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U.S. Public Interest Research Group

Hearing on Chemical Facilities Anti-Terrorism Act of 2009

Before the House Committee on
Homeland Security

The Honorable Bennie Thompson, Chairman

U.S. House of Representatives

Committee on Homeland Security

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Chairman Thompson, Representative King, members of the committee: I am Elizabeth Hitchcock, public health advocate for the U.S. Public Interest Research Group. U.S. PIRG is the federation of state PIRGs, which are non-profit, non-partisan public interest advocacy organizations with one million members across the country.

We are pleased to present our views at this hearing on the Chemical Facilities Anti-Terrorism Act of 2009. The State PIRGs have long been concerned with the important issues of toxic hazards in our communities, and the ability of the federal government to protect us from preventable hazards. We commend you for your efforts to improve security and safety at U.S. chemical facilities, including last year's passage of H.R. 5577 in this committee, and are happy to support the legislation before the Committee today.

Attached to this testimony is a letter from the more than 50 labor, public health, first responder, environment and other public interest organizations with whom U.S. PIRG joins in advocating comprehensive action on chemical security this year.

Summary

In August 2008, a huge explosion occurred at Bayer CropScience chemical plant in Institute, W. VA, killing two employees and sickening six volunteer firefighters. The blast was felt 10 miles away, and a tank weighing several thousand pounds "rocketed 50 feet through the plant." The tank luckily did not go in the direction of a tank holding methyl isocyanate, or MIC, the same chemical that killed thousands in the 1984 chemical plant explosion in Bhopal, India.ⁱ

In October 2006, an after-hours chemical fire at a hazardous waste handling facility in Apex, North Carolina triggered multiple explosions, and created a toxic gas cloud that forced officials to evacuate 17,000 residents. Low winds and steady rain helped rescue the town by suppressing the toxic cloud. It truly was a miracle that no one died or was seriously injured.ⁱⁱ

The safety and security of America's communities should not be a question of good fortune or circumstance. The U.S. needs comprehensive chemical plant security legislation that includes safer and more secure technologies as the most effective way to reduce chemical threats. Despite repeated attempts since 1999, Congress has been unable to pass a comprehensive chemical security bill. With security experts listing chemical plants as a vulnerable and deadly part of our nation's infrastructure, the implications of this delay are at once ominous and a missed opportunity.

Across the country, there are more than 7,000 chemical facilities that each put any of 1,000 or more people at risk of serious injury or death in the event of a chemical release from the facility. In March 2008, the Congressional Research Service reported that one hundred of these plants each put more than one million people at such risk.

In 2006, the House Homeland Security Committee passed a strong bipartisan bill. Regrettably, that effort was derailed in favor of a much weaker temporary program set to expire in October of this year. The interim chemical security law enacted in 2006 does little to eliminate the risks to our communities from these facilities. It prohibits the Department of Homeland Security from requiring safer more secure chemicals or processes that can eliminate or dramatically reduce the consequence of an attack. It also exempts thousands of chemical facilities such as water treatment facilities. We urge the committee to work quickly to pass a protective and comprehensive bill before the expiration of the existing CFATS program.

Congress should pass, and the President should sign, a chemical security bill that dramatically enhances security by:

- Reducing the consequence of an attack through the use of safer, more secure chemicals and processes where feasible

- Involving plant employees including hourly workers and their representatives in developing plant security programs
- Ensuring that both chemical companies and government are accountable
- Allowing states to set more protective security standards
- Including all categories of facilities such as water treatment plants.

Enacting a comprehensive law will provide essential protections to millions of workers and communities now living in the shadow of preventable disasters.

Any legislation that Congress considers should replace dangerous toxics with safer alternatives where feasible and set a floor, not a ceiling, for stronger state chemical security laws. A May 2006 National Academy of Sciences study found that *“the most desirable solution to preventing chemical releases is to reduce or eliminate the hazard where possible, not to control it.”* This means that the most certain way to make chemical plants safer and more secure is, where feasible, to eliminate the toxic chemicals that are the source of the danger by switching to safer and more secure technologies.

