KEY SENATORS PREPARE CHLORINE GAS BILL DESPITE WATER INDUSTRY CRITICISM

Date: April 16, 2007 -

Key Senate lawmakers are poised to re-introduce legislation aimed at forcing many wastewater facilities plants to abandon the use of chlorine gas in the treatment process and switch to alternatives that would pose less of a risk to the public in the event of an accident or terrorist attack, despite industry concerns that such a move may hamper treatment plants' ability to meet water quality standards.

Congressional sources say Sens. Joseph Biden (D-DE) and Barbara Boxer (D-CA), chair of the Environment and Public Works (EPW) Committee, are preparing to introduce the bill in the coming month. The measure will be almost a mirror image of one Biden put forth last year, S. 2920, a bill that failed to escape EPW after it was attached to a water-security amendment sponsored by then-chairman Sen. James Inhofe (R-OK) that was voted down.

An informed Senate source says lawmakers are still developing their strategy for moving the bill to the Senate floor, but Democratic staff expect to discuss plans for it during meetings in the next two weeks. The source says the bill's text probably will remain largely unchanged from last year, although Democratic staff may include minor changes based on comments from the wastewater treatment industry.

The National Association of Clean Water Agencies (NACWA), which represents publicly owned wastewater treatment facilities, has criticized the measure and urged lawmakers to create incentives for switching from chlorine gas rather than mandating a change in treatment method.

In recent comments to the bill's proponents, NACWA says, "[F]irst and foremost, the decision about whether to switch from chlorine gas to an alternative treatment technique must remain up to the municipality itself. The factors in making the switch are complex, and include but are not limited to meeting the requirements of the Clean Water Act, ensuring public health, affordability/cost concerns and the availability of alternative treatment options." *Relevant documents are available on InsideEPA.com.* *See page 2 for details.*

The Senate source says lawmakers may alter the bill to adopt some of NACWA's recommendations -- such as one asking that vulnerability assessment information only be open to review by federal authorities rather than having them sent directly to federal offices -- but "the basic construct of the bill will remain the same."

S. 2920, the Community Water Treatment Hazards Reduction Act of 2006, would have ordered wastewater treatment works that use chlorine gas to first conduct vulnerability assessments in order to determine whether they meet the bill's definition of a "high consequence" facility -- one that poses a chemical exposure risk to 10,000 people or more. After the assessment are conducted, those facilities identified as high consequence would have 90 days to begin the transition from using of chlorine gas to the use of other water treatment options such as ultra-violet light or sodium hypochlorite.

In order to make this transition, the bill would also provide an estimated $150 million in grants for treatment works. While NACWA approves of the grant offer, the association notes in its comments that the funding may not be enough to pay for switching treatment techniques at every facility subject to its demands. Additionally, NACWA told lawmakers the 90-day time period for complying with the legislation is too short and could expose treatment plants to EPA enforcement actions.

NACWA points out in its comments that in addition to EPW review, S. 2920 was within the jurisdictional reach of the Senate Homeland Security & Governmental Affairs Committee and this "should remain unchanged in the pending legislation." However, the Senate source says Sen. Joseph Lieberman (I-CT), chairman of the committee, has expressed privately that the committee will not interfere with the bill's progress.

News of the pending legislation comes shortly after the release of a controversial report by the Center for American Progress, a "progressive" political think tank, saying that the railway cars used to transport chlorine gas are vulnerable terrorist targets. The report, released, April 10, calls for reforms to chemical security regulations that would require wastewater facilities to employ alternative treatment options.

The report, entitled *Toxic Trains and the Terrorist Threat*, says that only 24 drinking water and 13 wastewater facilities still use rail shipments of chlorine gas and the costs of changing to alternative methods amount to "no more than $1.50 per person served each year -- or the price of a bag of potato chips -- and often cost much less."

However, the report has drawn some criticism from wastewater treatment plant advocates, who say it exaggerates the potential risks the railway cars pose to the public and underestimates the costs associated with making the transition to other technologies.

