



DIRECTOR'S CORNER



The process industry is a much safer industry than many other industries and is quite a bit safer than many recreational activities. Nonetheless, it is my belief that a majority of the incidents in the process industry occurs because someone did not do what they were supposed to do or someone did not take advantage of the information that is available reasonably easily. I think some things are pretty simple and straightforward. Such as if you are going to use or do anything with a chemical, it is your responsibility to learn everything about the chemical and treat the chemical with the respect it deserves.

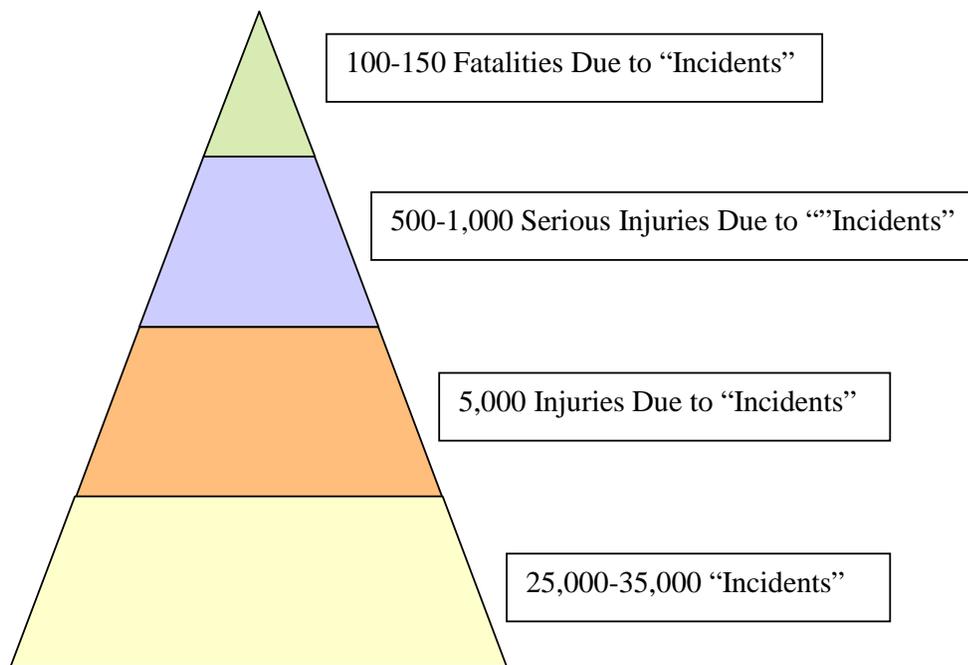
Another issue I feel strongly about is being able to learn from incidents and capture those lessons into our design, procedures, training, maintenance, and other programs. As I have said on many occasions, one of the attributes of a good safety culture that is a “must” is “learning from incidents.” I think there is no excuse when “lessons learned” from incidents are ignored or not implemented, particularly “lessons learned” from incidents that have occurred in one’s own organization or incidents that are widely publicized. The organization

must naturally have good incident investigation procedures and all the other management systems necessary to take advantage of the lessons learned. But one factor that is often overlooked is the types of incidents that are tracked or investigated. Quite often incidents are defined narrowly and include only the ones that caused serious or catastrophic consequences. While this may be the politically expedient thing to do, it leads to some problems and pitfalls.

The ratios involving various types of incidents is a key concept in loss control. Various studies have indicated that losses from different types of incidents follow an incident pyramid (of the type shown in the Figure) with ratios among the different categories. For example, Heinrich (1959) reported the following ratio for three different types of incidents:

Major or lost time injury/Minor injury/No injury = 1:29:300

Several other later studies have indicated similar patterns for incidents. In fact, our own analysis conducted for 1998 data on incidents in the United States indicates similar patterns.



The underlying causes for incidents are usually the same regardless of which part of the pyramid the incident falls in. In other words, an incident that causes no injury and is classified in the lower part of the pyramid could easily have been classified in the top part of the pyramid. Consider for example a gas release that occurs when the wind speed and wind direction are such that the gas disperses before it can encounter an ignition source. The incident would then be classified as a near-miss falling in the lower part of the incident pyramid. But, now consider the same gas release that occurs when the wind speed and wind direction are such that the gas encounters a nearby ignition source. The situation could be more aggravated if nearby workers are knocked down or thrown against concrete walls or equipment. The event could likely lead to injuries or fatalities. Thus, it seems that the same learning could be developed and captured into the procedures and training by analyzing and investigating the near-miss. Thus, the broader the incident definition, the more statistically sound the lessons from the incident analysis. In fact, it would seem that as safety programs mature, the incident definition should be expanded to include not only near-misses but other leading indicators as well.

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Fall 2003