Fortunately, many safer alternatives are readily available. Hundreds of water treatment plants, power plants, and manufacturers have already switched to safer technologies and eliminated toxic exposure threats from these facilities to an estimated 38 million Americans. Most chemical manufacturing facilities have not adopted available safer technologies, and we need a chemical security bill that addresses these remaining chemical threats.

A deliberate or accidental release of toxic chemicals could have grave consequences, and action is long overdue to address these preventable chemical hazards. We urge the Committee to pass chemical plant safety and security legislation that uses American ingenuity to substitute available safer and more secure alternatives for toxic chemicals where feasible and prevents preemption of state chemical security laws.

Chemical Plant Threats are Widespread and Ominous

Chemical plants pose a unique and serious threat because they are widely distributed in hundreds of communities across the country, and a single strategic strike could release toxic chemicals capable of killing thousands.

Of the more than 15,000 chemical plants in the United States, the Environmental Protection Agency (EPA)ⁱⁱⁱ estimates that 100 put any of more than 1 million Americans at risk of death or serious injury from the release of toxic chemicals. Another 700 facilities place at least 100,000 in harm’s way, and an additional 3,000 facilities put 10,000 or more at risk. Stephen Flynn with the Council on Foreign Relations described^{iv} chemical plant dangers as “[t]he equivalent of weapons of mass destruction prepositioned in some of the most congested parts of our country.”

Current Chemical Security Legislation

The bill before the Committee establishes a more protective program that requires an assessment of safer and more secure chemicals by the facilities posing a risk to American communities and would require, in certain limited circumstances, implementation by the facilities in the two highest risk tiers. The bill is the product of months of work by the staff of the committee with input from our “blue-green” coalition of labor, public health, first responder, environment and other public interest organizations, as well as the input of a variety of other stakeholders.

Serious Threats Call For Real Solutions

Legislation passed by Congress must adhere to three principal concepts if it is to effectively protect against loss of human life by securing chemical plants.

- ***It must reduce the consequence of an attack at a facility through the use of safer more secure chemicals and processes.*** This encompasses a broad array of technological improvements including safer and more secure chemicals, real-time production methods that use up hazardous chemicals without accumulation, process redesign, reducing hazardous pressures or temperatures, and improving chemical use efficiency. Such technological improvements make chemical plants less attractive terrorist targets. Because physical security measures alone are not failsafe, safer more secure chemicals and processes offer the best protection for local communities by incorporating measures that will reduce or eliminate the loss of human life in the event of a successful attack.
- ***It must involve plant employees, including hourly workers and their representatives, in developing plant security programs.*** Workers at the facility have a vested interest in a safer and more secure facility because, simply put, they would be hurt first and worst in the event of an attack on the facility. Because of their intimate knowledge of their own workplaces they are also able to identify ways to reduce the consequences of an attack. Employees and their representatives should also be afforded basic rights to join inspections.
- ***It must require government oversight of chemical security.*** As with other anti-terrorism efforts, oversight of security at chemical plants should be a collaborative effort between federal, state, and local governments. Specifically, federal legislation must preserve the authority of states to establish more stringent security standards when necessary. States occupy a superior position to determine when local circumstances dictate additional security measures. State and local governments can also develop innovative security approaches, such as those already adopted by New Jersey and Maryland, which can instruct other state and federal efforts.

Experts Have Repeatedly Warned of Chemical Plant Threats

For years, government and private security experts have repeatedly warned of the inherent threats at chemical plants. Prior to 2001, the focus of concern was on catastrophic chemical accidents, such as the 1984 Union Carbide accident in Bhopal, India^v that killed thousands of people and seriously injured countless more. Since September 11th, expert warnings have increased in frequency and gravity, and now include the realistic potential for tactical terrorist attacks on chemical plants.

