



702 H Street, NW, Suite 300, Washington, DC 20001

Tel: 202-462-1177 • Fax: 202-462-4507

1-800-326-0959 • [www.greenpeaceusa.org](http://www.greenpeaceusa.org)

March 27, 2009

Mr. Andrew N. Liveris, Chairman & Chief Executive Officer  
The Dow Chemical Company  
2030 Dow Center  
Midland, Michigan 48674

Dear Mr. Liveris;

We would like to meet with you to discuss Dow Chemical's use of inherently hazardous substances and their resulting potential liabilities and regulatory obligations. To make sure that Dow is fully aware of these liabilities, we have enclosed a comprehensive list of citations from more than 50 reports and over 40 authoritative sources -- including excerpts on the hazards inherent to the bulk storage and use of toxic by inhalation (TIH) substances and other acute hazards. These sources include the Association of American Railroads, Brookings Institute, Center for American Progress, Chlorine Institute, Congressional Research Service, Federal Bureau of Investigation, National Research Council, U.S. Government Accountability Office and the U.S. Homeland Security Council. In addition, please note the hundreds of examples of chemical facilities that have secured their plants by converting to safer technologies, which eliminated the risk of a catastrophic release. Knowing about these foreseeable risks and failing to act to eliminate them could result in even greater liability for Dow in the future.

As Dow reported on page 11 of its December 31, 2008 10K Report to the Securities Exchange Commission (SEC), **"Terrorist attacks and natural disasters have increased concern regarding the security of chemical production and distribution."** This may be a vast understatement given Dow's Risk Management Reports (RMP) to the Environmental Protection Agency (EPA) which as of 2008 show that at least 32 Dow owned or operated plants reported a potential "off site consequence" to neighboring communities. At least 8 of these plants (see enclosed list) each put 100,000 or more people at risk of a catastrophic chemical release. Together these 8 Dow plants put more than 3.1 million people at risk who live and work in the "vulnerability zones" reported to the EPA. Four of these facilities put people at risk up to 25 miles from the plant. In addition to the potential for human tragedy, the financial liability resulting from such a disaster could exceed the Bhopal liability that Dow inherited from Union Carbide and could potentially rival the financial cost of the 9/11 attacks as well. According to the New York City Comptroller, economic impacts of the 9/11 attack were \$94.8 billion:  
[www.comptroller.nyc.gov/bureaus/bud/reports/impact-9-11-year-later.pdf](http://www.comptroller.nyc.gov/bureaus/bud/reports/impact-9-11-year-later.pdf)

Dow facilities are also subject to the new Chemical Facility Anti-Terrorism Standards (CFATS) issued by the Department of Homeland Security (DHS) which developed interim regulations for "high risk" chemical facilities. In defining the consequences of an attack compared to the accident scenarios reported to the EPA above, the DHS warns that, **"The key difference is that they may involve effects that are more severe than expected with accidental risk."** As a result, the DHS recommends that facilities use a conservative model in calculating the consequences (fatalities, injuries, property & economic damage) of a successful attack. Government sources have estimated a range of potential casualties from 100,000 (U.S. Naval Research Laboratory) to over 2.4 million people (U.S. Army Surgeon General).

As you know, these catastrophic hazards are unnecessary and preventable. Ideally, Dow could switch to safer products and processes. Such a conversion would not only eliminate Dow's enormous potential liability (discussed above) but would also reduce or eliminate regulatory compliance and insurance costs associated with inherently hazardous substances.

If, however, Dow chooses to continue to use processes that use inherently hazardous substances, there are safer ways to use them that do not involve the storage and transport of bulk quantities of these materials. For example, on December 17, 2008 Dow announced one such program in the San Francisco Bay area. According to Dow's news release the process "will utilize Inherently Safer salt-to-bleach technology, an emerging, sustainable process..." This is not our most preferred option, but it will result in a dramatic reduction in both risk and liability compared to the bulk use and storage of 90-ton rail cars of chlorine gas.

Since 9/11, at least 220 chemical facilities have converted to safer technologies, thus eliminating these risks to millions of people. More than 87 percent of those interviewed said their conversion costs ranged from less than \$100,000 to \$1 million or less. A third of those surveyed said they expected to save money. The Center for American Progress has produced several reports documenting the success stories of plants that have converted to safer technologies and the outstanding risks posed by facilities still using inherently hazardous substances. These include the April 2006 report on the hundreds of facilities which have recently converted to inherently safer technologies (ISTs):

[http://www.americanprogress.org/issues/2006/04/b681085\\_ct2556757.html/chem\\_survey.pdf](http://www.americanprogress.org/issues/2006/04/b681085_ct2556757.html/chem_survey.pdf)

Given these risks, their potential liability, and widely available safer alternatives, it would make good business sense to learn that Dow has additional plans to replace inherently hazardous substances and processes through the use of ISTs.

