Poor planning left firefighters unprepared

BY M.B. PELL, RYAN MCNEILL AND JANET ROBERTS
WEST, TEXAS, MAY 22, 2013

A U.S. law aims to prepare communities for chemical accidents. But towns don’t always pay heed, as was seen in last month’s disaster in Texas.
The fertilizer-plant explosion that killed 14 and injured about 200 others in Texas last month highlights the failings of a U.S. federal law intended to save lives during chemical accidents, a Reuters investigation has found.

Known as the Emergency Planning and Community Right to Know Act, the law requires companies to tell emergency responders about the hazardous chemicals stored on their properties. But even when companies do so, the law stops there: After the paperwork is filed, it is up to the companies and local firefighters, paramedics and police to plan and train for potential disasters.

West Fertilizer Co of West, Texas, had a spotty reporting record. Still, it had alerted a local emergency-planning committee in February 2012 that it stored potentially deadly chemicals at the plant. Firefighters and other emergency responders never acted upon that information to train for the kind of devastating explosion that happened 14 months later, according to interviews with surviving first responders, a failing that likely cost lives.

It's a scenario that has played out in chemical accidents nationwide – one that the U.S. Chemical Safety Board has repeatedly identified as contributing to deaths and injuries spanning more than a decade.

The emergency response to the fire and explosion in West is among the issues the board is examining as it investigates the disaster, said Daniel Horowitz, the regulatory board's managing director.

"One universal finding about these sorts of accidents is no one fully recognized how hazardous the material or process was," he said. "And I don't think this one will be any different."

The problem with the Emergency Planning act is that it relies on small fire departments to plan and train for fires and explosions involving any number of highly hazardous chemicals, said Neal Langerman, chemical and health safety officer at the American Chemical Society. Those fire departments are often staffed by volunteers, funded by charitable contributions and lacking high-tech equipment.

"The West, Texas, first responders were doing the best they could under the circumstances," Langerman said. "The failure was in the community, county and state leadership to provide emergency planning and implementation guidance."

"I don't think it's appropriate to beat up on what the first responders did at the time of detonation, but everything that led up to it – preparedness and preparation – was lacking," Langerman said.

West Mayor Tommy Muska, a member of the volunteer fire department, said he does not want to engage in second-guessing.

"I think our fire department did an excellent job in protecting the people," he said. Ten first responders died in the disaster.

Langerman said he has seen the same problem again and again, and not just in Texas: Many first responders across the United States lack the training and resources to respond to hazardous chemical accidents, he said.

The lack of preparedness endangers not only firefighters and emergency medical technicians, but also people nationwide living near chemical stockpiles similar to those that exploded in West.
At least 800,000 people in the United States live within a mile of 440 sites that store potentially explosive ammonium nitrate, which investigators say was the source of the explosion in West, according to a Reuters analysis of hazardous-chemical storage data maintained by 29 states.

Hundreds of schools, 20 hospitals, 13 churches and hundreds of thousands of homes in those states sit within a mile of facilities that store the compound, used in both fertilizers and explosives, the analysis found.

Of the remaining 21 states, 10 declined Reuters’ requests for data, and one declined to release the information in electronic form. The rest either provided incomplete information, did not respond, don’t maintain the filings electronically or are still considering the requests. Federal law requires such information be made available to the public within 45 days of a request. Reuters requested the information four weeks ago.

Even the Chemical Safety Board, the federal agency charged with investigating chemical accidents nationwide, does not have access to a complete national inventory.

Since 1990, companies have reported more than 380 incidents involving ammonium nitrate to the National Response Center, a federal agency that collects reports of spills, leaks and other discharges within the United States. Eight people were killed, 66 injured and more than 6,300 evacuated in those incidents, according to the center’s data.

But incident reporting is voluntary, and center officials say the records cover only a fraction of all incidents.

“No one ever knew you were going into something like that.”

Kevin Maier
West Volunteer Fire Department

Preparation for a potential ammonium nitrate explosion in West should have begun after the company first reported storing the compound under the EPCRA law. That act was passed by Congress in 1986 after a chemical gas leak two years earlier in Bhopal, India, killed 4,000 people. The intention was to inform the U.S. public and emergency responders about the dangers so they could plan for accidents.

