

Finding hazards in order to carry out a risk assessment is not as easy as one would think. Looking at the cartoon used in the SMS Safety poster series you'll see what I call the iceberg of ignorance. The data used in this study was presented at a Quality symposium and was a real eye opener. (at least for me)

At the bottom of the iceberg you have the workers. You see and work around hazards in your daily routine. The study

shows this group as having 100% knowledge of the hazards. Hazards, as you may remember, are simply “anything that can cause you or the company grief”. A hazard can be anything from a simple small clamp forgotten, resulting in 4 deaths. (Oct. 2019) to one tire low on pressure resulting in 261 fatalities (Video – Death of an Airline). Moving up the management chain, the study found that supervisors were less aware of the hazards. Middle management knew even less what hazards there might be. However the man at the top with the money and the ability to “fix” the hazard knew very little of what was happening below the waterline of the iceberg of ignorance. Give the percentages a WAG (Wild Ass Guess) and if you continue reading you'll see what may be surprising results near the end.

I believe I became interested in “small stuff” (hazards) when as an accident investigator, I would dig down to find the root causes and would run across hazards that were trying to tell them that one day something bad was going to happen. The now infamous 1992 McDonald \$2.9 million award for spilled coffee in a woman's lap, floored me. How could anyone get an award like that for their own carelessness in spilling coffee? To be honest the thought did cross my mind to spill some McCafe in my lap and retire for life. I decided to dig deeper into what could possibly justify an award like that.

Stella was the woman's name and she was 79 years old at the time of the accident. She was a passenger in her nephew's car, was served a 180°F to 190°F coffee (82°C to 89°C) in a thin cup in a drive-thru. She put the cup between her legs to stabilize it - trying to be careful and removed the lid to add cream and sugar. A small amount of coffee sloshed out onto her hand upon removing the lid, causing her to spill the balance, as it quickly gave her third-degree burns across her groin, inner thighs, and buttocks. She spent eight days in a hospital, had to go through numerous skin grafts,



and was disabled for more than two years. She almost died, all for a 49-cent cup of coffee in a flimsy cup that McDonald's served way, way, too hot for a drive-in window or anywhere else.

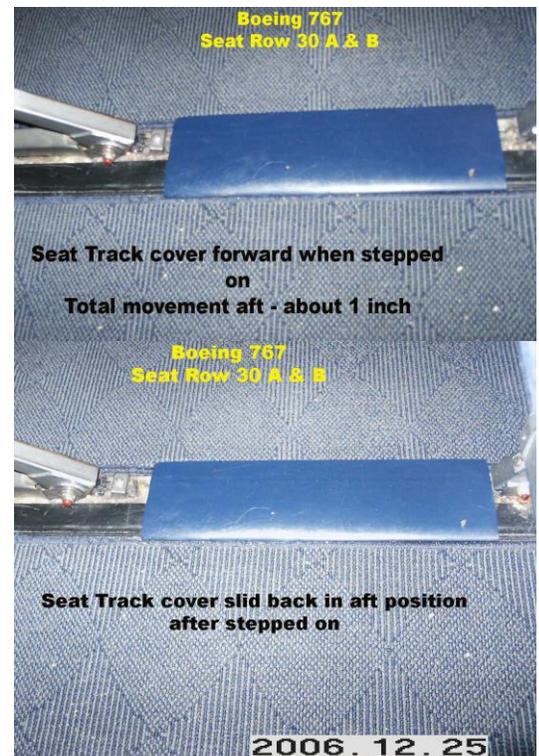
I have seen the other pictures of her injuries and decided I wouldn't trade places even for \$2.9 million.

And the company knew, too. The company had received "at least 700" scalding coffee reports in the previous ten years, with some involving children ("*Go get Daddy a refill*" shouldn't be a dangerous statement). It settled some of those claims for up to \$500,000. In this case, the woman's medical bills alone totaled over \$11,000, 1992 dollars. McDonald's offered her \$800 to go away. A court-appointed mediator recommended that McDonald's settle for \$225,000, but the company refused, went to trial and was hit with \$200,000 in compensatory damages (reduced to \$160,000 as the jury attributed 20% of the fault to the woman for having the coffee in her lap), and **\$2.7 million in punitive damages**, based on the fact that at that time, McDonald's earned \$1.35 million per day in coffee revenues alone. The damage award was two days' worth of McDonald's corporate coffee income.