Source: Water Policy Report via InsideEPA.com
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Toxic Trains and the Terrorist Threat

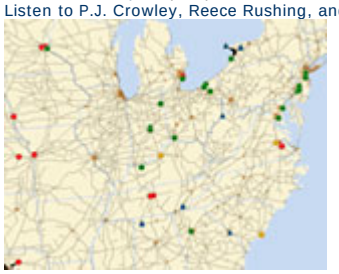
How Water Utilities Can Get Chlorine Gas Off the Rails and Out of American Communities

By Paul Orum

April 2, 2007

Read the full report (PDF)

Listen to P.J. Crowley, Reece Rushing, and Paul Orum Discuss the report



See locations of water utilities receiving chlorine gas railcars

Each year, thousands of tons of highly toxic chlorine gas travel by rail in the United States to drinking water and wastewater treatment facilities and other industries. These massive railcars traverse some 300,000 miles of freight railways, passing through almost all major American cities and towns. A rupture of one of these railcars could release a dense, lethal plume for miles downwind, potentially killing or injuring thousands of people.

The Department of Homeland Security and numerous security experts have repeatedly warned that terrorists could use industrial chemicals as improvised weapons of mass destruction—and indeed, terrorists recently attacked and blew up several trucks carrying chlorine in Iraq. In this respect, railcars of chlorine gas represent a distinct national security vulnerability. Yet Congress and the Bush administration have not acted to eliminate unnecessary uses of chlorine gas railcars even where undeniably affordable and practical alternatives exist.

To examine this vulnerability and encourage action, the Center for American Progress surveyed water utilities that still receive chlorine gas by rail, as well as utilities that since 1999 have eliminated chlorine railcars by switching to a less hazardous disinfectant. Our major findings are shown in the box on page 3.

Just 37 drinking water and wastewater treatment facilities still receive chlorine gas by rail. More than 25 million Americans live in harm's way near these facilities,1 while millions more live in cities and towns along the rail delivery routes.

The good news is this vulnerability can be removed. Since 1999, some 25 water utilities that formerly received chlorine gas by rail have switched to safer and more secure water treatment options, such as liquid bleach or ultraviolet light. These alternative treatment options eliminate the danger of a catastrophic toxic gas cloud. As a result, more than 26 million Americans who live near these facilities are safer and more secure.

These conversions also remove the threat to communities along rail delivery routes. Railroads, by their nature, are wide open and largely insecure, providing easy access to railcars—as evidenced by the graffiti that frequently marks them (see photo on page 15). This makes it practically impossible to provide security commensurate with the risk presented by railcars of chlorine gas.

The only way to truly protect communities is to get unnecessary toxic cargoes off the tracks. Converting to safer alternatives for water treatment does that.

There continues to be some progress in this direction. At least six water utilities that now use chlorine-gas railcars are in the process of converting operations. Nonetheless, many others contacted by this survey have no plans to change.

Cost was a frequently cited reason for not converting. But the survey found such conversions are affordable even at large facilities, costing no more than $1.50 per person served each year—or the price of a bag of potato chips—and often much less. Put another way, a single day's expenditures on the war in Iraq could cover construction costs of converting the remaining U.S. water utilities off chlorine gas railcars. Cost is not a sufficient justification to continue to jeopardize American communities with massive railcars of chlorine gas.

State and local governments may provide incentives for water utilities to switch from chlorine gas. But communities along the rails have little or no local control over toxic trains that pass by homes, workplaces, and schools. The plant conversions identified in this report are positive, but without a national strategy, these communities will be much less secure than they should be.

Washington, D.C., for example, quickly converted its sewage treatment plant from chlorine gas railcars to liquid bleach in the aftermath of the Sept. 11, 2001, terrorist attacks. But hazardous chemicals, including chlorine gas, are still being transported by rail through the District just a few city blocks from the U.S. Capitol building—an intended target on 9/11.

In response, the city government sought to reroute toxic trains around the city. The Bush administration, however, has backed a lawsuit to block local control, arguing that local governments lack legal authority to protect citizens by rerouting trains.

The story is the same in other cities that have converted water utilities from chlorine- gas railcars, such as Cleveland and Indianapolis. Despite converting, these cities are still at risk from chlorine-gas railcars headed to other cities that have not converted, such as Minneapolis and Nashville.