- The Justice Department^{vi} repeatedly warned of the terrorist threats at chemical facilities and concluded that the risk of an attempt in the foreseeable future to cause an industrial chemical release is both real and credible.
- In 2002, the U.S. Army Surgeon General concluded^{vii} that as many as 2.4 million people could be killed or injured in a terrorist attack against a chemical plant in a densely populated area.
- Since 2003, the Department of Homeland Security (DHS) and the Environmental Protection Agency (EPA)^{viii} have consistently stated that exclusive reliance on voluntary security efforts by the chemical industry are not sufficient to assure protection of public health and safety.
- In 2004 Stephen Flynn of the Council on Foreign Relations wrote in his book, **America the Vulnerable**,^{ix} that “[t]he chemical industry deserves urgent attention because the stakes are high, the opportunities for terrorists are rich, and no credible oversight process exists. It is the very ubiquity of the U.S. chemical industry that gives it potential to be a serious source of national alarm.”
- Appearing before the Senate Homeland Security and Government Affairs Committee in January 2005, President Bush’s former Deputy Homeland Security Adviser Richard Falkenrath^x testified that “[o]f all the various remaining civilian vulnerabilities in America today, one stands alone as uniquely deadly, pervasive and susceptible to terrorist attack: toxic-inhalation-hazard industrial chemicals....To date the federal government has made no material reduction in the inherent vulnerabilities of hazardous chemical targets inside the United States.”
- In a February 2008 news release, Association of American Railroads President & CEO Edward R. Hamberger said, “We can no longer continue to risk the lives of millions of Americans by using, transporting and storing highly toxic chemicals when there are safer alternatives commercially available. It is time for the nation’s big chemical companies to stop making the dangerous chemicals that can be replaced by safer substitutes or new technologies currently in the marketplace.”

States Acting to Fill the Chemical Security Void

In the absence of federal efforts to secure chemical plants, three states, New Jersey, Maryland and New York, have taken actions to improve the security and safety of chemical plants within their borders.

- In October 2001 New Jersey became the first state to begin to assess and address chemical plant security. Under the Domestic Security Preparedness Act, the New Jersey Department of Environmental Protection established best security practices for the State's 140 chemical facilities. These best practices include requirements to assess and remedy security vulnerabilities, and to conduct a review of the potential for adopting inherently safer technologies that could dramatically reduce or eliminate chemical plant threats.
- In July 2004, New York adopted chemical plant security measures when it passed the Anti-Terrorism Preparedness Act. Pursuant to the Act, the New York Office of Homeland Security oversees the development of vulnerability assessments at certain chemical plants. Although the New York law takes an important first step, it does not give the state any authority to require specific security improvements and is therefore weaker than the Maryland program.

Safer and More Secure Chemicals and Processes

The most effective method to secure chemical facilities is to replace dangerous chemicals and processes with safer alternatives when such alternatives are feasible and cost-effective. Safer chemicals and processes can effectively reduce the consequences of a successful terrorist attack.

- The National Research Council asserts that “[t]he most desirable solution to preventing chemical releases is to reduce or eliminate the hazard where possible, not to control it.”^{xi}
- According to the Government Accountability Office, “[i]mplementing inherently safer technologies potentially could lessen the consequences of a terrorist attack by reducing the chemical risks present at facilities, thereby making facilities less attractive terrorist targets.”^{xii}
- According to report prepared for EPA, four toxic gases account for 55% of the chemical processes that pose off-site consequences to surrounding communities.^{xiii} These toxic substances are chlorine gas, anhydrous ammonia, hydrogen fluoride and sulfur dioxide. All four chemicals have readily available and proven safer alternatives that are cost effective.^{xiv} Alternatives typically include: using alternate chemical or process, using the chemical in a less dangerous form (a less concentrated one, or aqueous instead of gaseous, for example), or generating the chemical as needed on-site without storage. For example:
 - More than 200 water treatment facilities (including Washington, D.C.) have converted to safer alternatives such as ultraviolet light, eliminating the use of chlorine and sulfur dioxide gas. But over 100 water treatment plants still threaten more than 100,000 people.^{xv}
 - Ninety-eight petroleum refineries use safer alternatives to hydrogen fluoride (HF). But 50 refineries still threaten millions of people with the use of HF.^{xvi}

