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"Ready to Blow:
The Inadequacy of Federal Security Rules and Funding to Adequately Safeguard the Nation's High-Risk Chemical Facilities and a Proposed Way Forward"

Written Testimony before

a hearing of the

Subcommittee on Transportation Safety, Infrastructure Security and Water Quality
of the Committee on Environment and Public Works
United States Senate

on

"The Importance of State and Local Authorities in Ensuring Chemical Plant Security"

by

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Chairman Lautenberg, and distinguished members of the Subcommittee on Transportation Safety, Infrastructure Security and Water Quality. I am honored to appear before you this morning to discuss the vital issue of chemical facility security. At the outset, Mr. Chairman, I want to thank you for the exceptional leadership you have been providing in both raising the profile and advancing practical approaches to this complex challenge. You have been hard at work on this issue long before the attacks of September 11, 2001 exposed how vulnerable America is to catastrophic terrorist attacks on U.S. soil. Recognizing that communities may be jeopardized by accidents such as the tragic one that took place in a pesticide plant in Bhopal, India, in December 1984, you have played an instrumental role in advancing prudent safety measures such at the Emergency Response and Community Right to Know Act (EPCRA) to reduce the potential peril chemical facilities can pose to citizens who neighbor them.

As I have previously testified before the Senate Homeland Security and Governmental Affairs Committee on April 27, 2005, there are hundreds of chemical facilities within the United States that represent the military equivalent of a poorly guarded arsenal of weapons of mass destruction. Deadly chemicals including chlorine, anhydrous ammonia, hydrogen fluoride, boron triflouride, cyanide, and nitrates are often stored in large quantities in densely populated areas adjacent to important infrastructures, such as water treatment plants, bridges, energy facilities, and transportation hubs. It is perplexing that a nation that has expended so much blood and treasure searching for weapons of mass destruction in Iraq, would allow what could become their equivalent to sit largely overlooked on U.S. soil. It is prudent to recall, that on 9/11, Al Qaeda did not import weapons of mass destruction; they converted four domestic airliners into them.

Like many students of terrorism, I believe that Al Qaeda or one of its growing number of radical jihadist imitators will attempt to carry out a major terrorist attack on the United States within the next five years. At the top of the list of likely targets is the chemical industry. Al Qaeda has been acquiring experience in these kinds of attacks in Iraq and Saudi Arabia. Between January 2004 and March 2006, insurgents carried out attacks on oil and gas facilities and pipelines that cost Iraq more than $16 billion in lost oil revenues. The details of their tactics are shared in Internet chat rooms. Further, many of the foreign insurgents have returned or will return to their native countries with the experience and practical skills of successfully targeting these kinds of facilities.

The effort to advance the security of chemical facilities in the United States is long overdue. Americans should be flummoxed that it took more than five years after

September 11, 2001 for Congress to provide federal officials with the authority to regulate security for many of the nation's highest risk chemical facilities. They should be even more baffled by the anemic legislative authority contained in the 2007 Department of Homeland Security Appropriations Act and the recently released interim rule-making language issued by the Department of Homeland Security in February 2007. I am deeply concerned that the recent actions of Congress and the Department of Homeland Security will actually serve as a barrier to progress on chemical security. I strongly urge that new legislation be drafted and enacted as soon as possible to address the critical shortcomings of these actions

The explanation for the lack of progress on this serious issue rests in part with the longstanding distrust by the chemical and petroleum industries of government efforts to regulate them. This can be traced to the adversarial relationship that has long marked relations between the Environmental Protection Agency and chemical firms. The industry also has had a generally strong safety record which it believes should translate into a more hands-off approach by government to how it does business. Additionally, some chemical producers are facing mounting global competition that has eroded their profit margins, making them understandably anxious about new requirements that raise their costs and place them at a competitive disadvantage.

On its face it would appear that 2006 was a watershed year for the chemical security agenda. Both the American Chemistry Council and the Department of Homeland Security publicly acknowledged that voluntary measures were not working. However, the authorizing language of the fiscal 2007 Homeland Security spending law (PL 109-295) is proving to be an ineffective response for five critical reasons.