A comprehensive solution can only come from the federal level. In fact, judges in the ongoing litigation over rerouting in Washington, D.C., have encouraged the Bush administration to develop a national strategy to address the security and safety dangers involved in the manufacture, use, and transportation of chlorine gas and other hazardous chemicals. Unfortunately, the administration and Congress have largely ignored this advice.

After years of inaction, and under growing public pressure, temporary and cosmetic chemical security legislation was enacted in October 2006 requiring the Department of Homeland Security to promulgate chemical-plant security regulations by April 4, 2007. But the legislation exempts water utilities, does not address transportation security concerns, and neglects safer and more secure technologies. Thus, among other shortcomings, DHS's new regulations will do nothing to address the risk posed to tens of millions of Americans by unnecessary rail shipments of chlorine gas to water utilities.

- To address this danger and other chemical hazards, Congress must create meaningful national incentives. Among other actions, federal security standards should:
- Require chemical facilities to review and use available, cost-effective technologies that significantly reduce or eliminate serious emergency chemical release hazards;
- Target assistance to help water utilities convert from chlorine gas, including facilities that discontinued chlorine gas after Sept. 11, 2001;
- Give the Department of Homeland Security full authority to safeguard chemical infrastructure and the public, with appropriate roles for other governmental agencies; and
- Require chemical facilities to account for transportation risks—including the possibility of a catastrophic chemical release—in developing security assessments and plans.
- Taking these actions would remove unnecessary toxic cargoes from the nation's railways and communities. The danger is immense and the solutions are clear. What we need now is action.

Major Findings

The Center for American Progress surveyed 62 water facilities that receive chlorine gas by rail or previously received chlorine gas by rail. These facilities treat an average of five billion gallons of drinking water and four billion gallons of wastewater each day, and serve more than 45 million people in two dozen states and the District of Columbia. The survey identified facilities that have eliminated chlorine gas railcars, but also found others that have no plans to do so. Major survey findings include:

- **Only 24 drinking water and 13 wastewater facilities still use rail shipments of chlorine gas.** These facilities are found in California, Florida, Kansas, Kentucky, Louisiana, Michigan, Minnesota, Missouri, Nebraska, South Carolina, Tennessee, Texas, Utah, and Virginia. These facilities endanger more than 25 million Americans who live nearby, and millions more near railways that deliver the chlorine gas.
- **At least six drinking water and 19 wastewater facilities have eliminated rail shipments of chlorine gas since 1999 by switching to a less hazardous disinfectant.** These facilities are found in California, the District of Columbia, Florida, Georgia, Indiana, Kentucky, Louisiana, Maryland, Michigan, Minnesota, New Jersey, New York, Ohio, Oregon, Pennsylvania, and Washington. Some 26 million people in nearby communities and millions more along rail delivery routes are no longer threatened by chlorine gas from these facilities. Additional water utilities eliminated chlorine gas rail shipments prior to 1999.
- **Of facilities that still receive rail shipments of chlorine gas, at least four drinking water and two wastewater plants have definite plans to convert from chlorine gas to a safer, more secure disinfectant.** These facilities are found in Colorado, Florida, Kentucky, Louisiana, South Carolina, and Virginia. By converting, they will remove the threat to more than five million people living nearby, and millions more along their rail delivery routes. Several more such facilities are planning to convert within a few years, and others are evaluating alternatives.
- **Chlorine gas rail shipments travel long distances through populated areas.** Some 16 chlorine production sites sell chlorine by rail to the merchant market. The profusion of freight rail lines precludes identifying specific routes between producers and water utilities. The locations of producers and chlorine-gas-using water utilities, however, make clear that rail shipments often cover hundreds or even thousands of miles.
- **General cost estimates provided by 20 water facilities indicate that switching from chlorine gas to a safer, more secure disinfectant is affordable.** Conversions at these facilities cost no more than $1.50 per person served each year—or the price of a bag of potato chips—and often cost much less. A single day's expenditures on the war in Iraq could easily have paid to convert these 20 facilities off chlorine gas.

Boston Globe Newspaper Company.
Chlorine attacks in Iraq spur warnings in US

Water-plant vigilance urged

Representative Edward Markey wants upgrades in security.