Documents on file with the Texas Commission on Environmental Quality show that West Fertilizer was handling thousands of tons of ammonium nitrate as early as 2006. It wasn’t until February 2012 that the company listed the compound on a federally required hazardous-chemical inventory, known as a Tier II filing. The company listed ammonium nitrate on the Tier II report it submitted to the Local Emergency Planning Committee in McLennan County.

The company was required to file copies of the same report with the Texas Department of State Health Services and the West Volunteer Fire Department. Texas DSHS records show the company’s February 2012 Tier II filing did not list ammonium nitrate. Company officials have declined to speak with reporters.

Local officials said they were not aware of the reporting discrepancy until Reuters brought it to their attention on Friday. State officials asked a Reuters reporter to send a copy of the local filing, and said they have alerted the U.S. Environmental Protection Agency about it because of EPA’s enforcement authority over EPCRA.

In February 2013, the company submitted its 2012 Tier II report to Texas DSHS. The county’s Local Emergency Planning Committee has no record of receiving
a copy, said Mike Dixon, a McLennan County attorney.

It is unclear whether the company ever filed a Tier II report with the local fire department.

What is clear is that when the plant caught fire on April 17, people inside the fire trucks and ambulances that rushed to the scene did not know how much ammonium nitrate was on hand or how quickly it could produce a massive explosion. They had never trained for a scenario like the one that unfolded, said firefighter Kevin Maler.

In the 10 years he has served on the West Volunteer Fire Department, Maler said he never saw West Fertilizer’s Tier II report. He added that the department never conducted drills to prepare for an explosion at the facility. Those observations were confirmed by other first responders Reuters interviewed who did not want to be named.

“No one ever knew you were going into something like that,” Maler said.

Maler left the scene of the fire to retrieve protective gear. As he returned, the facility exploded, killing 10 first responders. The blast from the explosion shattered windows in his home, nearly a mile from the blast. His mother’s house near the fertilizer facility was destroyed; she was not harmed.

A professional firefighter from a nearby community said he tried to look up West Fertilizer’s Tier II report on his way to the scene. He did not know how to find it online, however, and he was unable to locate it.

West Fertilizer’s owner, Donald Adair, declined to discuss the plant’s emergency preparedness with a reporter. He also declined previous requests for comment. Earlier, he said he had instructed his employees to cooperate with investigators.

The West fire chief was injured in the explosion and has been unable to answer questions about the department’s preparedness. He has referred reporters to Mayor Muska, a volunteer firefighter who was on his way to the scene when the plant exploded.

Muska’s comments added to the uncertainty about whether West Fertilizer filed a Tier II report with the department. He said last week that he believed West Fertilizer had filed one. In an interview several weeks ago, he said the fire department had no hazard plan on the company because the plant sat outside town limits.
Regardless of what reports were on file, firefighters knew generally that the plant stored hazardous chemicals, Muska said. The plant foreman, Cody Dragoo, was among the firefighters who died in the blast and knew what was stored there, he said.

Muska rejects suggestions that first responders were not prepared, and he considers their efforts a success that night.

“The City of West and the McLennan County emergency planning and response system worked on April 17, 2013,” he said in a letter he prepared last week for the media. “We evacuated half of our town, secured the affected area, searched for and rescued the injured, suppressed fires, and, in about two hours, transported more than 200 injured citizens to ready and waiting hospitals.... Make no mistake: ‘volunteer’ does not mean ‘underprepared.’”

DEADLY DECISIONS
The initial responders’ fates were sealed by the decision to fight the fire, which was reported to 9-1-1 operators at 7:29 p.m. The first firefighters arrived at the plant swiftly - about three minutes later.

They began spraying water on the fire from a tanker truck, and began laying hoses to the nearest fire hydrant, about 2,000 feet from the plant, farther than the length of their longest hose, said Maler, one of the surviving firefighters. They had decided to begin hosing down anhydrous ammonia tanks on the property, worried the tanks might overheat and explode, releasing the toxic gas into the atmosphere and endangering thousands of people who lived around the plant. An apartment complex and nursing home sat within a few hundred yards.

