

Director's Corner



Chemicals play a key role in today's high-tech world. The chemical industry is linked to every technologically advanced industry. Only a handful of the goods and services we enjoy on a daily basis would exist without essential chemical products. Chemicals are also a big part of the economy in Texas and many other states. For example, the Texas chemical industry alone provides more than 100,000 jobs, and the state's chemical products are shipped worldwide at a value of more than \$20 billion dollars annually. But the use of chemicals is a two-edged sword. Safe use creates a healthier economy and a higher standard of living. Unsafe use threatens our lives, our businesses and our environment. As the industry's sophistication increases, so does the need to work and live safely with chemicals. In order to accomplish this, many stakeholders must work together diligently and with persistent determination. A common theme that also must be present is competence at all levels with regard to knowledge and execution of responsibilities.

On Wednesday, April 18, 2013, an initial fire exacerbated into an explosion at West Fertilizer in West, Texas, causing the deaths of 15 people and injuring more than 200 others. The blast wave completely destroyed the facility and also caused varying levels of damage to many buildings, businesses, and homes at significantly long distances from the plant. More than 50 homes, a 50-unit apartment building, a nursing home and four schools were in the impact zone. Of the 15 people who died, 12 were emergency responders, who were responding to the initial fire and trying to control and extinguish the fire when the catastrophic explosion occurred. It should be stated that much is still unknown about the incident and investigations are still ongoing.

The West Fertilizer facility had a capacity to store 110,000 lbs of ammonia and 540,000 lbs of ammonium nitrate (Tier II reporting data from 2012). So, what should we do in the aftermath of the incident in West, Texas? I believe that before we start looking at new regulations or revising regulations, we owe it to ourselves to determine if the existing regulations in the books are being implemented and enforced in a comprehensive and universal manner. I don't think we are currently doing that, *i.e.*, enforcing existing regulations through a comprehensive scheme and plan of inspections and audits. In my testimony to the U.S. Senate Environment and Public Works Committee, I made the following recommendations:

1. Establishment of a national chemical incident surveillance system for process safety incidents. There is presently no reliable means for evaluating the performance of industry in limiting the number and severity of accidental chemical releases. There is also limited data with which to prioritize efforts to reduce the risks associated with such releases. Without this information, there are no means to measure the effectiveness of present programs or to guide future efforts.
2. Development of incident databases and lessons learned. This knowledge base could then be used to improve planning, response capability, and infrastructure changes. Recent experience in this regard is the improvement in planning and response for hurricane Rita from lessons learned from hurricane Katrina.
3. As a nation, we need to understand if regulations are doing what we intend them to do. To do that, we must understand the issues and to what agency to turn to find a solution. I strongly urge the U.S. Congress to mandate a risk-based study to determine the hazards/risks and develop a regulatory map of hazardous materials oversight. This study should take into consideration types of facilities, their locations, chemicals involved and their quantities in order to determine what agencies do or do not regulate these facilities.
4. All federal agencies with responsibility to regulate safety/risk and associated issues should be required to conduct a primary screening to determine their regulatory landscape. Inter-agency training and briefings with regard to what each agency is covering and how they are enforced would also be beneficial.
5. Once the regulatory landscape is determined in item (4) above, each federal agency should be charged with developing a plan and schedule for ensuring compliance through regular inspections.

6. Inspections can only yield positive results when an adequate number of qualified, trained and competent inspectors are available. Clearly, in these days of budget restrictions, hiring and training hundreds or thousands more inspectors is going to be a challenge at least and at worst impossible. A cost-effective and viable alternative is third-party certified audits and inspections mentioned in item (7) below.
7. Congress should consider directing federal agencies to create verifiable and certified third-party auditing and inspection systems. This approach has worked for ISO-9000 certifications and other programs. There are market-based approaches through which this regime can be implemented without causing a major burden on the regulatory authority or the regulated community. For example, refer to the studies done by the University of Pennsylvania's Risk Management and Decision Processes Center regarding third-party audits and inspections for EPA's Risk Management Program and Environmental Programs.
8. I believe that EPCRA Sections 301-303 provide a systematic framework for coordination of hazard information, prevention programs, and emergency planning and response involving the federal government, state emergency response commissions (SERC) and the local emergency planning committees (LEPC). However, because of a lack of systematic funding and operational capability, most LEPC's are dysfunctional or exist in name only. Some further examination into better communication between the federal and state partners is needed. I urge Congress to look into ways to solve this problem and utilize the LEPC framework in an effective manner.
9. The fact that a nursing home, schools, residential neighborhoods, and other public facilities were so near the blast zone in the West Fertilizer incident raises questions about zoning and land-use planning. I urge the U.S. Congress to look into ways to encourage states and local governments to improve and enforce risk-based zoning and land-use planning. 

¹http://opim.wharton.upenn.edu/risk/library/2001_JCB_3rdPartyAudits.pdf

²<http://opim.wharton.upenn.edu/risk/downloads/archive/arch272.pdf>

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Summer 2013

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