As you also know, the current DHS regulations are very limited and will expire on October 4, 2009. Congress is now considering permanent legislation that could provide more certainty for Dow and other businesses using inherently hazardous substances. The current interim law actually bars the DHS from requiring any specific security measures including the most effective security measures: inherently safer technologies. New legislation could correct this. Last year the House Homeland Security Committee adopted H.R. 5577. This bill conditionally required the highest risk (Tier 1) facilities to "reduce the consequences of an attack." H.R. 5577 allowed each facility to choose the most appropriate technology to achieve that goal and also allowed exceptions for any facility that could demonstrate that ISTs were not feasible or too costly.

Regarding legislation, we would also like to discuss Dow's current position regarding chemical security legislation. Dow is a member of the American Chemistry Council (ACC) and the National Association of Manufacturers (NAM), which have vigorously lobbied against requiring the use of safer technologies and for making the weak temporary statute permanent. In 2008 Dow reported spending \$4.6 million on lobbying with at least two lobbyists available to lobby on chemical security. **In addition to any plans to use ISTs at more Dow facilities, we would like to discuss shifting Dow's lobbying resources to support for legislation similar to H.R. 5577.**

Other NAM members have broken ranks with the NAM on this legislation. For example, in February 2008, the **Association of American Railroads (AAR) issued a statement saying, "It's time for the big chemical companies to do their part to help protect America. They should stop manufacturing dangerous chemicals when safer substitutes are available. And if they won't do it, Congress should do it for them."**

A growing number of political leaders agree with the AAR. In a March 2006 floor statement, Senator Obama said, **"...there are other ways to reduce risk that need to be part of the equation. Specifically, by employing safer technologies [IST], we can reduce the attractiveness of chemical plants as a target...Each one of these methods reduces the danger that chemical plants pose to our communities and makes them less appealing targets for terrorists."**

As you know, the September 11<sup>th</sup> terrorist attacks used our own infrastructure against us with tragic results. The attacks also demonstrated that tight perimeter security, such as in the case of the Pentagon, is incapable of preventing such attacks. Should a chemical plant be targeted, a truck bomb, a small plane, helicopter or a high powered rifle would easily render any "target hardening" or fence-line security useless. In fact, DuPont CEO Charles O. Holliday, Jr., told the media in June 2007, **"I feel very comfortable that we've taken all the reasonable steps, but obviously if someone wants to fly an airplane into a plant, it's very hard to guard against it."**

The vulnerability of U.S. chemical plants to terrorism and serious accidents such as the 1984 disaster in Bhopal India, which killed 20,000 people, is widely recognized. The magnitude of these risks surpass the 9/11 attacks. Once released, large quantities of these gases can remain dangerous for up to 14 miles in an urban area (20 miles in a rural area) and put the lives of millions of people at risk. U.S. chemical facilities were never designed to defend against terrorist attacks, and predicting where an attack will take place is a fool's errand. No one predicted that Timothy McVeigh would attack the Federal Building in Oklahoma City in 1995, killing 168 innocent people.

The manner in which people would be killed and injured is terrifying. Poison gases such as chlorine will literally melt the lungs of its victims causing them to drown in their own lung fluid (pulmonary edema). Survivors would be left with life-long disorders.

Following the 9/11 attacks, The Washington Post reported that 9/11 ring leader, Mohamed Atta visited a Tennessee chemical plant asking lots of questions (December 16, 2001). In 2007, at least five successful terrorist attacks in Iraq used relatively small (150 to 250 pound) cylinders of chlorine gas to kill dozens of people. In 2007, thefts of 150 pound cylinders of chlorine gas occurred in California and Texas, prompting the DHS to brief local bomb squads and chemical plants across the country (April 24, 2007 USA Today.) The time for fundamental preventive action, to safeguard American communities, is long overdue.

**We look forward to meeting with you, at your earliest convenience, to discuss any plans Dow may have for converting more of its facilities and supporting legislation that will ensure the use of the safest technologies wherever feasible.** In the meantime, please review the enclosed list of authoritative sources on the inherent hazards of these substances, as well as the hundreds of examples of facilities that have secured their plants by converting to safer technologies that eliminate the risk of a catastrophic release.

Sincerely,

Rick Hind  
Legislative Director, Greenpeace  
(202) 319-2445  
[rick.hind@wdc.greenpeace.org](mailto:rick.hind@wdc.greenpeace.org)