First, the Department of Homeland Security is provided with too few resources to become an effective partner in working with the chemical industry so as to provide reasonable oversight. The Department is receiving only $15 million in new funding in FY08. This will be added to the paltry $10 million budget it has had for the oversight for an industry that that has thousands of facilities producing extremely hazardous chemicals. To put that number into context, the Nuclear Regulatory Commission receives over $50 million to provide security for the nation's 140 nuclear power facilities. Another way to view that number is that the United States has been spending an average of $250 million each day on the war in Iraq since the spring of 2003. Thus the total expenditure for safeguarding some of the nation's most hazardous facilities amounts to what we spend every 150 minutes in Iraq. Further, President Bush's FY 2008 budget asked for no additional overall funding for DHS's Infrastructure Protection Office which has been assigned the lead of implementing this new DHS responsibility. In other words, the $15 million in new funding that is being applied towards building the Department's new capacity to oversee the chemical industry will come at the cost of other infrastructure protection programs managed by that office.

Second, the authority provided to the Secretary of Homeland Security to sanction a facility for failing to invest adequately in security is unworkable. Specifically, the legislation says:

> *That the Secretary may not disapprove a site security plan submitted under this section based on the presence or absence of a particular security measure, but the Secretary may disapprove a site security plan if the plan fails to satisfy the risk-based performance standards established by this section.*

As a practical matter, even if DHS was receiving the resources to hire the personnel to conduct a comprehensive site assessment (and it is not) it would embark on a legal nightmare trying to disapprove a facility plan—which could potentially lead to the termination of operations at a facility—based on an assessment of "risk-based performance standards." This is because such an assessment would be open to competing interpretations that would inevitably get bogged down in the federal court system. The end result is that the Secretary has been given a sanctioning authority in name only. DHS will not be able to execute that authority except when there are blatantly egregious circumtances.

Third, the new legislative language works against one of the most important imperatives in addressing chemical facility safety: the involvement of the community. The need for public disclosure of information that could affect the safety and well-being of a community rests at the heart of the "Emergency Response and Community Right to Know Act (EPCRA)." While communities generally receive adequate warning and direction on what to do when it comes to natural events like hurricanes and tornados, historically, neighbors to dangerous chemical facilities have lived largely in the blind when it comes to the hazards they may be exposed to and are often unaware of the steps they should take to protect themselves in the event of a chemical release. While there is legitimate reason to treat some security information as sensitive, the act goes too far by requiring DHS to treat vulnerability or security information under this section, "*as if the information were classified material*" and stipulating that this information be provided only to "*State and local government officials possessing the necessary security clearances, including law enforcement officials and first responders*." This onerous requirement effectively places the overwhelming majority of state and local officials and emergency responders out of the loop when it comes to the security of plants nestled within their own communities. Few officials hold these clearances and there is already an extensive backlog in providing them. As a consequence, the vast majority of emergency planners who are responsible for putting together the local response to disasters will have to make these plans without an understanding of the vulnerabilities and the existing security protocols that are in place at a facility. Further, local communities will have little to no ability to make informed zoning decisions in areas adjacent to these facilities.

The excessive new protections of vulnerability and security-related information reinforces one of the most serious shortcomings of the act which is its failure to allow state governments to enact stronger security requirements than those adopted at the federal level when those states determine such requirements are appropriate to safeguarding their populations. This has led DHS to interpret the act in its proposed interim final regulation in such as way that the federal government may actually preempt

a state chemical security measure that it determines will interfere with its risk-based performance standards. The net result is that while DHS possesses little in the way of expertise and is not being provided adequate resources to provide effective oversight of the chemical industry and has been given an anemic—at best—sanction authority, it is taking the position that has the right of preemption over states who have stronger and more enforceable state standards such as those enacted in New Jersey. This is federalism turned on its head. While states and locals are responsible for dealing with the aftermath of a disaster associated with a chemical plant about which it has historically possessed more intimate knowledge than the federal government, the federal government is now maintaining that it alone has the authority to set the rules governing the security of these facilities.

Finally, the gravest shortcoming of the chemical security authority provided to DHS under PL-109-295 is that it purposely excluded the consideration of inherently safer technology (IST) as an element of the risk-based standards that DHS is called upon to assess. The problem with this is that it fails to acknowledge that there will always be inherent limits to physical security measures for a facility that is proximate to a major population center, especially in the face of a terrorist attack involving a suicide bomber. Should there be an attack on a chemical facility on U.S. soil involving truck bombs like those that have been taking place with growing frequency in Iraq and such as the February 24, 2006 attack on the Abqaig Oil Processing Facility in Saudi Arabia, the likely result will be the release of deadly chemicals endangering the lives of tens of thousands of people downwind from that facility.

