



Director's Corner

In late Spring, I was contacted by the History Channel to be interviewed as part of the series they were in the process of filming entitled “Mega Disasters.” The particular segment I was to be a participant in was called “Toxic Cloud.” Because of the fact that this topic is one that is important to all stakeholders—industry, the public, federal and state legislators, academia—I decided that I should, as Center Director, provide the academic, research based opinion.

So, one Sunday afternoon the crew filming this segment arrived at the Center. During the interview, I discussed major catastrophic incidents that have occurred in the past, but also the strides we as a society and in academia have made since these disasters have happened. All the students and many staff members showed up to help provide a well-rounded picture of our work in the Center—the library, the laboratories, the research equipment. We spent several hours filming the students in the library, research discussions, laboratory operations and then a formal interview.

I spent quite some time discussing the previous disasters and lessons learned. The interviewer was also interested in current plants that have large quantities of toxic chemicals such as hydrogen fluoride and chlorine. I pointed out that inherent safety options can and should be considered; however, we must be aware of the differences in implementing inherent safety options for existing plants, as compared to new plants. Also, in some cases, a seemingly clear choice with regard to inherent safety may create some undesired and unintended consequences. Issues such as risk migration, reduction of overall risk, and practical risk reduction should be evaluated whenever an inherent safety option is considered. Implementation of inherent safety options should not be allowed to create other unintended consequences. An example I quoted in this context is the substitution of hydrogen fluoride (HF) with sulfuric acid (H_2SO_4) for refinery alkylation processes. While it is true that HF is more toxic than H_2SO_4 , the amount of H_2SO_4 needed to do the same amount of processing is 25 times or more than HF. Thus, changing from HF to H_2SO_4 would require large storage facilities and more transportation. In fact, changing from HF to H_2SO_4 may provide more opportunities for incidents (intentional or unintentional). On the other hand, a well-managed plant with a smaller amount of HF and appropriate safety protective systems may represent a lower overall risk.

I believe it is important to continue to participate in forums like The History Channel documentary to provide a balanced science-based perspective. As the old adage goes, “If you don't speak for science, somebody else will.”

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