In hindsight, Maler said, fighting the fire was the wrong call. About 20 minutes after the responders got there, an explosion sent a massive fireball into the sky, killing most of the firefighters on the scene. The state fire marshal says ammonium nitrate was the source of the explosion. The exact cause of the fire and explosion remains undetermined.

317
Number of U.S. schools located within a mile of an ammonium-nitrate stockpile.
Source: Reuters

Firefighters who have battled ammonium nitrate fires elsewhere - without death or injury to first responders - say having the Tier II information was critical to their success. They knew what they were facing going in, and responded accordingly.

Called to a fire at a similar fertilizer facility in 2009 in Bryan, Texas, firefighters opted not to fight the blaze. Although the circumstances were somewhat different – firefighters knew going in that ammonium nitrate already had ignited – the first responders decided to keep a safe distance and evacuate nearby residents. No one was injured, and the fire burned itself out.

Key to the response, said Chief Joe Ondrasek of the Brazos County Fire Department Precinct 4, was having the fertilizer company’s Tier II report in hand. Firefighters were unable to contact the plant manager immediately, he said, and therefore relied on the report to inform their response.

A federally funded program intended to grant fire departments online access to the Tier II reports was not being used in West. Although some firefighters in Texas said they know about and use the system, known as E-Plan, others said they didn’t know of its existence or how to access it.

Federal funding for the E-Plan system was eliminated last October, which could hurt efforts to keep it up and running.

McLennan County is working with a community college to develop a website that would make it easier for the public and first responders to access Tier II
information, said Frank Patterson, emergency management coordinator for Waco and McLennan County.

“It’s very similar to a sex offender registry,” Patterson said. “It’s like anything else, the more information you have, the better off you are.”

Firefighters in Bryan also were better prepared to evacuate residents because they had what is known as a reverse 9-1-1 system that auto-dials residents in an affected area to notify them to get out. This is the preferred way to alert a community to an evacuation, fire safety experts say.

West lacks such a system. Emergency responders went door to door to notify residents of the need to leave, a process that Muska said started before the explosion and unfolded over about two hours. The community has emergency sirens, which sounded that night. But West residents said the sirens are used often for many types of incidents, and they had never been issued instructions about what to do when horns go off.

APPLYING THE LESSONS

As part of its work in the wake of the West disaster, the Chemical Safety Board will examine the training and procedures that emergency responders had in place for ammonium nitrate and other hazardous fires, said board spokesman Hillary Cohen. The board will look for ways those procedures “can be made more protective for the over 1 million firefighters across the country,” she said.

The board, in at least 15 other chemical accidents occurring in 13 different states since 2002, has found fault with companies for failing to inform responders about risks at their facilities; with responders for failing to plan, train and prepare for those risks; or with communities for failing to have effective systems in place to notify the public when an evacuation is needed.

Horowitz, of the Chemical Safety Board, pointed out the weakness of the federal reporting law.

“What we’ve often found is once you drill down to the local level, there’s not a lot

In harm’s way

Reuters found at least 800,000 people, 317 schools and 20 hospitals located within a mile of U.S. ammonium-nitrate storage sites.

SCHOOLS

HOSPITALS

POPULATION

Sources: Census Bureau/National Center for Education Statistics/State environmental, public safety and emergency response agencies.
of resources for this activity," said Horowitz. "Congress provided the mandate back in 1986, but they didn't provide any real funding or regulatory authority."

Texas has awarded more than $3 million in grant money over the past three years to pay for hazardous-material training exercises and to help 26 Local Emergency Planning Committees understand the transport of hazardous materials through their communities, said Tom Vinger, spokesman for the Texas Department of Public Safety. The Texas Engineering Extension Service at Texas A&M University has trained about 6,000 first responders in handling hazardous material incidents, he said. Texas has about 50,000 paid and volunteer first responders.

Also, Vinger said, the state reviews local emergency-response plans, conducting more than 3,000 reviews in 2012. Vinger did not respond to questions about whether any money or training went to West or McLennan County.

“A common phrase in the emergency-management community is that all disasters are local,” Vinger said. “The reason being that local governments and officials are best suited to identify, plan for and immediately respond to significant disasters that occur in their area.”