By Charlie Savage, Globe Staff | July 24, 2007

WASHINGTON -- A spate of deadly chlorine bomb attacks in Iraq is prompting the Bush administration to urge nearly 3,000 municipal water treatment plants in the United States to make sure their chlorine gas is well protected -- spotlighting what Homeland Security Secretary Michael Chertoff has singled out as a "gap in our system of regulation."

Although some plants have switched to less dangerous methods of disinfecting drinking and waste water, many still add chlorine gas to kill bacteria. The gas can also be used as a chemical weapon. In recent months, Iraqi insurgents have started attaching chlorine cylinders to car bombs and roadside explosives to burn people's lungs, eyes, and skin downwind from a blast.

With chlorine bombs becoming a high-profile weapon of choice for terrorists abroad, officials at the Department of Homeland Security fear that terrorists might try to copy the tactic, making chlorine tanks at water plants, which range from 150-pound cylinders to 90-ton rail tankers, an obvious target for sabotage or theft.

There are 1,700 drinking water facilities and 1,150 waste water plants that still use chlorine, including about 50 in New England that keep at least 2,500 pounds of the chemical on site, according to data from the Environmental Protection Agency . In Massachusetts alone, 22 water plants are currently registered as chlorine users with the EPA.

In a recent speech, Chertoff urged water authorities to pay for whatever fences, cameras, and guards are necessary to "make sure that these dangerous chemicals they have on site are not stolen, because, unfortunately, if you look over to Iraq, you're going to see these kinds of chemicals wind up in improvised explosive devices."

Chertoff has no power to do anything more than urge vigilance on the part of water treatment plant operators. Although Congress passed a law in October giving his department the power to make sure that most chemical facilities have effective security, lawmakers exempted water treatment plants from the new regulations.

"For those of you who are not subject to regulation, I don't want you to breathe a sigh of relief like 'We're off the hook,' " Chertoff said. "You're on the hook, because you're going to have to do this yourselves until the time comes along that regulatory authority to address these is given to us or to some other agency."

Today , the House Homeland Security Committee will hold its first oversight hearing on chemical security this year, and some watchdog groups are now calling on Congress to revisit its October 2006 chemical security legislation to make it tougher. Among the critics' chief targets is the exemption for water treatment plants.

"There's 10 things wrong with the chemical security rules, and I list this one first," said Rick Hind , legislative director of the Greenpeace Toxics Campaign. "The water treatment plants exemption is easiest to understand. Three thousand facilities -- wow, that's a big omission."Continued...

Chertoff warns treatment plants about chlorine

BY CAROL EISENBERG | carol.eisenberg@newsday.com
7:21 PM EDT, June 12, 2007

SHINGTON - Homeland Security Secretary Michael Chertoff yesterday urged operators of water and waste treatment plants to secure chemicals like chlorine from terrorists, although they're not required to do so.

"For those of you who are not subject to the [new chemical security] regulations, I don't want you to breathe a sigh of relief that you're off the hook," Chertoff told industry leaders in a briefing about the nation's first-ever national chemical security rules.

Referring to water treatment plants' use of chlorine -- an ingredient used in an increasing number of truck bombs in Iraq -- Chertoff warned that the consequences of ignoring terror threats was "quite severe" in potential liability as well as lives.
"You're on the hook because you're going to have to do this yourselves because the consequences of ignoring risks. . .will be quite severe," he said.

An estimated 3,000 drinking-water and wastewater treatment plants are listed in EPA documents as keeping more than 2,500 pounds of chlorine gas, according to Paul Orem, author of a report published by the Center for American Progress, a think tank.

Nonetheless, Congress exempted such plants from oversight under the nation's first-ever chemical security regulations, which took effect last week, because they are already regulated by the Environmental Protection Agency. It could not be learned how many operate in New York.

Robert B. Stephan, assistant secretary of homeland security for infrastructure protection, said there was no indication of any terror plot to use chlorine in this country, "but our goal is to stay two or three steps ahead of these guys and so we have to anticipate that someday they may use that tactic here."

Stephan said the department has reached out to plant operators about recommended steps to secure chemicals, given out grants to expand buffer zones and improve surveillance, and distributed real-time intelligence.

He discounted a terror tie-in to recent thefts and attempted thefts of chlorine tanks from water treatment plants in California, reported several months ago by the Chlorine Institute, a trade group of companies that make or distribute chlorine.