Conclusion

We commend you, Mr. Chairman, for conducting this important hearing. We hope that you find our comments helpful. We look forward to working with you and your committee staff to move legislation addressing these concerns forward. We would also be happy to discuss other possible actions under the committee's jurisdiction to protect Americans against unnecessary risk from highly toxic chemicals in their communities.

ⁱ House Energy and Commerce Committee Majority Staff, MEMORANDUM: Supplemental Information Regarding the 2008 Bayer Chemical Plant Explosion, April 21, 2009

ⁱⁱ CASE STUDY: Fire and Community Evacuation in Apex, North Carolina, Environmental Quality Company, April 16, 2008, available at <http://www.csb.gov/investigations/detail.aspx?SID=15&print=y>

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- ⁱⁱⁱ *Voluntary Initiatives Are Under Way at Chemical Facilities but the Extent of Security Preparedness Is Unknown*, United States General Accounting Office, Mar. 2003, available at <http://www.gao.gov/new.items/d03439.pdf>.
- ^{iv} Angie C. Merek, *The Toxic Politics of Chemicals. Securing chemical plants: legislation and obfuscation*, U.S. News and World Report, Jan. 15, 2006, available at <http://www.usnews.com/usnews/news/articles/060123/23chemical.htm>
- ^v Edward Broughton, "The Bhopal disaster and its aftermath: a review", *Environmental Health*, 2005; 4:6. May 10, 2005, available at <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=1142333>.
- ^{vi} See Note 3.
- ^{vii} Pianin, Eric. *Study Assesses Risk of Attack on Chemical Plant*. The Washington Post. Mar. 12, 2002, available at <http://www.washingtonpost.com/ac2/wp-dyn/A10616-2002Mar11>
- ^{viii} See Note 3.
- ^{ix} Flynn, Stephen. *America the Vulnerable: How Our Government is Failing to Protect Us from Terrorism*. New York: HarperCollins, 2004.
- ^x Department of Homeland Security Oversight: Hearing Before the Senate Committee on Homeland Security and Governmental Affairs, 109th Congress (2005). (Statement of Richard A. Falkenrath, Visiting Fellow, The Brookings Institution), available at http://hsgac.senate.gov/public/_files/HSGACFalkenrathStatement.pdf
- ^{xi} Terrorism and the Chemical Infrastructure, National Research Council, May 2006, available at http://www.nap.edu/catalog.php?record_id=11597#toc
- ^{xii} *DHS Is Taking Steps to Enhance Security at Chemical Facilities, but Additional Authority Is Needed*, Government Accountability Office, Jan. 2006, available at <http://gao.gov/new.items/d06150.pdf>.
- ^{xiii} Belke, James C., *Chemical accident risks in U.S. industry - A preliminary analysis of accident risk data from U.S. hazardous chemical facilities*, Environmental Protection Agency, Sept. 2000, available at <http://www.epa.gov/ceppo/pubs/stockholmpaper.pdf>
- ^{xiv} *Preventing Toxic Terrorism: How Some Chemical Facilities Are Removing Danger To American Communities*, Center for American Progress, Apr. 2006, available at http://www.americanprogress.org/issues/2006/04/b681085_ct2556757.html.
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- ^{xvi} *Needless Risk: Oil Refineries And Hazard Reduction*, U.S. PIRG, August 2005, available at http://www.uspirg.org/home/reports/report-archives/healthy-communities/healthy-communities/needless-risk-oil-refineries-and-hazard-reduction#5B_967IsFWvKGMKfKGZkNw