

Hurricane Harvey Raises Questions About Chemical Facility Safety

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The 2017 Atlantic hurricane season, which runs from June 1 through Nov. 30, has already been one of the most devastating on record. The relentless onslaught of Harvey, Irma, Jose and Maria, among others, has to date resulted in nearly 300 fatalities, displaced millions of people, and caused hundreds of billions of dollars of damage, including the annihilation of Puerto Rico's electricity and transportation infrastructure.

In keeping with U.S. Environmental Protection Agency Administrator Scott Pruitt's refusal to acknowledge the connection between human activity and extreme weather events, he dismissed any discussion of climate change following these natural disasters as "insensitive" to the victims. In a similar vein, Pruitt issued an order delaying the implementation of rules designed to make facilities that house chemicals safer for the environment, employees and surrounding communities.

Loss of Power Results in Explosion at a Chemical Facility

Though not the strongest of the bunch, Hurricane Harvey battered the greater-Houston area for several days at the end of August, resulting in more than six feet of floodwaters in some spots. The Arkema Inc. facility in Crosby, Texas, approximately 25 miles from downtown Houston, was among those hit hard by the storm. Arkema is a French-owned specialty chemicals and advanced materials company with its U.S. headquarters and primary research and development center in King of Prussia, Pennsylvania. According to Arkema's corporate website, its Crosby facility "produces liquid organic peroxides that are used primarily in the production of plastic resins, polystyrene, polyethylene, polypropylene, PVC and polyester reinforced fiberglass and acrylic resins."

On Aug. 30, Arkema warned authorities that the Crosby facility lost both its primary power source and generator back-up power as a result of extreme flooding. These power sources were critical to operate refrigeration systems required to keep stable the volatile chemicals stored onsite.

As predicted, following the loss of refrigeration, the first explosion was detected at the facility at around 2 a.m. on Aug. 31. The explosion originated from one of nine box vans, each of which contained 36,000 pounds of organic peroxide. While local officials and Arkema executives downplayed the threat posed by the explosion and the resultant black smoke, the public was kept in the dark about the contents of a plume emanating from the facility. Pressed for answers, Arkema CEO Rich Rowe refused to release the company's risk management plan and chemical inventory to reporters, documents which would allow surrounding communities to know if the air they are breathing threatens their health and safety. How could the identities and quantities of the various chemicals stored at Arkema's facility remain hidden from the public in light of federal disaster management planning and chemical inventory disclosure requirements?

How Public Is Public Disclosure?

Congress amended the Clean Air Act in 1990. In addition to major reforms such as the creation of the Title V operating permit program, the amendments included Section 112(r), which provides for the prevention of accidental chemical releases. Section 112(r) was inspired by chemical accidents around the world, including the notorious and deadly 1984 gas leak from a chemical factory in Bhopal, India, and is a unique component of the Clean Air Act. Through a provision focusing on the prevention of accidental releases, rather than the regulation of traditional air emissions, the Clean Air Act now covered many facilities that did not otherwise emit air pollutants.

EPA regulations implementing Section 112(r) established the Risk Management Plan Rule which requires facilities that use certain extremely hazardous substances to develop a Risk Management Plan (RMP). A key purpose of the RMP is to get managers of chemical facilities to think about the potential impact of a chemical accident (including a worst-case scenario evaluation), implement concrete steps for preventing accidents, and prepare emergency response protocols to be followed in the event of an accident. The RMPs are also an important tool for local police and fire departments when responding to a chemical emergency and, according to EPA's website, "informing the public."

The Emergency Planning and Community Right-to-Know Act (EPCRA) of 1986 provides the public with an additional mechanism for obtaining information about an individual facility's chemical inventory. Pursuant to the EPCRA, a program administered by state agencies (in the case of Texas, the Texas Commission on Environmental Quality (TCEQ)), each facility must prepare a report, known as a Tier II Emergency and Hazardous Chemical Inventory Form, that includes the locations and amounts of hazardous chemicals present at such facility.

In accordance with disclosures required by the RMP and Tier II regulations, the public should theoretically have had access to an inventory of the chemical contents of the Arkema facility and information concerning toxicity of the smoke. If a disclosure was truly intended to be readily available to the public, it would be easily accessible on a government-run online repository similar, for example, to the U.S. Securities and Exchange Commission's EDGAR database. However, in practice, it is not quite so simple. While technically publicly available, to view a company's RMP, an individual must make an appointment at a Federal Reading Room at least seven days prior to the date he wishes to conduct the review, and at that time only the off-site consequence analysis portion of the RMP is available for review. This process is clearly inadequate when an emergency suddenly occurs.

Further, Tier II disclosures are administered by the states. In May 2014, then-attorney general of Texas Greg Abbott, now the state's governor, issued a ruling that state agencies would not be required to release Tier II reports because of terrorism and homeland security concerns. The announcement relegated individuals to requesting such reports from companies directly, which has made them difficult to access. Although companies are technically required to provide Tier II inventories within 10 days of a formal request, accounts from Texas indicate compliance and enforcement deficiencies.

After Harvey and the Arkema Crosby Facility Explosion

Immediately after the Arkema explosions, Sen. Tom Carper of Delaware, ranking member of the Senate Committee on Environment and Public Works, sent a letter to Pruitt expressing his concerns over EPA's decision to delay the implementation of a rule improving chemical facilities' emergency preparedness. The proposed rule would, among other improvements, require third-party audits of safety procedures, more disclosure to the community about what is being stored in chemical plants, and better coordination between chemical companies and first responders. Sen. Carper echoed the sentiment of many Houstonians that "failure of both of Arkema's emergency backup power supply measures and subsequent evacuation of on-site personnel clearly raise questions related to the sufficiency of Arkema's Plan and its implementation."

It is worth noting that President Donald Trump's budget proposal calls for the elimination of the U.S. Chemical Safety & Hazard Investigation Board, an independent federal agency responsible for investigating industrial accidents involving hazardous chemicals and passing those findings on to industries, regulators and safety officials. In light of recent patterns of extreme weather conditions and evidence of the panic that can ensue when the public is ill-informed, serious thought should be given to whether we can afford to weaken or delay protections for communities surrounding facilities that house potentially harmful chemicals.

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