

Who is Liable?

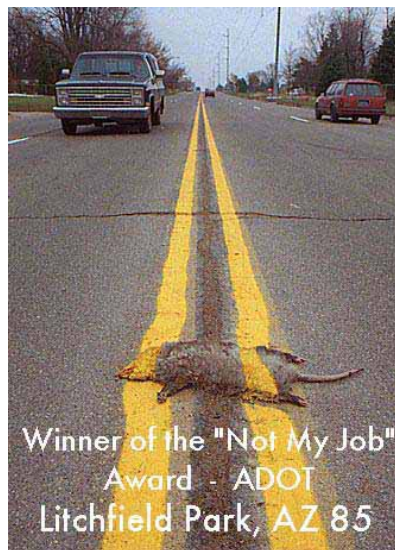
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Abstract: Engineers often mistakenly believe that they can shed responsibility for their actions or lack of actions by claiming that it either was not their job or someone else approved or required it. British and American legal traditions are often unsympathetic to this ostrich defense and well they should be. Professional ethics requires a higher duty, protect the public weal at all costs and preserve the client's interest within the limits of civilized behaviour.

Disclaimer: The paper expresses the personal opinion of Mr. Dillon, who is an informed engineer but most assuredly is not a lawyer, and thus does not purport to convey legal advice.

The perfect job is when you get paid an inordinate amount of money to design a building that doesn't get built. In which case there is no sweat about liability; you're off the hook. However, most jobs fall short of this "ideal", so it behooves us to understand just where the chips fall.



So whose job is it?

Well, from a strictly legal standpoint, that depends entirely on the laws in force (and enforced). Generally speaking, the man with the stamp has the ultimate accountability, but this can involve a lot of different things. English and American jurisprudence defines Liable as “Bound or obliged in law or equity; responsible; chargeable; answerable; compellable to make satisfaction, compensation or restitution.” (Black’s Law Dictionary, West Publishing Company, 1990.)

From a professional standpoint, things get a little murkier. Contrary to widely held popular opinion, an engineer is not shielded from liability simply because his design is approved by the authority having jurisdiction, or appears on its face to comply with applicable regulations, or is in accordance with relevant standards. The duty of a design engineer extends beyond all these to include such issues as:

- Does the design meet the standard of care? Which is to say, would the community of like engineers, facing a similar design challenge, approach the analysis and resolution in comparable manner?
- Does the design respond in a mathematically correct manner to the physics of the challenge and to the expressed wishes of the client?
- Does the design respond to the client’s budgetary constraints and meet his investment goals?
- Does the design effectively protect the life, limb and health of occupants and does it appropriately protect the owner’s and occupant’s property?

Rather than discuss each of these in unwarranted and tedious detail, I offer the following synopsis of a matter in the north central part of the United States. The names have been changed in order to protect the guilty from further embarrassment.

The design challenge was to ventilate, dehumidify, heat and, when necessary, air condition a public natatorium. The natatorium was divided into two separate areas, one for competitive swimming and one for recreational use. The winter outside design temperature was below freezing (both °C and °F) and well above sweltering (again both °C and °F) in summer. The local code through ambiguous language implied that the ventilation air could be substantially reduced if the air conditioning system dehumidified the recirculated air. The relevant ASHRAE standard also contained ambiguous language that could be deliberately misread to imply an extraordinarily low ventilation demand. The local jurisdiction approved the plans, issued the permit and ultimately approved the installation and issued a Certificate of Occupancy.

Shortly after the building was put into use, a rising tide of user complaints inundated the management concerning burning eyes, breathing difficulty, headaches, dizziness and foetid odors. When the engineer was requested to look

into the matter, he simply responded that he designed it to code and it was approved, so they must be operating it wrong.

Soon after the first few occupants who collapsed were taken to the hospital, the engineer was again contacted, whereupon he repeated his assertion that he designed it to code and it was approved so it must be someone else's fault.

Winter arrived; conditions worsened, and to complicate matters the doors to the natatorium froze shut. The architect responded to continuing pleas from the owner by saying it wasn't his responsibility – talk to the engineer, who said it wasn't his responsibility – talk to the contractor and maybe check the chemical treatment of the pool. (Refer to illustration.)

Fast forward to the present day: the facility has been fixed by increasing the size of the air handlers, their cooling and heating capacity, the size of the room the air handlers fit in, the size of the louvers that serve the room the air handlers fit in, the size of the exhaust fans for the pool area, adding another chiller and another cooling tower and another boiler, rearranging the air distribution systems, and, oh yes, installing heated entry vestibules at the perimeter. The cost of these repairs slightly exceeded that of the total original construction.

A jury found the engineer grossly negligent, the state board revoked his license, and to this day he still doesn't understand why.

Another widely held and vigorously embraced myth within the engineering community is that whatever went wrong must be the contractor's fault. The contractor's first duty is to the financial well being of his company. Second to that are his lawful duties and obligations under the contract. He is generally not liable for any failure to perform in a professional design role, unless of course he is silly enough to assume such liability onto himself through the contract.

The well-established principle of “the king can do no wrong” generally protects the jurisdiction from any judgment in matters of liability, regardless of the jurisdiction's culpability unless resulting from misfeasance, malfeasance or nonfeasance.

In short, that leaves only the developer, the architect and the engineer. But since the architect has delegated his responsibility for engineering design to the engineer, he stands only vicariously liable. And if his contract with the engineer is properly drafted, he can probably be indemnified by the engineer and the engineer's insurance carrier. As for the developer, he is obviously ignorant of all these matters (which is why he hired you) and has relied completely on the expertise of his hired professionals (or at least that's what he tells the judge.)

So the answer as to who is liable is: the engineer.

Regardless of the obligations in law or equity, we are all bound by the constraints of societal, professional and personal ethics. Ethics is an easy one. You are responsible for everything you do. You are responsible for everything you should do, whether you actually do it or not. And you are responsible for providing others with sufficient information for them to make informed decisions as to what to do. You are not, however, responsible for their decisions, or for actions they take contrary to your advice.

If the involved parties fail to properly recognize and exercise their legal, professional and ethical responsibilities, they or their project can end up indistinguishable from road kill. (Again, refer to illustration.)