Total Award: \$2.9 million plus a lot of lawyer fees and some VERY bad publicity.

Over 700 "small stuffs" (hazards) tried to tell them. Why serve coffee so hot that the skin would come off at the burn area? You would severely burn your mouth if you tried to drink it that hot. The response was that it was believed at that time that it would taste better once it cooled at that temperature. Today coffee is served at a much more reasonable 140° to 145°F (60°C to 63°C) temperature that if spilt will redden the skin but certainly not require skin grafts.

A small, seemingly insignificant hazard that may have been there for a long time caused a lot of grief for my wife. We were returning to Canada from South America on a very reputable airline in "steorage" class. My wife who had the aisle seat, turned to sit when she suddenly collapsed into the seat grabbing her left knee in pain. The small piece of track cover under her left foot had shifted aft just enough to cause her knee to pop out of the socket for a split second before she fell into the seat. While it was back in its socket, she was in severe pain and the knee began to swell. The flight attendant was very professional and arranged an ice pack as well as



some pain relievers. A wheelchair was arranged for the ongoing flight connection and as much as possible was done to make her comfortable for the long flight home. As an ex-investigator I recognized the hazard and documented the scene.

I recalled I sometimes had the job of installing seats like these that I hated. The crew chief had always insisted that there be no movement of the track covers. Why he was so picky escaped me at the time. Long story short: I sent the photos and my report to the airline's Safety committee, some of whom I knew, who immediately responded by saying that all their aircraft were going to be inspected for this now known hazard and the incident would be used as a training example of the importance of ensuring there was no movement of the track covers. Had my wife's knee not popped back into its socket, that little hazard would have resulted in an expensive delay, medical bills and a ruined planned family Christmas get together. Part of the problem is that we live with hazards and often fail to see the danger should the hazard be released. Besides, we have learned to work around the hazard and nothing will happen to us. Sound familiar? This is what a properly functioning Safety Management System (SMS) should catch, assess worse case scenario for risk and resolve. All too many SMS are simply "books on the shelf" and nothing changes. I say that SMS is nothing more than putting a system in place to sweat the small stuff so you never have to sweat the big stuff.

So let's start with McDonald's. Their hazard was very hot coffee that could cause serious injuries if spilled. One would guess that they were depending on "common sense" to prevent the hazard from being released. With a proper SMS each of the accidents would be recorded as a hazard and as the numbers began to build up, a trend analysis carried out by "someone" (SMS Safety Manager) would see a pattern emerging and raise the alarm. A child being burned or a court payout of one half million dollars should have been sufficient warning that there was a high potential of the small stuff becoming a big stuff. However, like Ford and the Pinto hazard, (#45 August 2019) they continued to ignore the hazard. You can be sure that there were many unreported incidents where the casualty was too embarrassed to admit he/she had burnt their mouth with the hot liquid or the injury was minor enough to be ignored. It took \$2.9 million "kicks in the pocketbook" for them to finally realize that they needed to mitigate the hazard. Today, thanks in large part to Stella's burns, your coffee may burn you but not scald you.

I believe that an SMS would have saved Stella from years of misery. With powerful lawyers on their side, I suspect that settlement was likely appealed until she died or at least ended up being a lot less than the original award.

Now, the airline with the loose track cover likely had a form of SMS in place and my wife's incident was very likely not the first. I base that on the quick response and the action taken to eliminate the hazard. All too often we need more than one "poke-reminder" before we react to a hazard. At least they likely had a system in place to

do a risk analysis of the potential hazard and likely determined that the cost to eliminate the hazard was minimal. Persons who know about the hazards, according to the earlier study, indicated that the supervisors being close to the “worker bees” knew 74%. Middle management’s knowledge dropped to a whopping 9%, while the man with the money at the top was aware of only 4%. An SMS requires him to put a system in place so that he can no longer say “I didn’t know” after an accident occurs. I’d like to devote the next few articles into what can make for a successful SMS that ensures that the small stuff does not become big stuff. Can you say that yours is doing that? If not sure, stay tuned.