"The FBI feels these are related to malicious criminal activity versus terrorism," Stephan said.

Chlorine gas was among the first chemical weapons, employed by both the German and the British armies in World War I. The use of chlorine in terrorist attacks was rare until a spate of recent attacks in Iraq that have killed dozens who have inhaled the poison fumes.

Rick Hind with Greenpeace urged Chertoff to demand that plants adopt safe alternatives to toxic chemicals. "There are alternatives available that would render these plants as safe as dairy farms," he said. "I don't think there's any doubt that the day after a disaster not only the American people, but some of these companies will be clamoring for such a change."
More articles

The New York Times

THE REACH OF WAR; 14 More American Servicemen Are Killed in Iraq, Most of Them by Makeshift Bombs

By RICHARD A. OPPEL JR. AND KHALID W. HASSAN; BAGHDAD; MUHANAD SELOOM CONTRIBUTED REPORTING FROM BAGHDAD, AND IRAQI EMPLOYEES OF THE NEW YORK TIMES FROM MOSUL, HILLA, DIYALA AND KUT.

Published: June 4, 2007

The pace of American troop deaths increased this weekend as 14 more servicemen were reported killed in Iraq, all but one from makeshift bombs that insurgents have been employing with greater lethality against American soldiers and armored vehicles. Twenty-one soldiers and an Iraqi interpreter were wounded.

The makeshift bomb blasts were part of a brazen series of attacks throughout the country by Sunni Arab insurgents, Shiite fighters of the Mahdi Army and other gunmen using rifles, rockets, huge bombs and chlorine canisters. American forces suffered heavy casualties in and around Baghdad and in Sunni insurgent enclaves further north, while Iraqi and American forces took the offensive in Mahdi Army strongholds in Baghdad and southern Iraq.

At least 15 American servicemen were killed in the first three days of June, a pace that exceeds the daily fatality rate in May, when 127 troops were killed. May was the deadliest month since the invasion of Falluja in November 2004.

In the northern city of Mosul, a Christian priest was gunned down as he left his church after Sunday services. In Baghdad, a director of the Iraqi Central Bank and his brother were shot to death in the dangerous neighborhood of Ameel. Thirty-one bodies were found scattered about the capital, where sectarian murders are once again on the rise.

Insurgents struck repeatedly in Diyala, the militant-dominated province that borders Baghdad, Iran and Iraqi Kurdistan. A suicide car bomber parked at a crowded marketplace in Balad Ruz killed nine people and wounded 25, including seven children, the Iraqi police said. Insurgents set up a fake checkpoint near Baquba, the provincial capital, and raked a bus with gunfire, killing three. South of Baquba, nine bodies were found handcuffed and shot.

A vehicle packed with explosives and chemicals detonated near the main American military installation in Diyala, Forward Operating Base Warhorse, just outside Baquba. No soldiers were hurt, but the military said many complained of "minor respiratory irritations and watery eyes."

A Los Angeles Times journalist embedded with troops in Baquba reported that the explosion, 200 yards from the base entrance, released a cloud of chlorine that caused dizziness and nausea and sickened 62 people. An hour before the attack, mortar shells struck the base during lunchtime, wounding two soldiers while sending others rushing from the mess hall into bunkers.

South of Baghdad in Diwaniya, a Mahdi Army commander led Iraqi police officers on a lengthy chase and eluded his pursuers before fierce fighting broke out that left at least three people dead and wounded 12 more, the authorities said.

Ten Mahdi Army fighters were arrested in Numaniya, west of Kut, in what an Iraqi security official described as the latest offensive targeting Mahdi fighters. The police in Numaniya also discovered two bodies bearing signs of torture.

American officials said soldiers killed four men and arrested six more caught setting up rockets to attack the Green Zone, the heavily fortified compound where the American leadership and Iraqi government is headquartered and which has come under increasing attack.

Apache Longbow helicopters strafed the men setting up the rockets, and soldiers arrested six of them after they sought refuge in Sadr City, the vast Shiite enclave nearby.

All of the troop deaths reported Sunday by the American military occurred in or around the capital, or in the Sunni Arab areas to the north including Diyala and Nineveh Provinces. The deadliest killed four soldiers on Sunday after their vehicle was struck by a roadside bomb as they took part in an operation to isolate an area northwest of Baghdad.

