper because no one shortcoming amounted to gross negligence. It also rejected the Appellants' claim that their negligent design of the rods was not a basis for discipline because the rods did not fail, responding that in a disciplinary proceeding – unlike in a negligence lawsuit – causation is irrelevant. In addition, the Court rejected Gillum's and GCE's contention that neither could be disciplined vicariously for Duncan's misconduct.

The Court also rejected the Appellants' more substantive attacks on the sufficiency of the evidence, and pointing to the following:

- 1) Duncan was responsible for designing and approving the building structure;
- 2) The walkways fell in that scope;
- 3) "... [T]he walkways offered a potential of great danger to human life if defectively designed;"
- 4) Duncan approved the fabricator's change, recommended it to the architect, and approved shop drawings reflecting it without confirming its acceptability;
- 5) The change effectively doubled the box connection load; and,
- 6) Duncan never reviewed the shop drawings, even though such review is an "engineering function" that even GCE's in-house policies required he do.



Courtesy of Dr. Lee Lowery, Jr., P.E.

On those facts, the Court affirmed that "[t]he conduct of Duncan from initial design through shop drawing review and through the subsequent requested connection review ... supports the Commission's finding of conscious indifference to [non-delegable] professional duty." The Court also affirmed Gillum's "gross negligence" and resulting discipline because he failed, as engineer of record, "to assure that the Hyatt engineering designs and drawings were structurally sound ... prior to impressing thereupon his seal," and failed "to assure adequate shop drawing review."

Lessons

The story of the Hyatt collapse is, for me, a little like the classic film *The Natural*. With each look, I get a bit something different out of it; it is a Rorschach test. The remainder of this article shares a few of my observations.

"Heavy lies the head that wears the crown" – William Shakespeare

The Hyatt case demonstrates that, as a legal matter, the "buck stops" at the engineer of record. The Court did not focus on Gillum's errors of commission, or failings as an engineer, but on his failings as a manager. It found that as the engineer of record, "Gillum was by statute responsible for" not only the drawings that his firm drafted, but also the resulting shop drawings. Gillum "accepted such responsibility when he entered into the contract and utilized his seal."

The Court rejected Gillum's every effort to downplay these legal implications of affixing his seal and disown the failed connection. Citing

what it dubbed the “plain and unambiguous language” of Missouri’s “controlling regulatory statutes,” the Court concluded that Gillum’s sealing of the plans made “him responsible for the entire engineering project and all documents connected therewith ...” including the design of connections “whether he in fact designs them himself or not.” Bottom line: by stamping the structural drawings without qualification, Gillum was by law responsible for the structure and the collapse.

“Custom reconciles us to everything” – Edmund Burke

Customs are a pervasive and persistent source of law in our “common law” legal system. The Hyatt case is, however, an object lesson on the limitations of those customs as a source of law. It demonstrates how customs do not survive collisions with statutes. The Court rejected Gillum’s argument that “usual and customary engineering practices” entitled him to rely on the fabricator for the design of the box connections because it conflicted with the plain language of Missouri’s engineering practice statute. The lesson is that while custom may have shifted the practical responsibility for the box connection design, it could not have affected a transfer of the legal responsibility, a lesson Gillum learned the hard way.

Keep “the main thing the main thing” – Steven Covey

The Hyatt case demonstrates that not all beams are created equal. Perhaps recognizing its audience, the Court put this in mathematical terms: “the level of care required of a professional engineer is directly proportional to the potential for harm arising from his design ...” It was the importance of the box connections that amplified the gap between what the Appellants did, and what they should have done. This importance elevated what the Court said “might [have] constitute[d] inadvertence” had “no danger exist[ed] ... to conscious indifference,” i.e., gross negligence, because “the potential danger to human life [wa]s great.” Accordingly, it is not just a good idea for engineers to allocate their scarce design resources with a mind towards the potential for harm; it is the law.

