TerranearPMC Safety Share

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Week of June 4, 2018 – Safety in the Age of Future Shock

In 1970, the revolutionary book, *Future Shock*, hit the NY Times Bestseller list. Millions of Americans were suddenly thrown into a new reality; one that we today understand all too well. This book presented a warning to the world as a futuristic vision for which the human race was about to enter a technological revolution; one of an accelerated rate of scientific advances and social change and, as book critics described, would leave many people with a feeling of disconnection and while suffering from stress and disorientation. In other words, technology would be changing at such a rapid rate during a short period of time, people could not keep up with such a fast progression and therefore be left behind, only to be guided blindly, without explanation of the reason why we all must continue moving within a world that the average person would merely exist and only hope to be able to cope.

Back in the early 1970's, probably many were skeptical of such a concept, but today, with the continuous updating of software, smart phones, computers and other electronics, it seems that we accept the continuous progression of technology which causes many to feel lost and constantly overwhelmed. And this technological paradigm seems to have invaded our most popular mode of transportation. That is, our cars.

As international corporations have made that concerted effort towards environmental-friendly technology, it looks like automobile manufacturers have smelled the coffee and realized that if they wish to remain competitive, they need to move forward with their own unique advances in technology. And we see this every year as new cars with new gadgets emerge on the market, enticing us to forsake last years' dinosaurs and buy the latest and greatest.

Of course we are all aware of the latest major change with cars; that is hybrid and fully electrical cars that include the use of a "Fob" instead of an actual key; requiring a simultaneous foot on the brake pedal while pushing on the ignition button to start the engine. And then, turning the car off by pushing the button once more – when the car has been placed in park – otherwise the car will not shut off. A report from the New York Times found that dozens of people have been poisoned by carbon monoxide after failing to shut off the keyless ignition on their vehicles. If a driver inadvertently leaves the car running when exiting the vehicle, exhaust from the engine continues to be expelled. This is turning out to be a common mistake with many hybrid owners – especially when they first buy their car, as these technological wonders operate with a minimum of noise, thus not triggering us to realize that the car is still on. As it turns out, this is occurring all too frequently. And, if the car is parked in a closed garage, carbon monoxide fumes from the idling engine may seep into the living area, possibly harming occupants. Meanwhile, another, stealthier problem exists. As it turns out, electric vehicles could restart itself, say to address a climate control need. And, a driver doesn't have to be absent-minded to assume that the car is shut down—after all, the engine isn't running.

Recently a number of lawsuits have been filed against automakers including a potential class action suit against the 10 largest automakers. This suite centers on the allegation that automakers have known about this issue for years but, according to the New York Times, have ignored it.

One would think that it would rather simple to make the change from using a key to pushing a button. However, as the S&H industry constantly warns, changing conditions is a major precursor for accidents. Such conditions falls under the broader topic of human error. As the line from Alexander Pope's Essay "An Essay on Criticism" states, "to err is human" (the next line is "To forgive is divine"), we humans are less than perfect and as such, making mistakes will always be a characteristic – some might even call it a flaw.

After years of writing and reviewing accident investigations, it is apparent to those in the world of S&H that to overcome our humanness, appropriate measures need to be applied. One is to write a procedure. Another is to engineer our humanness out of the equation. Writing procedures have shown to be effective. However, they need to be properly reviewed and tested to ensure there are no gaps for which a person may accidentally (or intentionally) bypass a step and therefore, rendering the procedure less than 100% effective as its ability to control unwanted events (i.e. accidents, near-misses, etc.) would be compromised. This is the primary reason why employees need to follow a procedure verbatim and should - in the event of working to the procedure - an uncontrolled hazard appears, *a stop work* or *work pause* is initiated. This stop/pause work authority should be detailed in every corporate ES&H program, as this is a right and obligation of everyone - not just for managers or team leaders. Once a gap in a procedure is noticed and a work pause has been initiated, the procedure needs to be amended so as to capture the missing control or correct the inappropriate step. Therefore, it should be evident that controlling workplace incidents requires a team effort and commitment by everyone.

Of course while having an effective procedure with verbatim compliance and stop work authority can be very effective, the hierarchy of controls always defers to the application/installation of engineering controls as the primary control measure. Once a hazard has been addressed through an engineered mechanism, the hazard has been eliminated and therefore, the chance of human error causing an incident has been removed. And this is what car manufactures are beginning to initiate in there hybrids and electric vehicles.

As an engineering control, some automakers have installed warning devices to try to warn someone that they've left the car running. This is typically an external chime or a chirp of the horn, but only happens if a driver leaves the engine idling while still holding the electronic fob. Such warning devices are similar to what a number of automakers have recently been considering for ensuring a child is not inadvertently left in a vehicle – especially during a hot summer day, and resulting in severe hyperthermia and subsequent deaths.

Of course such devices are intended to be proactive to advert a tragedy; however, as more and more signals, beeps and buzzers keep getting added, do we, as humans become immune and even complacent to all these warning noises? Once again our humanness becomes a factor. *Future Shock* told of the possible onslaught of a technological revolution that if left unchecked, would progress too fast for people to control. However, through diligent examination, we have the ability to determine root causes as well as contributing factors and to pause work until we have placed things in check.

You never realize how much of your background is sewn into the lining of your clothes - Tom Wolfe