The rising American death toll has been largely attributed to an increase in the number of troops and the operations that began three months ago with the plan to pacify Baghdad. But the roots of the worsening casualties go further back.

Despite optimistic observations by the American government early in 2006, it had become clear by summer that Iraqi forces had proved incapable of curbing rising Shiite militia killings in Baghdad and the resilient Sunni Arab guerrillas who dominate parts of the capital and surrounding regions.

American commanders ordered combat battalions to increase their presence in many of the areas of the capital where the militias and insurgents were strongest. American fatalities rose as a result.

Not including the deaths so far in June, American forces have suffered an average of about 90 fatalities per month since they began more aggressively patrolling 10 months ago, according to an analysis of the fatalities tracked by Icasualties.org. That compares with about 65 deaths per month in the previous 10 months.

The change is far grimmer in the areas where the American presence has increased the most. In Diyala, where large forces of Sunni insurgents have been battling thousands of American troops rushed in to calm raging violence, 78 Americans have been killed this year, compared with 20 in all of last year, according to Icasualties.org.

American soldiers in Baghdad have been hit the worst: at least 192 Americans were killed in the capital in the first five months of this year, according to the data, compared with 81 in the same period last year.

The biggest killers are roadside bombs, responsible for four of every five American deaths in combat during the past three months. That trend has continued in the past few days, according to the military.

In addition to the four soldiers killed Sunday in the one bomb attack, two others were killed by bombs in the Baghdad area.

On Saturday, two soldiers were killed by separate bombs in western Baghdad. Two soldiers in Nineveh Province died after their patrol was bombed. Two soldiers were killed in separate bombings in Diyala Province. A soldier from Task Force Marne was shot to death on patrol south of Baghdad.

On Friday, a man killed an American soldier by detonating an explosive device as soldiers on foot patrol tried to question him and another man southwest of Baghdad, the military said.

Congress to Revisit Chemical Security

Congress to Revisit Chemical Security

Helicopter Association International (HAI) has learned Democrats in the U.S. House of Representatives are looking to reopen the chemical security debate this fall, adding facilities that were exempted from regulations that became law last year. The new initiative's main focus is to emphasize consideration of "inherently safer" technology (IST).

The proposal would come under consideration just months after the Department of Homeland Security (DHS) began implementing current chemical security regulations that Congress cleared as part of the fiscal 2007 Homeland Security spending bill, Public Law 109-295). The regulations took effect in June.

The new legislation is expected to resemble a bill the House Homeland Security Committee approved in the 109th Congress that never made it to floor consideration. Sources said it would put security of wastewater and maritime facilities — and possibly of hazardous materials transported by rail cars — under DHS control rather than the Environmental Protection Agency.

"The plan is to try to marry a number of the existing regulations," Homeland Security Committee Chairman Bennie Thompson, D-Mississippi, said August 2 at a Center for American Progress event.

The legislation is expected to emphasize use of safer technologies and the need for worker involvement in facility security, adding that it is being viewed as amending the current framework, not superseding it. Opposition is expected from some Republicans, as well as industry groups that want DHS to be given time to implement the current framework.

Any discussion of chemical security would also reopen debate on IST, which pushes chemical companies to convert to safer chemicals. Industry fiercely opposes this approach but Democrats pushed hard last year to get it added to the legislation. The new legislation could be modeled on New Jersey state law, which requires chemical facilities to consider IST and is being followed by most major chemical facilities. Industry groups have pushed for the current federal law to pre-empt state laws, thus preventing states from enacting stricter chemical security standards like the ones in New Jersey.

Under the law, chemical facilities are required to submit information to DHS and high-risk sites are ranked. Many will be required to submit vulnerability assessments and site security plans for government approval.

Security experts have complained in recent months that exempting maritime and wastewater facilities from chemical security regulation have created an uneven system.

While DHS officials have expressed concern about reopening the chemical security debate, Homeland Security Secretary Michael Chertoff has been pushing excluded sites to provide information voluntarily. "For those of you that are not subject to regulation, I don't want you to breathe a sigh of relief like you are off the hook," he said at a chemical industry event June 12. "I don't need to tell you the consequences of ignoring a clear warning about securing dangerous chemicals . . . will be severe."