This potential for harm matters in at least one other way. It has been said that “non-doctrinal” – legally irrelevant – facts often drive judicial decision-making. The great jurist Oliver Wendell Holmes, Jr. expressed this as “hard cases make bad law.” Once the

Appellants’ gross negligence was established, their discipline (or liability) should not necessarily have been driven by the magnitude of the horror that happened to result. Reading the Court’s opinion, however, and its multiple allusions to the patent danger of the walkways, it is difficult to avoid the conclusion that Gillum, Duncan and GCE left the Court with a particularly “hard case,” which may have factored into the hard result.

“Attitude is a little thing that makes a big difference” – Winston Churchill

The Hyatt case demonstrates the price of admission to the structural engineering profession. Gillum faced discipline not just for gross negligence, but also for what the Court called “unprofessional conduct ... in his refusal to accept his responsibility ... and his denial that such responsibility existed.” It was not just what he did that mattered, but his attitude and his defense of the allegations against him. The Court noted that Gillum’s “refusal to accept a responsibility so clearly imposed by the [engineering practice] statute manifests both the gross negligence and unprofessional conduct found by the Commission.” The Court agreed with the Commission that Gillum’s “cavalier” attitude about his “responsibilities as an engineer” and his steadfast refusal to admit the responsibility that law imposed on him, as the engineer of record, was a separate and independent breach of his obligations as a professional engineer. The Hyatt case is a grim reminder that whatever may go in hard-nosed commerce outside of the profession will not necessarily pass muster within it, and that the esteem that comes with membership in a learned profession may be hefty.

“... Hoist with his own petard...” – William Shakespeare

All firms have internal policies; they serve worthy purposes, like managing risk. The Hyatt case demonstrates not the imprudence of these policies, but of adopting them casually. That is because one lesson of the case is that having a policy that you do not follow may be worse than not having it at all. Because, as the Court put it, the Appellants’ “own internal procedures” “called for a detailed check of all special connections” like the box connection; the Court treated their failure to make the check as proof of their negligence. A policy that was (surely) intended to reduce Appellants’ exposure ended up increasing it.

“Investors don’t like uncertainty”

– Kenneth Lay

Finally, the Hyatt case demonstrates that ambiguity in design injects risk into the shop drawing review process. Though the case involved many missteps, the first was Duncan’s failure to address the box connection design in his drawings. Although Duncan testified that “he intended for the fabricator to design the [box] connections,” his drawings failed to include, for example, the loads that might have communicated his intention to the fabricator. As a result, the fabricator “prepared its shop drawings on the basis that the connections shown on the design drawings had been designed by the structural engineer.” Thus, although either engineer or fabricator could have designed the connection, the ambiguity of the drawings, their failure to express clearly the engineer’s intentions, meant that neither did. Of course, there was still time to rectify this oversight. Nevertheless, the clear lesson is that ambiguity in the design injected tremendous risk into the shop drawing process, a process that is often poorly suited to address significant design decisions.

Conclusion

The Hyatt Regency disaster was a tragedy for the victims and for the engineers involved. In a larger sense though, it was also a tragedy for the structural engineering profession. The best we can do to honor the victims, the engineers involved, and the profession, is to listen to this alarm bell, heed the enduring lessons, and improve our practices. My hope is that this article contributes to that effort. ■

Matthew R. Rechten, P.E., Esq. (MRechten@BodmanLaw.com), is an attorney with Bodman PLC in Ann Arbor, Michigan, where he specializes in construction law, commercial litigation, and insurance law. Prior to becoming a lawyer, he practiced structural engineering in Texas for five years.

The facts and quotations in this article are adapted from *Duncan v. Missouri Board for Architects, Professional Engineers and Land Surveyors*, 744 S.W.2d 524 (Mo. App. E.D. 1988). The full opinion by Missouri’s Court of Appeals is a good read for anyone with further interest in the subject.

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