Consider the case of anhydrous hydrogen fluoride which is used in the refinement of gasoline. During an industry-sponsored test conducted in a Nevada desert in 1986, a small accident was simulated by releasing one thousand gallons of the chemical into the atmosphere for two minutes. The plume is heavier than air, so it hugs the ground. The test found lethal concentrations of hydrofluoric acid aerosol were present up to five miles away. At 7.5 miles there were still concentrations of the vapor at levels immediately dangerous to life and health for people who breath it in over a thirty-minute period.

There are few more painful ways to die then by exposure to hydrofluoric acid. The acid begins by burning the eyes and eyelids of its victims. Then they experience a dry, hacking cough. Breathing becomes increasingly labored and painful as they gasp in more of the chemical. Their lungs become inflamed and congested, depriving them of oxygen and leading to seizures. Ultimately, many people fall into a coma. Without immediate medical attention, everyone caught in the toxic plume will die within ten hours.

Refineries near major urban areas could use an alternative to hydrofluoric acid that poses less of a danger to the surrounding community. In fact two-thirds of the refineries in the United States do just that. My colleague, Lawrence Wein, a professor of management science at the Stanford University Business School, has determined that for a conversion cost of $20 million to $30 million per refinery, sulfuric acid could replace hydrofluoric acid in the alkylation process used to manufacture high-octane gasoline. Sulfuric acid can pose dangers as well, and the refinery would need to use larger quantities of it than

anhydrous hydrogen fluoride. However sulfuric acid does not need to be stored under pressure, nor does it form a dense cloud when it is released. As a consequence, a terrorist attack on a refinery using sulfuric acid would create a nasty chemical spill that would have to be cleaned up within the facility, but the neighboring population would not be seriously endangered.

Quite simply, the consideration of IST must be a part of any reasonable effort to address the security risk associated with the chemical industry within the United States. I applaud Governor Jon Corzine and the state of New Jersey for embracing this approach. I am particularly gratified by Governor Corzine's announcement on Friday March 16th, to enact new rules that would require 94 industrial facilities including chemical plants, oil refineries, industrial food processors and water treatment plants to find safer ways to handle the lethal chemicals they use or use less dangerous chemicals altogether. New Jersey's citizens face the gravest risk from this threat and to the state's credit, it has chosen to lead the nation in developing a pragmatic strategy for confronting this risk. It would be travesty if the new and long-overdue federal legislation, ostensively advanced to improve the security of chemical facilities around the nation, had the end result of actually eroding that security in a state where the public safety stakes are enormous and where the requisite political leadership to tackle the challenge has been most forthcoming.

While I was completing the preparation of my written testimony, CNN released a news report of an attack by suicide bombers who detonated three chlorine-filled trucks in Anbar province on Friday, March 16, 2007. Accordingly to U.S. military forces, the attacks killed two police officers and sickened about 350 Iraqis and six coalition force members. As someone who was monitoring the Al Qaeda threat in the 1990s and their attacks on U.S. barracks in Saudi Arabia, U.S. embassies in East Africa, and the USS *Cole*, one of my greatest frustrations prior to 9/11 was that Americans seemed to believe that what was happening beyond our shores would never happen here. I had the privilege of serving in support of the U.S. Commission of National Security (Hart-Rudman Commission) that warned in their final report released in January 2001 of the growing risk of a catastrophic terrorist attack on U.S. soil. I have since had to live with the angst of seeing that warning unheeded in advance of the attacks of 9/11. I do not want to live with that angst again when it comes to the terrorist risk posed to our chemical and petroleum facilities.

I strongly urge that Congress and the Bush Administration work together to redraft the legislative language on chemical security enacted into law last October to address the shortcomings I have outlined here today.

Thank you and I look forward to responding to your questions.

Stephen Flynn is the author of The Edge of Disaster: Rebuilding a Resilient Nation (Random House, 2007). He is the inaugural occupant of the Jeane J. Kirkpatrick Chair in National Security Studies at the Council on Foreign Relations. Dr. Flynn served as Director and principal author for the task force report "America: Still Unprepared—Still in Danger," co-chaired by former Senators Gary Hart and Warren Rudman. Since 9/11 he has provided congressional testimony on homeland security matters on seventeen occasions. He spent twenty years as a commissioned officer in the U.S. Coast Guard including two commands at sea, served in the White House Military Office during the George H.W. Bush administration, and was director for Global Issues on the National Security Council staff during the Clinton administration. He holds a Ph.D. and M.A.L.D. from the Fletcher School of Law and Diplomacy and a B.S. from the U.S. Coast Guard Academy.