Posted on Thursday, August 09, 2007 (Archive on Monday, January 01, 0001)
Posted by rotornews Contributed by

USA Today

Feds to enforce chemical security

Enlarge By Dave Einsel for USA TODAY

Timothy Scott, Dow Chemical's security director, stands at the company's Freeport, Texas, plant. The Department of Homeland Security has issued new security requirements for chemical plants, which are considered potential terrorist targets.

Enlarge By Dave Einsel for USA TODAY

Concrete barriers are set up outside of an unguarded gate at the Dow Chemical plant.

By Mimi Hall, USA TODAY

FREEPORT, Texas — Six years ago, anyone in a boat could have gone up the murky Brazos River, hopped ashore and walked up to a tank chemicals here at the nation's largest petrochemical complex.

Today, that intruder wouldn't stand much of a chance of getting close to the round, five-story storage sphere that holds a key ingredient neede Chain-link fences topped with three layers of barbed wire line the banks of the river running through Dow Chemical Company's 3,200-acre co systems and more fences ring the tank, surveillance cameras scan the perimeter, armed guards patrol, the tank's control room is secured, an slab equipped to quickly contain any chemicals released in an accident or attack.

The post-9/11 security upgrades at this massive plant have made Dow an example of what must be done at chemical plants nationwide, says protection chief at the Homeland Security Department.

Although the chemical industry has spent $3.5 billion overall on security since 2001, an untold number of plants and other business that store what they should to secure substances, Stephan says. Such chemicals, if released, could kill and injure tens of thousands of people.

FIND MORE STORIES IN: Texas | Homeland Security Secretary | Department of Homeland Security | Freeport | Brazos River | Timothy Scot

In anti-terrorism circles, the plants are called "pre-positioned targets," essentially sitting ducks for a terrorist with a rifle or rocket, or for a comp and doing damage to the nation's economy and its psyche.

That's why the Homeland Security Department, in its first effort to regulate a private industry, is about to begin enforcing new national security warehouses and other businesses that store dangerous chemicals.

Targeting high risks

The rules will initially affect Dow's Freeport complex and 7,000 other plants and businesses that Homeland Security has identified as presenti They will not force plants to use safer chemicals, a requirement pushed by some members of Congress and environmental groups.

They will require plants to secure their perimeters, cordon off particularly high-risk tanks such as those containing chlorine and other chemical conduct background checks of employees and contract workers, train workers in security and emergency response, tighten cybersecurity aga

If plants don't meet the government's requirements, they will face fines of up to $25,000 a day and could even be ordered by Homeland Secu cease operations.

The government's new security effort will begin in June when the 70 or so regulators Stephan is assembling and training will go out to inspect have gone beyond anything the government might require; in others, they will have done next to nothing.

Upgrades already made

In Freeport, where chemicals are moved offsite by ship, train, truck and pipeline, Dow has installed vehicle barriers that pop up from the groun approaches one of the complex's 11 entrances, gates across all train tracks and radar systems to monitor who comes and goes by ship.

Employees go through background checks and must present secure IDs to go through virtually any door in any of the 1,900 buildings. The co operations center similar to those set up in many cities and guards in a high-tech surveillance room monitor dozens of screens showing the m stretches as far as the eye can see.

The plant even has a color-coded threat system similar to that used by the federal government that triggers tighter security when intelligence i

Some environmentalists say even Dow hasn't done enough, given the potential damage done by an attack on the complex in Freeport, an are and just an hour south of Houston.

Despite the tighter security, "I think it would be very easy for a terrorist or group of terrorists to get in there in the middle of the night," says the former inspector for the Texas Commission on Environmental Quality.

His main concern is how well the plant screens employees and contract workers. "A contractor will bring in a hundred workers for a job," he sa a terrorist in there?"

Timothy Scott, Dow's security director, says the possibility of an inside job is his biggest fear, and better screening and background checks is improvement at Dow and industrywide.

Unlike the "simple fixes" the company has made, such as not having signs on tanks facing the street indicating which ones hold the most toxic background checks takes a lot of time and money.

Spending money on security, he says, is now "a reality of the business we're in."

Posted 125d ago

Updated 125d ago