Preparation for a hazardous-chemical incident will be discussed among emergency responders in McLennan County for a long time to come, said Patterson, the emergency coordinator. The county cannot require fire departments to develop emergency plans or tour hazardous chemical storage facilities in their communities, he said. But he said the county plans on providing them with direction and additional resources.

“There's no doubt we're going to encourage the fire departments to look at the facilities in their jurisdiction,” Patterson said. “There's always lessons to learn going forward.”

West's Mayor Muska agreed. “We did a lot of things right,” Muska said. “We did a lot of stuff that was probably not exactly right.”

Edited by Maurice Tamman and Michael Williams
A law Congress passed more than a quarter-century ago to alert the public to chemical hazards is seen today by some government officials as a potential tip sheet for terrorists.

As a result, public access to hazardous-chemical inventories is often spotty.

Twenty-nine states provided copies of their chemical inventory data, but 10 refused, some citing concerns that the information might be abused by terrorists. Ten of the 50 states said they wouldn’t disclose their chemical inventory data, with some citing concerns that the information might be abused by terrorists. South Dakota declined to provide it in electronic form. The rest either didn’t have electronic data or had not responded to requests as of Wednesday, four weeks after Reuters sought the data.

Federal law stipulates that data be released within 45 days of request.

The U.S. hazardous-chemical reporting program, known as Tier II, is meant to alert residents to dangers in their communities and to inform planning that could prevent fatalities and injuries. The program grew out of the Emergency Planning and Community Right to Know Act, enacted in 1986, following leaks of dangerous chemicals in India and West Virginia.

Awareness and preparedness have drawn scrutiny in the wake of an April 17 fertilizer-plant explosion in West, Texas, that killed 14. Investigators are exploring whether the community and first responders knew what was stored at the plant and properly prepared for a disaster.

The law entitles anyone, not just emergency responders, to review the reports. Reuters asked officials in all 50 states for copies of their chemical-inventory databases, with varying results.

Illinois makes the data available online. Georgia emailed the data within 15 minutes of the request; Kansas and Kentucky did so within hours; Oregon shipped a DVD overnight.

An Arizona official said he would only release data for a specific facility, and only after consulting the company that had reported it, as required by state but not federal law. South Carolina said requesters must prove they live near a facility to obtain information.

Most states that declined to release data cited concerns about terrorist attacks or a state law barring release.

A mixture of ammonium nitrate and fuel was used to blow up the Oklahoma City federal building in 1995. After the 2001 terrorist attacks on New York and Washington, Congress enacted regulations to safeguard such chemicals and keep them out of criminal hands. In addition to reporting chemical inventories to state and local emergency planning agencies, companies are supposed to report to the Department of Homeland Security and then work with DHS to devise security measures.

Mark Howard, director of the Arizona Emergency Management Commission, said releasing the data would compound the difficult problem of securing chemical sites. By releasing only facility-specific information, Arizona officials are attempting to foil terrorists while fulfilling the purpose of the law to make essential information available to the public, he said.

“Stuff goes missing all the time,” Howard said. “I honestly believe this has the potential to create more harm than the public knowing.”

State government officials have access to the statewide inventory, he said, and are better suited to make decisions about chemical threats. “At some point, you have to hope the government is doing the right thing,” he said.

Selective disclosure wasn’t the intent when Congress passed the law, said one of its authors, former U.S. Rep. James R. Jones, D-Oklahoma.

The law was intended “not to have secrecy or make it very difficult to communities to know what is going on,” he said, “but it was to have a transparent, open means of letting the communities know what the potential dangers were.”

While the security concerns are legitimate, withholding data carries its own set of safety risks, said Michael Livermore, executive director for the Institute of Policy Integrity at New York University. Data enables an informed debate about risks, disaster planning and budget priorities.

“I think the Texas disaster shows why we need to make this data available: not only to inform the neighbors, but also to inform the broader policy discussion,” Livermore said.

FOR MORE INFORMATION
M.B. Pell
michael.pell@thomsonreuters.com
Ryan McNeill
ryan.mcneill@thomsonreuters.com
Janet Roberts
janet.roberts@thomsonreuters.com
Michael Williams, Global Enterprise Editor
michael.j.williams@thomsonreuters.com