

To Err is Human, But to Really Foul Up, Requires Not Only a Computer, But Human Input as Well, or, Maybe, it Really Was Better When it Was Worse.

In [Volume 9 Number 1](#) of this newsletter, I wrote of penchant of authorities in general, and of NYCDOB in particular, for new laws and regulations as the cure to the danger du jour to society, where I argued DOB was taking steps backwards in indulging that penchant via the then new Special Inspections requirement.

In that piece, I contrasted the relative lack of efficacy of rulemaking as a safety improvement when compared to the evolution of guilds into professions, as recognized (though not explicitly) by DOB's issuance of [directive 14 of 1975](#) offloading some final inspections to the filing applicant. The opening thereof expressed the opinion that that DOB was less dysfunctional back when the Plans Examiners at least competent, if corrupt. That is, while State Licensure of Architects and Engineers is supposed to ensure a minimum level of competency, the process which populates the ranks of Plans Examiners seems to have, in recent decades, naturally selected for Curmudgeons and Karens who display an intransigence that comes across as incompetence. Ask me why I think so.

[Pro-Cert](#) is an extension of the recognition that design professionals are not only competent to comply with Code, but are also more bought into doing so. DOB's online filing process has been salutary in this – when it works. When it doesn't, it can become uncomprehensibly obstructive. The reason it requires computers in order to “really foul up” is because they are programmed by humans, who have to work very, very, hard to write error-free code*.

There are, however, times when it seems coding of DOB's [e-filing](#) and [DOB:Now](#), followed the “good enough for government work” method, as I discovered when the site informed me that my Special Inspection Agency registration was invalid when I tried to enter it on my two most recent projects. It turned out to be a case where I'd inadvertently entered 000299 on my most recent renewal application rather than my then current number of 00299, but it took another set of eyes looking at it to note the discrepancy, after over two months of my going around with DOB to try and resolve the issue.

In fact, I discovered someone else now had my old ‘number’ – in quotes because it's not (a number). Once the foul up was discovered, I presumed it was likely because the [COBOL](#) in which I presumed DOB's databases were written in did not recognize numbers as different from letters, else how would the leading zeroes mean anything at all. Well, it turns out that at least in its present iteration, COBOL, despite its age, includes such recognition.

*There have been books written on just that issue, e.g., *Nailing Jelly to a Tree*, which I looked into replacing after discovering it had disappeared from my personal library, only to have discovered it being priced by the only reseller who had offered it, at \$185.00. I had bought it as a paperback at ten dollars or so when published in 1981.

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EXPLANATIONS & EXAMPLES

Google's [Gemini](#) tells me that if the issue is actually because of [HTML's](#) limitations, it should be addressable via [JavaScript](#). The questions here are:

- Why has DOB stayed with this mislabeling, and,
- Why didn't DOB's IT folks, to whom the issue was passed on (more than once, I believe), pick this up? Or did they, and somehow failed to tell anyone.

One of the great mysteries of the universe, I guess. But wait, there's more!

After starting the piece below, I searched my desktop PC for the attachment to the email I sent DOB with it, an [Excel .csv extract of SIA license holders](#) by NYCHUD showing license ‘number’ 299 belonging to someone else. The [link](#) in my email to DOB to the list as it appears on their website now, shows it's mine.

Speaking of Things Hidden in Plain Sight, or, Sprinkler Hydraulics, and, Duh!!

Continuing with Blasts from the Past, I led off [Volume 11 Number 1](#) with a rudimentary explanation of Fire Sprinkler Hydraulic calculations, where I used the discussion as an introduction to relativistic effects, as club to emphasize the dismal efficiencies of non-nuclear energy conversion. As explained in that piece, the point of such calculations is to verify adequate pressure in the water supply to deliver the requisite amount of water to knock down or contain a fire until such time as firefighters arrive on scene to put it out.

Having started out in Electrical rather than Mechanical Engineering, I learned sprinkler hydraulic calculations via a handful of pages representing a simple tree piping arrangement in the appendix of NFPA-13. Only lately did it occur to me that there must exist more explicatory treatments, either in book form or online, where I was driven to search for such because of NYC [Local Law 10 of 1999](#) requiring sprinklers in new or substantially altered multiple dwellings of three or more units. That is, before then, the only spaces in a residential high-rise which were sprinklered were the grade level mercantile or commercial spaces and a roof tank with a sprinkler reserve always delivered enough pressure to those spaces by virtue of its elevation, though loft conversions with existing sprinkler systems always had to serve sprinklers at the top floor.

I have found the last to be a bit of a complication because hydraulic calculations were not a thing until the 1972 issuance of NFPA-13 with sprinklers in turn of the 20th century lofts having been designed in accordance with even more arbitrarily empirical 1896 rules incorporating pipe schedules based on the number of sprinklers served. In 1989 The National Fire Protection Association issued standard 13R for residential occupancies up to 4 (6 in NYC) stories in height.

The differences between the two standards range from slight to pretty stark.

A light hazard NFPA-13 space of 1500 square feet might require 50 or 60 psi to push a total of 200-300 gpm through piping supplying 15 or so sprinklers, whereas an NFPA-13R residential ‘compartment’ might require 30 to 40 psi to push a total of 40 to 50 gpm through the piping supplying no more than 4 heads.

This difference is enough to make a roof tank with a fire reserve inadequate as the *sole water source* for NFPA-13 sprinklers protecting *the top floor* of a building unworkable, as 50 psi translates to the *bottom* (Code requirement) of a roof tank having to be 115 feet (10 or 11 stories) above the sprinklers.

In nearly fifty years of professional practice, I've never seen such an arrangement, implying – in plain sight – a roof tank's fire reserve is, and was only ever, a viable source for sprinklers in the grade/near grade commercial or mercantile spaces in an otherwise unsprinklered building.

While older industrial buildings *may* have been ‘fully sprinklered’ via only a roof tank's fire reserve, the only way such *might* meet today's pressure and flow requirements would be if its fill pump replenished it *only as fast or a tiny bit faster* than the full sprinkler demand discharge rate to keep it at adequate depth to provide the required pressure without overflowing the tank. This would require a quite complicated tank fill variable flow arrangement to track changes in total sprinkler flow as each head activates.

I've never seen anything like that either.

Also, I suppose one could use Calculus to determine instantaneous fill and discharge rates and concomitant available pressures in an attempt to optimize pump sizing. [NFPA-22's gravity tank requirements](#) seems to accept higher initial flows and perhaps tank discharge by its requirement of adequate tank head (pressure because of filled-tank water depth) to meet the calculated hydraulic demand when at its lowest level

Sinks, Laundry Trays, Suds Retention and Pressure Zones

While the surface tension of a suds bubble is so low a light touch will break the bubble, crowd enough of them together and the combined tension force can obstruct flow in a drainpipe, hence [Code](#) prohibitions against suds producing appliances in [suds pressure zones](#). Such Code language as I could find regarding the upper correction point of [relief vent piping](#) in such zones seems to require it at least two stories above its waste branch connection point, not possible in alterations to units in such zones in multiple dwellings.

This has led me to the solution of not permitting the suds to get into the water piping in the first place via the insertion of a suds *retention* sink between a washing machine's discharge and the waste stack. While Codes use the term ‘Laundry Tray’ to also mean a laundry sink as one of the items prohibited in a suds pressure zone, how about a baffle or screen built into the bottom of a sink bowl, trapping the suds to dissipate, naturally or via a few spritzes of an [anti-foaming agent](#) or [vinegar](#)?